THE CANADA YEAR BOOK 1948-49

DOMINION BUREAU OF STATISTICS

DEPARTMENT OF TRADE AND COMMERCE, CANADA

THE CANADA YEAR BOOK 1948-49

THE OFFICIAL STATISTICAL ANNUAL OF THE RESOURCES, HISTORY, INSTITUTIONS, AND SOCIAL AND ECONOMIC CONDITIONS OF THE DOMINION

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PREFACE

This edition of the Canada Year Book covers a period of between 16 and 17 months as compared with the normal span of 12 months. The reason for this goes back to circumstances existing during the war years. It was difficult at that time for non-war Departments of Government to maintain printing schedules, due to the pressure brought to bear on the facilities of the Government Printing Bureau by war Departments which, of course, had priority. Thus, during the six years of war there was a steady and cumulative lag in the publication of the Year Book. Planned to appear about mid-year, the situation had become such that the 1946 edition was not available for distribution until early in December, 1946, and the 1947 edition was published on the eve of 1948.

In order to place the current edition back on a normal schedule, it was decided to make this a 1948-49 edition and plan for its completion and distribution about April or May, 1949. There is every reason to feel that such a mid-year schedule can be maintained for future editions.

The 1947 Year Book covered a period when the difficulties of transition from war to peace were still to the forefront. During the War and subsequently all available space was required for detailed treatment of the war effort and the reconstruction program and, during these years, Year Books carried practically no contributions dealing with normal scientific and other civilian services such as usually appear in the Chapters on Physiography, Population, Vital Statistics, Education, Constitution and Government, etc. The period covered by the present volume has been marked by a very definite swing to a more normal peacetime economy and such space as could be released in the current edition has been given to special articles designed to catch up with the accumulation of these important regular subjects. The established Year Book program calls for the revision at five-year intervals of such regular basic articles unless, from their nature, sufficient change has not taken place. In the Chapter on Physiography a new Part on Geophysics which treats of the research work carried on by the Dominion Observatory in the fields of Gravity and Terrestrial Magnetism—directions in which scientific research is playing an important part to-day—appears at pp. 18 to 27. In the same Chapter a special article on the contribution to science made by the Dominion Astrophysical Observatory, at Victoria, B.C., is included (pp. 63 to 71), and an extended review of the Climate of Canada appears at pp. 41 to 62. The subject of climate has not been reviewed in the Canada Year Book since the 1929 edition. In the meantime, the science of meteorology has been developed substantially as aviation has advanced and the demand for more precise data on air movements, aviation ceilings and visibilities has increased. To complete this treatment of climate it is planned to carry a series of long-term climatic tables for stations of Eastern and Western Canada in the following two issues of the Year Book. The present Chapter on Physiography also carries an article on Canada's Western Arctic which, with the one on the Eastern Arctic published in the 1945 edition of the Year Book, provides an up-to-date review of those vast areas of Canada north of the provincial boundaries.

631—A½

Other special material in this edition treats of the formal educational field in Canada (pp. 309 to 313); of the growth of the chemical industries during the past decade (pp. 532 to 550) and the administration of Indian affairs receives attention at pp. 1170-1177.

The policy of reprinting important special material from the Year Book, authority for which was obtained in 1945, has proved increasingly popular especially with university students and schools of higher education. Many thousands of copies of these reprints are sold each year. Unfortunately, the number of such reprints that it is possible to make, without delaying the printing of the Year Book itself, is limited. A list of reprints at present available is given at p. xiii.

The program of improving and bringing up to date the regular chapter material has been continued. Suggestions to this end are constantly being received from many sources and are given careful consideration. Chapter III—Constitution and Government—has been reorganized and new material on the Judiciary introduced. Public Health and Welfare Services are now combined under one chapter heading. A beginning has been made in the Domestic Trade Chapter (see pp. 801 to 812) in building up an over-all picture of warehousing facilities and storage stocks. Special compilations made during the war years and required for the war effort have provided the basis for this work but the presentation is by no means complete and will be developed in future editions. National Accounts, which are in essence economic rather than financial in nature since they summarize the more important economic transactions and co-ordinate the Canadian economy as a whole, have been removed from their former place in the Public Finance Chapter and will now be found combined with the Survey of Production, International Investments, Corporation Profits and other related statistics.

The record of Foreign Trade—Chapter XXI—bears a very important relationship to the Canadian economy, since national prosperity depends vitally on our export position. In foreign trade matters Canada is now passing through a most critical transition phase as outlined in this Chapter and in the Introduction. Certain old established markets, channels for which have been cut deep by time, have been unable since the War to take Canadian goods in former quantities and a pronounced shift in export trade is taking place.

Chapter XXII—Prices—opens up with a treatment (continued from earlier editions) of the Activities of the Wartime Prices and Trade Board during 1947 and 1948, a period of adjustment and price decontrol (pp. 945-950). After November, 1947, events halted the decontrol program and led to the reimposition of price controls on certain items. This and immediately preceding issues of the Year Book give a very complete summary of the operations of the Board.

Due to the establishment of Government records and the drafting of specific programs for reconstruction and other national projects (see Chapters XVIII, XXI, XXVII, and the Introduction) action in the general interest of the nation can now be brought to bear in several directions, should the need arise for modifying any temporary set-back in the economic picture. The Unemployment Insurance Fund (see pp. 644 to 645) has reached substantial proportions and may be regarded as one of the most liquid reserves against recession. Social Security and Welfare Benefits including Family Allowances (Chapter VII and Chapter XVIII) are also well established as a buffer to absorb any shock of this nature.

This Year Book contains more than the usual number of inserts in the form of lithographed and black-and-white maps. It is considered that these add appreciably to the interpretation of the text.

The present volume has been edited by A. E. Millward, Director, Canada Year Book Division, assisted by Herbert H. Coulson and the Year Book Staff. Charts, graphs and layouts have been made by or under the direction of J. W. Delisle, Senior Draughtsman of the Bureau.

Acknowledgments are hereby tendered to the numerous officials of the Federal and Provincial Governments, and to others who have contributed material. Whenever possible, credit is given to the persons and various services concerned by means of footnotes to the respective sections.

With a view to the improvement of future editions, the Bureau will be glad to hear of any errors that may have escaped notice and to receive suggestions with regard to omissions or to methods of treatment.

HERBERT MARSHALL,
Dominion Statistician.

DOMINION BUREAU OF STATISTICS,
OTTAWA, Feb. 1, 1949.

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CANADA
(Exclusive of northern regions)
Scale of Miles
100 50 0 100 200 300 400
REFERENCE
Dominion Capital
Provincial Capitals
Railway Main Lines
Trans-Canada Air Lines
Canadian Pacific Air Lines
Other and Connecting U.S.A. Routes
PACIFIC OCEAN
ATLANTIC OCEAN
HUDSON BAY
YUKON
NORTHWEST TERRITORIES
DISTRICT OF MACKENZIE
DISTRICT OF KEEWATIN
DISTRICT OF FRANKLIN
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
ONTARIO
QUEBEC
NEWFOUNDLAND
LABRADOR
NEW BRUNSWICK
NOVA SCOTIA
P.E.I.
UNITED STATES
DAWSON
WHITEHORSE
VANCOUVER
VICTORIA
EDMONTON
CALGARY
REGINA
WINNIPEG
CHURCHILL
MONTREAL
OTTAWA
TORONTO
QUEBEC
FREDERICTON
HALIFAX
ST JOHNS
Vancouver to Yokohama 4260
Vancouver to Sydney, Australia 6818
Vancouver to Panama 4045
Vancouver to Liverpool 6647
Churchill to Liverpool 2936
To United Kingdom
Montreal to Liverpool 2760
To United Kingdom
St John's to Liverpool 1927
Montreal to Liverpool 2968
Montreal to London 3241
Montreal to Cape Town 7106
Montreal to Buenos Aires 6421
Montreal to Rio de Janeiro 5520
Halifax to London 2719
Halifax to Jamaica 1834
Halifax to New York 599
Saint John to Jamaica 1830
Saint John to Cape Town 6654
COMPILED AND DRAWN AT THE OFFICE OF THE SURVEYOR GENERAL, OTTAWA.

DISTANCES BETWEEN PRINCIPAL POINTS IN CANADA.*

NOTE.—Generally, the distances given are the shortest by railway.

A knowledge of distances in miles between principal points constitutes very useful information in these days of wide travel, but when an attempt is made to compile such data difficulties are at once encountered. Railway distances are the logical choice, even though road distances are of increasing interest to a vast body of travellers by automobile and are a useful alternative. Railway distances represent usually the shortest practicable land distances between two points and even to-day the bulk of freight and passenger traffic is by rail. Again, distances by air (sometimes called 'bee-line' distances) are only useful in practice to those who travel by air. This is a growing phase of transportation, of course, but has not yet assumed such proportions that its tabulation should displace the more usual one. Again, it is not a difficult matter to estimate air-line distances from a map made to convenient scale, whereas the ordinary reader is not able to obtain railway distances easily.

Even though it be decided to adopt railway distances as most useful, it is necessary to decide whether the most travelled route between two places or the shortest railway route should govern. In the tables given below, the distances between points are the shortest distances by railway and not necessarily the most travelled routes or the routes by which main trains travel. They are compiled principally from the railway time tables. The main table includes the capital of each province and some of the main shipping points chosen principally, but not altogether, by population; the subsidiary tables include distances of local importance. Included in the distances from Charlottetown is the distance from Borden to Cape Tormentine, over which the trains are transported by ferry; similarly, the train ferry distance between Mulgrave and Point Tupper is included in the distance from Halifax to Sydney. In the main table all the distances from Victoria include the distance travelled by boat from Victoria to Vancouver. However, wherever possible, railway distances only are used. In certain distances from Three Rivers and from Quebec it is possible, by the use of ferries, to travel by shorter routes than those given in the tables, the rail route only being taken in these cases.

Where boat routes are given, the best approximation of the distance travelled is used.

The air-line distances used are not necessarily the straight-line distances between points, but are the distances over the routes usually travelled by aeroplanes in good weather.

Place	St. John's	Halifax	Moncton	Charlottetown	Saint John	Fredericton	Quebec	Montreal	Sherbrooke	Three Rivers	Ottawa	Kingston	Toronto	Hamilton	London	Windsor	Fort William	Winnipeg	Brandon	Churchill	Regina	Saskatoon	Calgary	Edmonton	Vancouver	Victoria	Prince Rupert
St. John's	0	933	994	894	1083	1099	1467	1559	1451	1545	1663	1725	1886	1925	2001	2111	2521	2817	2951	3796	3172	3288	3639	3618	4280	4365	4574
Halifax	933	0	189	239	278	292	662	747	646	740	858	920	1081	1120	1196	1306	1716	2012	2146	2991	2367	2483	2834	2813	3475	3560	3769
Moncton	994	189	0	126	89	104	473	558	457	551	669	731	892	931	1007	1117	1527	1823	1957	2802	2178	2294	2645	2624	3286	3371	3580
Charlottetown	894	239	126	0	215	230	600	684	583	677	795	857	1018	1057	1133	1243	1653	1950	2084	2929	2305	2421	2772	2751	3413	3498	3707
Saint John	1083	278	89	215	0	67	426	476	375	503	587	649	810	849	925	1035	1445	1776	1910	2755	2131	2247	2598	2577	3239	3324	3533
Fredericton	1099	292	104	230	67	0	403	454	353	481	565	627	788	827	903	1013	1423	1753	1887	2732	2108	2224	2575	2554	3216	3301	3510
Quebec	1467	662	473	600	426	403	0	169	127	78	280	342	503	542	618	728	1079	1350	1484	2329	1705	1821	2172	2151	2813	2898	3107
Montreal	1559	747	558	684	476	454	169	0	101	95	111	173	334	373	449	559	969	1353	1486	2331	1707	1823	2174	2153	2815	2900	3109
Sherbrooke	1451	646	457	583	375	353	127	101	0	196	212	274	435	474	550	660	1070	1454	1587	2432	1808	1924	2275	2254	2916	3001	3210
Three Rivers	1545	740	551	677	503	481	78	95	196	0	206	268	429	468	544	654	1064	1448	1581	2426	1802	1918	2269	2248	2910	2995	3205
Ottawa	1663	858	669	795	587	565	280	111	212	206	0	112	247	286	362	472	858	1242	1375	2220	1596	1712	2063	2042	2704	2789	2998
Kingston	1725	920	731	857	649	627	342	173	274	268	112	0	161	200	276	386	908	1292	1426	2270	1647	1763	2113	2093	2754	2839	3049
Toronto	1886	1081	892	1018	810	788	503	334	435	429	247	161	0	39	115	225	811	1207	1340	2185	1562	1677	2028	2008	2670	2755	2964
Hamilton	1925	1120	931	1057	849	827	542	373	474	468	286	200	39	0	80	190	850	1246	1379	2224	1601	1716	2067	2047	2709	2794	3003
London	2001	1196	1007	1133	925	903	618	449	550	544	362	276	115	80	0	110	926	1322	1455	2300	1677	1792	2143	2123	2785	2870	3079
Windsor	2111	1306	1117	1243	1035	1013	728	559	660	654	472	386	225	190	110	0	1036	1432	1565	2410	1787	1902	2253	2233	2895	2980	3189
Fort William	2521	1716	1527	1653	1445	1423	1079	969	1070	1064	858	908	811	850	926	1036	0	419	552	1397	774	889	1240	1220	1882	1967	2176
Winnipeg	2817	2012	1823	1950	1776	1753	1350	1353	1454	1448	1242	1292	1207	1246	1322	1432	419	0	133	978	355	470	821	801	1463	1548	1757
Brandon	2951	2146	1957	2084	1910	1887	1484	1486	1587	1581	1375	1426	1340	1379	1455	1565	552	133	0	937	221	384	688	715	1330	1415	1671
Churchill	3796	2991	2802	2929	2755	2732	2329	2331	2432	2426	2220	2270	2185	2224	2300	2410	1397	978	937	0	845	813	1217	1144	1859	1944	2100
Regina	3172	2367	2178	2305	2131	2108	1705	1707	1808	1802	1596	1647	1562	1601	1677	1787	774	355	221	845	0	163	467	493	1108	1193	1449
Saskatoon	3288	2483	2294	2421	2247	2224	1821	1823	1924	1918	1712	1763	1677	1716	1792	1902	889	470	384	813	163	0	404	330	1046	1131	1287
Calgary	3639	2834	2645	2772	2598	2575	2172	2174	2275	2269	2063	2113	2028	2067	2143	2253	1240	821	688	1217	467	404	0	194	642	727	1150
Edmonton	3618	2813	2624	2751	2577	2554	2151	2153	2254	2248	2042	2093	2008	2047	2123	2233	1220	801	715	1144	493	330	194	0	761	846	956
Vancouver	4280	3475	3286	3413	3239	3216	2813	2815	2916	2910	2704	2754	2670	2709	2785	2895	1882	1463	1330	1859	1108	1046	642	761	0	85	1158
Victoria	4365	3560	3371	3498	3324	3301	2898	2900	3001	2995	2789	2839	2755	2794	2870	2980	1967	1548	1415	1944	1193	1131	727	846	85	0	1243
Prince Rupert	4574	3769	3580	3707	3533	3510	3107	3109	3210	3205	2998	3049	2964	3003	3079	3189	2176	1757	1671	2100	1449	1287	1150	956	1158	1243	0

From Halifax —
- to Yarmouth 217
- Sydney 289
- Glace Bay 304
- New Glasgow 107
- Port aux Basques ..... 340 (by boat)
- St. John's ..... 625 (by boat)

From Sydney —
- to Port aux Basques ..... 110 (by boat)
- St. John's ..... 435 (by boat)

From Saint John —
- to Edmundston 236
- Campbellton 276
- St. Stephen 83

From Montreal —
- to Shawinigan Falls 89
- St. Hyacinthe 35
- Noranda 537

From Toronto —
- to Brantford 64
- St. Catharines 71
- Kitchener 62
- Oshawa 33
- Peterborough 77
- North Bay 228
- Sudbury 260
- Sault Ste. Marie 439
- Sioux Lookout 955
- Cochrane 479
- Kenora 1,105
- Cobalt 330
- Timmins 485
- Moosonee 666

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- North Battleford 259
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- Red Deer 95

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- to Jasper 236
- Peace River 317
- Grande Prairie 407
- Waterways 305

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- to Fort Smith ..... 242 (air-line)
- Rae ..... 380 (air-line)
- Cameron Bay ..... 614 (air-line)
- Resolution ..... 512 (by boat)
- Norman ..... 1,123 (by boat)
- Aklavik ..... 1,606 (by boat)

From Vancouver —
- to Trail 507
- Kamloops 251
- Prince George 691
- Prince Rupert ..... 546 (by boat)
- Whitehorse, Y.T. ..... 1,082 (part by boat)
- Dawson, Y.T. ..... 1,473 (part by boat)

From Victoria —
- to Nanaimo 73

*Prepared under the direction of B. W. Waugh, Surveyor General, Department of Mines and Resources, Ottawa.

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NOTE.—It is not possible to include in any single edition of the Year Book all articles and descriptive text of previous editions, and the following list has been compiled as an index to such miscellaneous material and special articles as are not repeated in the present edition. This list links up the 1948-49 Year Book with its predecessors in respect to matters that have not been subject to wide change. Those sections of chapters, such as Population, which are automatically revived when new material is made available from a later census and to which adequate references are made in the text, are not listed unless they are in the nature of special contributions. The latest published article on each subject is shown, except when an earlier article includes material not repeated in the later one. When articles cover more than one subject they are listed under each appropriate heading.

Article	Contributor	Volume	Page
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The Development of Agriculture in Canada	J. H. GRISDALE, D.Sc.A.	1924	186–191
Prairie Farm Rehabilitation Program	WILLIAM DICKSON.	1938	223–230
Historical Background of Canadian Agriculture	G. S. H. BARTON, C.M.G., B.S.A., D.Sc. A.	1939	187–190
Agricultural Marketing Legislation, 1939	—	1940	181–185
Canadian Agriculture during the War and Post-War Periods	G. S. H. BARTON, C.M.G., B.S.A., D. Sc.A.	1946	200–211
Art, Literature and the Press—			
Art in Canada	—	1924	886–888
The Development of the Fine Arts in Canada	NEWTON MACTAVISH, M.A., D. Litt.	1931	995–1009
A Bibliography of Canadian History	GUSTAVE LANCTOT, LL.M., D.Litt., LL.D., K.C., F.R.S.C.	1939	36–40
The Development of the Press in Canada	A. E. MILLWARD, B.A., B. Com.	1939	737–773
The Democratic Functioning of the Press	SENATOR, THE HON. W. A. BUCHANAN.	1945	744–748
Banking and Finance—			
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Droughts in Western Canada	A. J. CONNOR, M.A.	1933	47–59
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Prairie Provinces	Rev. E. H. Oliver, Ph.D., F.R.S.C.	1922–23	110–113
British Columbia	S. D. Scott.	1915	23–26
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The Government of Canada's Arctic Territory	R. A. Gibson.	1938	92–93
The Evolution of the Constitution of Canada down to Confederation	S. A. Cudmore, B.A. (Tor.), M.A. (Oxon.), F.S.S., F.R. Econ. Soc., and E. H. Coleman, K.C., LL.D.	1942	34–40
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Canada's Present Status in the British Commonwealth of Nations	W. P. J. O'Meara, K.C., B.A.	1943–44	41–47
Canada's Growth in External Status	F. H. Soward.	1945	74–79
Canada's Part in the Relief and Rehabilitation of the Occupied Territories	—	1945	79–85
Construction—			
The Effects of Government Wartime Expenditures on the Construction Industry	H. Carl Goldenberg.	1941	366–368
Criminal Law—			
A Historical Sketch of Criminal Law and Procedure	R. E. Watts	1932	897–899
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Royal Society of Canada	Prof. McMurrich, M.A., Ph.D., LL.D., F.R.S.C.	1924	884
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Recent Advances in the Field of Education in Canada	J. E. Robbins, Ph.D.	1941	876–883
Fauna and Flora—			
Faunas of Canada	P. A. Taverner.	1922–23	32–36
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Flora of Canada	John Adams, M.A. (Cantab.)	1938	29–58
Fisheries—			
The Fish Canning and Curing Industry	D. B. Finn, Ph.D.	1941	225–226
The Effects of the War on Canadian Fisheries	D. B. Finn, Ph.D.	1943–44	277–279

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Fur Farming	W. N. Ritchie.	1942	254–259
The Development of Marshlands in Relation to Fur Production and the Rehabilitation of Fur-Bearers	D. J. Allan.	1943–44	267–269
Geology—			
Geology in Relation to Agriculture	Wyatt Malcolm, M.A., F.R.S.C.	1921	68–72
Geological Formation	—	1925	16–24
Geology of Canada	F. J. Alcock, Ph.D.	1939	309–310
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Harbours—			
Administration of Harbours in Canada	—	1930	1013
National Harbours Board	R. O. Campney, K.C.	1940	679–681
History—			
The Story of Confederation	Sir Joseph Pope, K.C.M.G., C.V.O., I.S.O.	1918	1–13
History of the Great War (1914–18)	E. A. Cruikshank, LL.D., F.R.S.C.	1919	1–65
History of Canada	Arthur Doughty, C.M.G., LL.D.	1922–23	60–80
Select Bibliography of the History of Canada	Adam Shortt, C.M.G., LL.D., F.R.S.C.	1925	53–55
Canada on Vimy Ridge	A. F. Duguid, D.S.O., B.Sc., R.C.A.	1936	50–60
Historic Sites and Monuments	W. D. Cromarty.	1938	78–90
The Relationship of the Public Archives to the Historical Records of Canada and a Bibliography of Canadian History	Gustave Lanctot, LL.M., D. Litt., LL.D., K.C., F.R.S.C.	1939	34–40
Hospitals and Institutions—			
Historical Review of Hospitals and Other Institutions	J. C. Brady, M.A.	1936	1006–1009
Insurance—			
The Growth and Development of Life Insurance in Canada	A. D. Watson.	1933	937–944
Fire and Casualty Insurance	G. D. Finlayson.	1942	842–846
Insurance in Canada during the Depression and War Periods	G. D. Finlayson, C.M.G.	1947	1064–1074
Labour—			
Legislation Respecting Combinations in Restraint of Trade	F. A. McGregor.	1927–28	765–770
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Mining—			
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Geology and Economic Minerals	George Hanson, Ph.D.	1942	3–14
The Outlook for the Mineral Industry in Relation to the Economic Development of Canada	G. H. Murray.	1946	302–314
The Coal Deposits and Coal Resources of Canada	B. R. MacKay, B.Sc., Ph.D.	1946	337–347
Miscellaneous Administration— (See p. 1165 for reference to articles on: the Dominion Observatories; the International Joint Commission; the Geodetic Survey; and the Topographical Survey.)			
National Defence—			
The British Commonwealth Air Training Plan—A Summary of the R.C.A.F.'s. Major Role in the War of 1939–45	—	1946	1090–1099
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Geology and Economic Minerals	George Hanson, Ph.D.	1942	3–14
The Canadian Government's Reindeer Experiment	R. A. Gibson.	1943–44	17–23
The Development of Marshlands in Relation to Fur Production and the Rehabilitation of Fur-Bearers	D. J. Allan	1943–44	267–269
Northwest Territories—			
The Canadian Government's Reindeer Experiment	R. A. Gibson.	1943–44	17–23
Physiography—			
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The Relation of Hydrography to Navigation and the War Record of the Hydrographic and Map Service	F. G. Smith.	1946	14–18
Population—			
Immigration Policy	R. J. C. Stead.	1931	189–192
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Areas and Populations of Countries of the British Empire, 1941	—	1943–44	141–142
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The Nutrition and Family Living Expenditures Investigation	H. F. Greenway, M.A.	1940	819–821

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A Historical Sketch of Radio Communications	C. P. Edwards, O.B.E.	1932	607–610
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History and Development of the Canadian Broadcasting Corporation	Dr. Augustin Frigon, C.M.G.	1947	737–740
Research—			
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The Canadian Wheat Board, 1939–46	C. B. Davidson. T. W. Grindley. W. G. Malaher. C. V. Parker.	1947	778–813
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The Trans-Canada Airway	J. A. Wilson.	1938	713–715
Pre-War Civil Aviation and the Defence Program	J. A. Wilson.	1941	608–612
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The Wartime Role of the Steam Railways of Canada	C. P. Edwards, O.B.E.	1945	648–651
Canada's Northern Airfields	A. D. McLean.	1945	705–712
Water Power—			
The Water-Power Resources of Canada and Their Utilization	J. T. Johnston.	1940	353–364

ARTICLES AVAILABLE IN REPRINT FORM

NOTE.—Because of public interest in certain of the Special Articles, the policy of reprinting those that are of continuing value has been approved, and a number of them will be made available each year. Those now obtainable are listed below together with prices. Applications for them should be made to the Dominion Statistician.

Article	Price
ENGLISH EDITIONS	
Agriculture—	cts.
Agriculture in Canada	10
Irrigation in Western Canada	10
Art, Literature and the Press—	
Democratic Functioning of the Press	10
Banking and Exchange—	
Banking and Exchange	10
Currency	10
Climate and Meteorology—	
Meteorology Related to the Science of Aviation	10
The Climate of Canada	10
Constitution and Government—	
Canada's Part in the Relief and Rehabilitation of the Occupied Territories	10
Canada's Place in the British Commonwealth of Nations (Canada 1947)	10
Constitution and Government	15
Dominion-Provincial Relations	10
External Relations of Canada (Canada 1948)	10
The Constitution and Government of Canada (Canada 1940—Revised 1945)	10
The Development of the Canadian Constitution	15
Flora and Fauna—	
The Flora and Fauna of Canada	15
Forestry—	
Noxious Forest Insects and Their Control	10
The Primary Forest Industries of Canada (Canada 1948)	10
Fur Trade—	
Fur Resources	10
History—	
National Historic Parks and Sites	15
Insurance—	
Insurance in Canada During the Depression and War Periods	10
Manufacturing—	
The Automobile Industry in Canada	10
The Chemical Industries in Canada	10
Mining—	
Canadian Petroleum in Relation to World Supply (Canada 1949)	10
Physiography—	
Hydrography	10
Physical Geography of the Canadian Eastern Arctic	10
Physical Geography of the Canadian Western Arctic	10
Radio—	
History and Development of the Canadian Broadcasting Corporation	10
Scientific Services—	
Astrophysics	10
Geology of Canada	10
ENGLISH EDITIONS—concluded	
Scientific Services—concluded	cts.
Geophysics	10
Scientific and Industrial Research in Canada	15
Trade—	
Review of External Trade	10
The Canadian Wheat Board	15
The Royal Commission on Co-operatives	10
Transportation—	
Canada's Northern Airfields	10
The Wartime Role of Steam Railways in Canada	10
Water Power—	
Water-Power Resources of Canada and Their Utilization	10
Miscellaneous—	
Citizenship and Canadian Unity (Canada 1949)	10
Travel and National Unity (Canada 1948)	10
FRENCH EDITIONS	
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Irrigation dans l'Ouest du Canada	10
Art, Literature and the Press—	
Le rôle démocratique de la presse	10
Constitution and Government—	
Constitution et gouvernement	15
Rang occupé par le Canada dans le Commonwealth des nations britanniques	10
Relations entre le Dominion et les provinces	10
Relations extérieures du Canada (Canada 1948)	10
Forestry—	
Insectes nuisibles à la forêt	10
Les industries forestières primaires (Canada 1948)	10
Manufacturing—	
L'industrie de l'automobile	10
Mining—	
Dépôts houillers et ressources houillères du Canada	10
Pétrole canadien et disponibilités mondiales (Canada 1949)	10
Physiography—	
Géographie physique de l'Arctique occidental canadien	10
Trade—	
Commission royale sur les coopératives	10
Transportation—	
Champs d'aviation du Canada septentrional	10
Miscellaneous—	
Citoyenneté et unité canadienne (Canada 1949)	10
Les voyages et l'unité nationale (Canada 1948)	10

WEIGHTS AND MEASURES AND OTHER INTERPRETATIVE DATA

In Canada, as a rule, the imperial system of weights and measures is followed. An exception, however, is the ton where, unless otherwise stated, the short ton of 2,000 lb. is meant.

The following table shows the weights and measures used in Canada in connection with the principal field crops and for wheat flour and fruits:—

Grains—	*Pounds per Bushel*
Wheat	60
Oats	34
Barley	48
Rye	56
Buckwheat	48
Flaxseed	56
Corn	56
Mixed grains	50
All others	60

Wheat Flour—

1 barrel equals 196 pounds and approximately 4·5 bushels of wheat are used in the production of a barrel of flour.

Fruits (standard conversions)—	*Pounds*
Apples, per barrel	135
Apples, per box	43
Pears, per bushel	50
Plums " "	50
Cherries " "	50
Peaches " "	50
Grapes " "	50
Pears, per box	42
Strawberries, per quart	1·25
Raspberries " "	1·25
Loganberries " "	1·25

Relative Weights and Measures, Imperial and United States

The following tables of coefficients may be used to translate amounts expressed in one unit to the other or vice versa.

1 Imperial pint=20 fluid ounces.
1 United States pint=16 fluid ounces.
1 Imperial quart=40 fluid ounces.
1 United States quart=32 fluid ounces.
1 Imperial gallon=160 fluid ounces.
1 United States gallon=128 fluid ounces.
1 Imperial proof gallon=1·36 United States proof gallon.
1 short ton=2,000 pounds.
1 long ton=2,240 pounds.
1 barrel crude petroleum=35 Imperial gallons.

FISCAL YEARS OF DOMINION AND PROVINCES

The Federal Government fiscal year ends on Mar. 31.

The dates on which the fiscal years of the provinces end are as follows:—

Prince Edward Island	Mar. 31	Manitoba	Mar. 31
Nova Scotia	Nov. 30	Saskatchewan	Mar. 31
New Brunswick	Oct. 31	Alberta	Mar. 31
Quebec	Mar. 31	British Columbia	Mar. 31
Ontario	Mar. 31		

Throughout the Year Book, fiscal-year figures are so indicated in the text and headings of tables; in all other cases figures are for calendar years.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA, 1871-1947

NOTE.—In the following summary, the statistics of fisheries (1871-1911), trade, shipping, the Post Office, the public debt, revenue and expenditure, and the Post Office and Government savings banks relate to the fiscal years ended June 30 up to 1906; subsequently to years ended Mar. 31, except in the case of trade, where, as indicated by footnotes, calendar-year figures are given for certain later years. Agricultural, dairying, fisheries (from 1931), mineral, manufacturing, banking, insurance, loan and trust companies, construction, road transportation, vital, hospital, and immigration statistics relate to the calendar years, and railway statistics to the years ended June 30, 1871-1911, and to the calendar years 1921-46. Canal statistics are those of the navigation seasons. Telegraph statistics relate to the fiscal years for Government lines and to the calendar years for other lines.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA

Area of the Dominion of Canada in square miles: Land, 3,462,103; Fresh Water, 228,307; Total, 3,690,410.

NOTE.—Dashes in this table indicate that comparable data are not available for the years so indicated.

Item		1871	1881	1891	1901	1911
Population—						
Prince Edward Island	No.	94,021	108,891	109,078	103,259	93,728
Nova Scotia	"	387,800	440,572	450,396	459,574	492,338
New Brunswick	"	285,594	321,233	321,263	331,120	351,889
Quebec	"	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776
Ontario	"	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292
Manitoba	"	25,228	62,260	152,506	255,211	461,394
Saskatchewan	"	–	–	–	91,279	492,432
Alberta	"	–	–	–	73,022	374,295
British Columbia	"	36,247	49,459	98,173	178,657	392,480
Yukon	"	–	–	–	27,219	8,512
Northwest Territories	"	48,000	56,446	98,967	20,129	6,507
Canada	"	3,689,257	4,324,810	4,833,239	5,371,315	7,206,643
GAINFULLY OCCUPIED—[4]						
Agricultural occupations	No.	–	–	735,207[5]	716,860	933,735
Other primary "	"	–	–	58,211[6]	71,584[6]	139,877[7]
Manufacturing "	"	–	–	237,972	299,535	372,234
Construction "	"	–	–	86,694	89,165	150,567
Transportation "	"	–	–	61,310	82,483	158,926
Trade and finance "	"	–	–	88,064	99,552	221,805
Service "	"	–	–	203,897	236,205	322,895
Clerical "	"	–	–	24,121[9]	58,789	106,351
Labourers "	"	–	–	116,598	127,867	317,244
Not stated "	"	–	–	3,534	792	–
Totals, Gainfully Occupied	"	–	–	1,615,608	1,782,832	2,723,634
WAGE-EARNERS[4]	No.	–	–	–	–	1,628,273
HOUSEHOLDS[4]	No.	–	800,410	900,080	1,058,386	1,482,980
Immigration—						
From United Kingdom	No.	–	17,033	22,042	11,810[10]	144,076
From United States	"	–	21,822	52,516	17,987[10]	112,028
From other countries	"	–	9,136	7,607	19,352[10]	75,184
Totals	"	27,773	47,991	82,165	49,149[10]	331,288
Vital Statistics—[4]						
Births (live)[11]	No.	–	–	–	–	–
Rates per 1,000		–	–	–	–	–
Deaths, all causes[11]	No.	–	–	–	–	–
Rates per 1,000		–	–	–	–	–
Diseases of the heart[12]	No.	–	–	–	–	–
Cancer	"	–	–	–	–	–
Diseases of the arteries[12]	"	–	–	–	–	–
Tuberculosis (all forms)[12]	"	–	–	–	–	–
Pneumonia	"	–	–	–	–	–
Nephritis	"	–	–	–	–	–
Marriages		–	–	–	–	–
Rates per 1,000		–	–	–	–	–
Divorces	No.	4	7	10	19	57
Hospitals—						
Other than mental	No.	–	–	–	–	–
Bed capacity	"	–	–	–	–	–
Patients under treatment	"	–	–	–	–	–
Mental	"	–	–	–	–	–
Patients under treatment	"	–	–	–	–	
Receipts	$	–	–	–	–	–
Expenditures	$	–	–	–	–	–

[1] Figures are subject to revision. [2] These are intercensal estimates and will be adjusted after the next census. [3] Quinquennial census figures. [4] Exclusive of the Territories. [5] Includes all farmers' sons, 14 years and over, whether or not reported with gainful occupation. [6] Excluding nomadic Indians and Indians on reserves. [7] Includes pulp-mill employees and almost all mine and smelter employees, except clerical workers. [8] Exclusive of persons on Active Service on June 2, 1941. [9] Clerical workers in

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

The length of the Canada-United States boundary is 3,986·8 miles, and that of the Canada-Alaska bound 1,539·8 miles. The Canada-Labrador boundary (not surveyed) is estimated at 1,990 miles; the total mai coast line of Canada (not accurately computed) is estimated at 14,820 miles.

NOTE.—Dashes in this table indicate that comparable data are not available for the years so indicated.

1921	1931	1936	1939	1941	1945	1946	1947[1]
88,615	88,038	93,000	94,000	95,047	92,000[2]	94,000[2]	94,0
523,837	512,846	543,000	561,000	577,962	621,000[2]	612,000[2]	621,0
387,876	408,219	433,000	447,000	457,401	468,000[2]	480,000[2]	491,0
2,360,510	2,874,662	3,099,000	3,230,000	3,331,882	3,561,000[2]	3,630,000[2]	3,712,0
2,933,662	3,431,683	3,606,000	3,708,000	3,787,655	4,004,000[2]	4,101,000[2]	4,189,0
610,118	700,139	711,216[3]	726,000	729,744	736,000[2]	726,923[3]	743,0
757,510	921,785	931,547[3]	906,000	895,992	845,000[2]	832,688[3]	842,0
588,454	731,605	772,782[3]	786,000	796,169	826,000[2]	803,330[3]	822,0
524,582	694,263	745,000	792,000	817,861	949,000[2]	1,003,000[2]	1,044,0
4,157	4,230	5,000	5,000	4,914	5,000[2]	8,000[2]	8,0
8,143	9,316	11,000	12,000	12,028	12,000[2]	16,000[2]	16,0
8,787,949	10,376,786	10,950,000	11,267,000	11,506,655	12,119,000[2]	12,307,000[2]	12,582,0
1,041,544	1,131,845	–	–	1,083,816	–	–	–
115,953[6]	150,491	–	–	203,586	–	–	–
407,087	495,922	–	–	709,181	–	–	–
162,291	203,066	–	–	213,493	–	–	–
199,941	289,191	–	–	311,645	–	–	–
293,555	352,503	–	–	370,617	–	–	–
421,057	617,473	–	–	725,456[8]	–	–	–
217,937	258,689	–	–	314,051	–	–	–
306,652	426,396	–	–	252,693	–	–	–
7,152	1,654	–	–	11,413	–	–	–
3,173,169	3,927,230	–	–	4,195,951[8]	–	–	–
1,972,089	2,570,097	–	–	2,816,798[8]	–	–	–
1,897,110	2,275,171	–	–	2,706,089	–	–	–
43,772	7,678	2,197	3,544	2,300	14,677	51,408	38,7
23,888	15,195	4,876	5,649	6,594	6,394	11,469	9,4
24,068	4,657	4,570	7,801	435	1,651	8,842	15,9
91,728	27,530	11,643	16,994	9,329	22,722	71,719	64,1
–	240,473	220,371	229,468	255,224	288,730	330,732	359,3
–	23·2	20·2	20·3	22·2	23·9	26·9	28
–	104,517	107,050	108,951	114,500	113,414	114,931	117,6
–	10·1	9·8	9·6	10·0	9·4	9·4	9
–	13,734	16,424	18,562	26,602	29,705	29,854	–
–	9,578	11,694	12,399	13,417	14,439	14,767	–
–	5,957	9,112	10,884	2,266	2,210	2,230	–
–	7,616	6,763	5,977	6,072	5,546	5,821	–
–	7,011	7,313	6,596	5,955	5,549	5,657	–
–	5,168	6,402	6,538	7,399	6,926	6,822	–
–	66,591	80,904	103,658	121,842	108,031	134,088	127,3
–	6·4	7·4	9·2	10·6	8·9	10·9	10
558	700	1,570	2,068	2,461	5,076	7,683	–
–	806[13]	903	925	934[14]	822[14]	830[14]	–
–	55,285[13]	66,486	61,300	64,466[14]	63,407[14]	65,398[14]	–
–	697,183[13]	877,945	925,585	1,104,914[14]	1,402,932[14]	1,563,109[14]	–
–	56[13]	57	59	60	59	60	–
–	39,986[13]	53,326	56,867	59,203	64,016	65,074	–
–	–	14,300,952	16,623,786	19,084,150	22,663,567	26,978,416	–
–	–	14,222,138	16,607,041	19,068,996	22,950,837	27,316,218	–

government service were included with "Service". [10] Fiscal year. [11] By place of occurrence to 1941; by place of residence, 1941–1947. [12] These figures are not completely comparable owing to cha in classification in 1926 and 1938. [13] Census figures, applying to calendar year 1930. [14] Figure not include hospitals and homes for incurables, Dominion, mental, or tuberculosis hospitals.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

Item		1871	1881	1891	1901	1911
Criminal Statistics—[2]						
Convictions, indictable offences	No.	–	3,509[3]	3,974	5,638	11,188
Convictions, non-indictable offences	"	–	30,365[3]	33,643	36,510	100,633
Education (Provincially-Controlled Schools only)—						
Enrolment	No.	803,000	891,000	993,000	1,092,633	1,361,205
Averages of daily attendance	"				669,000	870,532
Teachers	"	13,559	18,016	23,718	27,126	40,516
Public expenditures on	$	–	–	–	11,044,925	37,971,374
Agriculture—						
Area of occupied farms	acre	36,046,401	45,358,141	58,997,995	63,422,338	108,968,715
Improved lands	"	17,335,818	21,899,181	27,729,852	30,166,033	48,733,823
Gross value of agricultural production	$	–	–	–	–	–
Field Crops—[4]						
Wheat	bu.	16,723,873	32,350,269	42,144,779	55,572,368	132,077,547
	$	16,993,265	38,820,323	31,667,529	36,122,039	104,816,825
Oats	bu.	42,489,453	70,493,131	83,428,202	151,497,407	245,393,425
	$	15,966,310	23,967,665	31,702,717	51,509,118	86,796,130
Barley	bu.	11,496,038	16,844,868	17,222,795	22,224,366	28,848,310
	$	8,170,735	11,791,408	8,611,397	8,889,746	14,653,697
Corn	bu.	3,802,830	9,025,142	10,711,380	25,875,919	14,417,599
	$	2,283,145	5,415,085	5,034,348	11,902,923	5,774,039
Potatoes	bu.	47,330,187	55,368,790	53,490,857	55,362,635	55,461,473
	$	15,211,774	13,288,510	21,396,342	13,840,658	27,426,765
Hay and clover	ton	3,818,641	5,055,810	7,693,733	6,943,715	10,406,367
	$	38,869,900	40,446,480	69,243,597	85,625,315	90,115,531
Total Areas, Field Crops	acre	–	–	15,662,811	19,763,740	30,556,168
Total Values, Field Crops	$	111,116,606	155,277,427	194,766,934	237,682,285	384,513,795
Live Stock and Poultry—[6]						
Horses	No.	836,700	1,059,400	1,470,600	1,577,500	2,599,000
	$	–	–	–	118,279,000	381,916,000
Milk cows	No.	1,251,200	1,595,800	1,857,100	2,408,700	2,645,200
	$	–	–	–	69,238,000	111,833,000
Other cattle	No.	1,373,100	1,919,200	2,263,500	3,167,800	3,880,900
	$	–	–	–	54,197,000	84,021,000
Sheep	No.	3,155,500	3,048,700	2,563,800	2,510,200	2,174,300
	$	–	–	–	10,491,000	10,702,000
Swine	No.	1,366,100	1,207,600	1,733,900	2,353,800	3,634,800
	$	–	–	–	16,446,000	26,987,000
All poultry	No.	–	–	14,105,100	17,922,700	31,793,300
	$	–	–	–	5,724,000	14,654,000
Total Values, Live Stock and Poultry	$	–	–	–	274,375,000	630,113,000
Dairying—[7]						
Total milk production	'000 lb.	–	–	–	6,866,834	9,806,741
Cheese, factory[8]	lb.	–	54,574,856	97,418,855	220,833,269	199,904,205
	$	–	5,457,486	9,741,886	22,221,430	21,587,124
Butter, creamery	lb.	–	1,365,912	3,654,364	36,066,739	64,489,398
	$	–	341,478	913,591	7,240,972	15,597,807
Butter, dairy	lb.	–	102,545,169	111,577,210	105,343,076	137,110,200
	$	–	–	–	21,384,644	30,269,497
Other dairy products[9]	$	–	–	–	15,623,907	35,927,426
Total Values, Dairy Products	$	–	22,743,939	30,315,214	66,470,953	103,381,854
Forestry—						
Primary forest production	$	–	–	–	–	–
Lumber production	M ft. b.m.	–	–	–	–	4,918,202
	$	–	–	–	–	75,830,954
Total sawmill products	$	–	–	–	–	–
Pulp and paper products	$	–	–	–	–	–
Exports of wood, wood products, and paper[10]	$	–	–	25,351,085	33,099,915	56,334,695

[1] Figures are subject to revision. [2] Year ended Sept. 30. [3] 1886 figures; first year available.
Figures for the decennial census years 1871-1921 are for the next preceding years; those for 1871 are for the four
ginal provinces only. [5] Cwt. [6] On farms only. [7] Figures for the decennial census years
31-1921 are for the next preceding years. In the Censuses of 1881 and 1891 values only were given of factory butter

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1921	1931	1936	1939	1941	1945	1946	1947[1]
16,169	31,542	36,059	53,125	42,646	41,965	46,939	–
155,376	327,778	377,706	431,203	547,556	455,918	659,672	–
1,880,805	2,264,106	2,189,450	2,236,342	2,131,391	2,112,351	2,513,528	–
1,349,256	1,801,955	1,832,357	1,870,563	1,802,300	1,741,113	1,747,252	–
56,607	71,246	71,701	74,549	75,308	74,957	76,808	–
112,976,543	144,748,823	114,685,037	122,974,590	129,817,268	194,980,000	250,000,000	–
140,887,903	163,119,231	–	–	174,673,535	–	–	–
70,769,548	85,733,309	–	–	92,385,920	–	–	–
1,386,126,000	836,441,000	1,067,555,000	1,224,616,000	1,432,601,000	–	–	–
226,508,411	321,325,000	219,218,000	520,623,000	314,825,000	318,512,000	413,725,000	340,758,0
374,178,601	123,550,000	205,327,000	282,151,000	171,875,000	367,467,000	472,644,000	397,695,0
364,989,218	328,278,000	271,778,000	384,407,000	305,575,000	381,596,000	371,069,000	278,670,0
180,989,587	77,970,000	116,267,000	114,843,000	125,920,000	203,113,000	206,242,000	189,525,0
42,956,049	67,382,600	71,922,000	103,147,000	110,566,000	157,757,000	148,887,000	141,372,0
33,514,070	17,465,000	49,512,000	35,424,000	47,651,000	105,452,000	104,392,000	125,417,0
10,822,278	5,449,000	6,083,000	8,097,000	12,036,000	10,365,000	10,661,000	6,682,0
7,081,140	2,274,000	4,258,000	4,453,000	8,599,000	10,774,000	11,269,000	14,460,0
62,230,052	52,305,000[5]	39,614,000[5]	36,390,000[5]	39,052,000[5]	35,986,000[5]	47,963,000[5]	45,114,00
44,635,547	22,359,000	45,125,000	41,065,000	48,274,000	81,168,000	82,721,000	91,578,0
8,829,915	14,539,600	13,803,000	13,377,000	12,632,000	17,724,000	14,373,000	16,193,0
174,110,386	110,110,000	105,703,000	112,305,000	158,723,000	213,769,000	183,974,000	241,720,0
47,553,418	58,862,305	58,146,850	59,224,600	56,788,400	62,781,300	59,642,000	60,762,0
933,045,936	435,966,400	612,300,400	685,839,000	683,889,000	1,149,685,000	1,248,160,000	1,315,064,0
3,451,800	3,113,900	2,877,500	2,824,340	2,788,800	2,585,000	2,200,000	2,032,0
414,808,000	205,087,000	206,990,000	189,768,000	184,461,000	177,632,000	165,076,000	158,375,0
3,086,700	3,371,900	3,805,400	3,873,500	3,623,900	3,998,000	3,711,000	3,697,0
188,518,000	160,655,000	139,916,000	179,807,000	191,085,000	389,935,000	410,190,000	431,942,0
5,282,800	4,601,100	5,023,600	4,601,100	4,893,400	6,760,000	5,954,000	6,021,0
146,567,000	94,952,000	114,126,000	151,087,000	138,308,000	343,699,000	327,394,000	368,029,0
3,200,500	3,627,100	3,159,400	3,365,800	2,840,100	3,622,000	2,942,000	2,707,0
20,675,000	19,680,000	17,064,000	22,511,000	17,039,000	33,915,000	29,560,000	30,099,0
3,324,300	4,699,800	4,135,800	4,294,000	6,081,400	6,026,000	4,910,000	5,473,0
35,869,000	33,288,000	45,344,000	59,213,000	54,912,000	121,323,000	112,016,000	134,035,0
37,185,800	65,468,000	59,339,400	61,139,800	63,471,000	82,318,000	80,835,000	88,264,0
38,015,000	45,138,000	40,366,000	46,459,700	27,412,000	77,374,000	83,979,000	97,947,0
844,452,000	558,800,000	563,806,000	648,845,700	613,217,000	1,143,878,000	1,128,215,000	1,220,427,0
10,976,236	14,339,686	15,122,426	15,781,104	16,549,902	17,626,772	16,955,553	17,213,9
149,201,856	113,956,639	119,123,483	125,475,359	124,673,351	188,729,000	148,884,000	122,716,0
39,100,872	12,824,695	15,565,813	15,311,782	24,737,037	42,734,000	36,528,000	37,692,0
111,691,718	225,955,246	250,931,777	267,612,546	285,848,196	293,811,000	271,491,000	290,841,0
63,625,203	50,198,878	57,662,160	61,748,399	93,199,557	101,405,000	105,450,000	154,594,0
103,487,506	98,590,000	95,405,000	103,722,000	82,796,000	53,283,000	54,225,000	56,295,0
50,181,000	20,698,000	17,645,000	19,098,000	24,373,000	18,756,000	21,144,000	28,106,0
135,816,439	109,262,600	107,606,628	122,303,815	159,363,878	237,032,000	260,517,000	315,348,0
288,723,514	192,384,173	198,479,601	218,461,996	301,673,472	399,927,000	423,639,000	535,740,0
168,054,024	141,123,930	134,804,228	157,747,398	213,163,089	334,324,901	413,269,314	–
2,869,307	2,497,553	3,412,151	3,976,882	4,941,084	4,514,160	5,083,280	–
82,448,585	45,977,843	61,965,540	78,331,839	129,287,703	181,045,952	230,189,699	–
116,891,191	62,769,253	80,343,291	100,132,597	163,412,292	231,108,030	287,910,057	–
151,003,165	174,733,954	185,144,603	208,152,295	334,429,175	398,804,515	527,814,916	–
284,561,478	185,493,491	210,206,707	242,541,043	387,113,232	488,040,542	625,591,155	886,192,0

and cheese; quantities have been calculated by reckoning cheese at 10 cents per lb. and butter at 25 cents pe
[8] Data shown for 1945-1947 represent cheddar and other cheese made from whole milk; prior to 1942 the fig include other cheese for Quebec only. [9] Prior to 1921 this item does not include skim milk and buttern
[10] Fiscal years prior to 1931.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item		1871	1881	1891	1901	1911
	Furs—						
1	Pelts taken	No.	–	–	–	–	–
		$	–	–	–	–	–
2	Value of animals on fur farms	$	–	–	–	–	–
3	**Fisheries**	$	7,573,199	15,817,162	18,977,874	25,737,153	34,667,872
	Mineral Production—						
4	Gold[2]	oz.	105,187	63,524	45,018	1,167,216	473,159
		$	2,174,412	1,313,153	930,614	24,128,503	9,781,077
5	Silver	oz.	–	355,083[3]	414,523	5,539,192	32,559,044
		$	–	347,271[3]	409,549	3,265,354	17,355,272
6	Copper	lb.	–	3,260,424[3]	9,529,401	37,827,019	55,648,011
		$	–	366,798[3]	1,226,703	6,096,581	6,886,998
7	Lead	lb.	–	204,800[3]	88,665	51,900,958	23,784,969
		$	–	9,216[3]	3,857	2,249,387	827,717
8	Zinc	lb.	–	–	–	788,000[4]	1,877,479
		$	–	–	–	36,011[4]	108,105
9	Nickel	lb.	–	830,477[5]	4,035,347	9,189,047	34,098,744
		$	–	498,286[5]	2,421,208	4,594,523	10,229,623
10	Pig-iron	long ton	–	22,167[3]	21,331	244,979	819,228
11	Coal	short ton	1,063,742[7]	1,537,106	3,577,749	6,486,325	11,323,388
		$	1,763,423[7]	2,688,621	7,019,425	12,699,243	26,467,646
12	Natural gas	M cu. ft.	–	–	–	–	–
		$	–	–	150,000[8]	339,476	1,917,678
13	Petroleum, crude	bbl.	–	368,987	755,298	622,392	291,092
		$	–	–	1,010,211	1,008,275	357,073
14	Asbestos	short ton	–	–	9,279	40,217	127,414
		$	–	–	999,878	1,259,759	2,943,108
15	Cement	bbl.	–	69,843[3]	93,479	450,394	5,692,915
		$	–	81,909[3]	108,561	660,030	7,644,537
	Totals, Mineral Production[9]	$	–	10,221,255[10]	18,976,616	65,797,911	103,220,994
	Central Electric Stations—						
16	Power houses	No.	–	–	80	58	266
17	Capital invested	$	–	–	4,113,771	11,891,025	110,838,746
18	Power generated	'000 kwh.	–	–	–	–	–
19	Customers	No.	–	–	–	–	–
	Water Power—						
20	Turbine H.P. installed	No.	–	–	71,219	238,902	1,363,134
	Manufactures—[11]						
21	Employees	No.	187,942	254,935	369,595	339,173	515,203
22	Capital	$	77,964,020	165,302,623	353,213,000	446,916,487	1,247,583,609
23	Salaries and wages	$	40,851,009	59,429,002	100,415,350	113,249,350	241,008,416
24	Values of materials used in	$	124,907,846	179,918,593	250,759,292	266,527,858	601,509,018
	Products—						
25	Gross	$	221,617,773	309,676,068	469,847,886	481,053,375	1,165,975,639
26	Net	$	96,709,927	129,757,475	219,088,594	214,525,517	564,466,621
	Construction—						
27	Values of contracts awarded	$	–		–	–	345,425,000
	Steam Railways—						
28	Miles in operation	No.	2,695	7,331	13,838	18,140	25,400
29	Capital	$	257,035,188[13]	284,419,293	632,061,440	816,110,837	1,528,689,201
30	Passengers	No.	5,190,416[14]	6,943,671	13,222,568	18,385,722	37,097,718
31	Freight	ton	5,670,836[14]	12,065,323	21,753,021	36,999,371	79,884,282
32	Earnings	$	19,470,539[14]	27,987,509	48,192,099	72,898,749	188,733,494
33	Expenses	$	15,775,532[14]	20,121,418	34,960,449	50,368,726	131,034,785
	Electric Railways—						
34	Miles in operation	No.	–	–	–	553	1,224
35	Capital	$	–	–	–	–	111,532,347
36	Passengers	No.	–	–	–	120,934,656	426,296,792
37	Freight	ton	–	–	–	287,926	1,228,362
38	Earnings	$	–	–	–	5,768,283	20,356,952
39	Expenses	$	–	–	–	3,435,162	12,096,134
	Road Transportation—						
40	Highways, total mileages[16]	No.	–	–	–	–	–
41	Capital expenditure on[16]	$	–	–	–	–	–
42	Motor-vehicles registered	No.	–	–	–	–	21,783
43	Total provincial revenue from licences and operation	$	–	–	–	–	–

[1] Figures are subject to revision. [2] As from 1932 the values include exchange equalization. [3] 1887. [4] 1898. [5] 1889. [6] Short tons. [7] 1874. [8] 1892. [9] Includes other items not specified. [10] 1886. [11] The statistics of manufactures in 1871, 1881 and 1891 include all establishments irrespective of the number of employees. From 1901, statistics are for establishments with five hands or over. The figures shown for census years prior to 1921 are for the preceding year. From 1922, statistics are exclusive of construction

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1921	1931	1936	1939	1941	1945	1946	1947[1]
2,936,407	4,060,356	4,596,713	6,492,222	7,257,337	6,994,686	7,593,416	7,486,9
10,151,594	11,803,217	15,464,883	14,286,937	21,123,161	31,001,456	43,870,541	26,349,9
5,977,545	8,497,237	9,838,280	6,920,464	7,928,971	15,412,758	16,335,287	–
34,931,935	30,517,306	39,165,055	40,075,922	62,258,997	113,871,100	121,124,732	–
926,329	2,693,892	3,748,028	5,094,379	5,345,179	2,696,727	2,832,554	3,035,1
19,148,920	58,093,396	131,293,421	184,115,951	205,789,392	103,823,990	104,096,359	106,230,6
13,543,198	20,562,247	18,334,487	23,163,629	21,754,408	12,942,906	12,544,100	11,773,6
8,485,355	6,141,943	8,273,804	9,378,490	8,323,454	6,083,166	10,493,139	8,477,0
47,620,820	292,304,390	421,027,732	608,825,570	643,316,713	474,914,052	367,936,875	450,587,0
5,953,555	24,114,065	39,514,101	60,934,859	64,407,497	59,322,261	46,632,093	91,317,1
66,679,592	267,342,482	383,180,909	388,569,550	460,167,005	346,994,472	353,973,776	323,999,6
3,828,742	7,260,183	14,993,869	12,313,768	15,470,815	17,349,723	23,893,230	44,290,7
53,089,356	237,245,451	333,182,736	394,533,860	512,381,636	517,213,604	470,620,360	414,779,8
2,471,310	6,059,249	11,045,007	12,108,244	17,477,337	33,308,556	36,755,450	46,579,7
19,293,060	65,666,320	169,739,393	226,105,865	282,258,235	245,130,983	192,124,537	235,561,1
6,752,571	15,267,453	43,876,525	50,920,305	68,656,795	61,982,133	45,385,155	70,312,6
593,829	420,038	678,231	755,731	1,528,053[6]	1,777,949[6]	1,406,252[6]	1,969,8
15,057,493	12,243,211	15,229,182	48,676,990	18,225,921	16,506,713	17,806,450	15,862,7
72,451,656	41,207,682	45,701,934	15,692,698	58,059,630	67,588,402	75,361,481	77,979,1
14,077,601	25,874,723	28,113,348	35,185,146	43,495,353	48,411,585	47,900,484	53,310,3
4,594,164	9,026,754	10,762,243	12,507,307	12,665,116	12,309,564	12,165,050	14,317,8
187,541	1,542,573	1,500,374	7,826,301	10,133,838	8,482,796	7,585,555	7,632,2
641,533	4,211,674	3,421,767	9,846,352	14,415,096	13,632,248	14,989,052	14,701,3
92,761	164,296	301,287	364,472	477,846	466,897	558,181	662,5
4,906,230	4,812,886	9,958,183	15,859,212	21,468,840	22,805,157	25,240,562	31,847,1
5,752,885	10,161,658	4,508,718	5,731,264	8,368,711	8,471,679	11,560,483	11,899,7
14,195,143	15,826,243	6,908,192	8,511,211	13,063,588	14,246,480	20,122,503	21,632,3
171,923,342	230,434,726	361,919,372	474,602,059	560,241,290	498,755,181	502,816,251	619,133,4
510	559	561	611	607	600	600	–
484,669,451	1,229,988,951	1,483,116,649	1,564,603,211	1,641,460,451	–	–	–
5,614,132	16,330,867	25,402,282	28,338,030	33,317,663	40,130,054	41,736,987	–
973,212	1,632,792	1,740,793	1,941,663	2,081,270	2,333,230	2,476,830	–
2,754,157	6,666,337	7,945,590	8,289,212	8,845,038	10,283,610	10,312,123	10,490,9
438,555	528,640	594,359	658,114	961,178	1,119,372	1,058,156	–
2,697,858,073	3,705,701,893	3,271,263,531	3,647,024,449	4,905,503,966	–	–	–
497,399,761	2,587,566,990	612,071,434	737,811,153	1,264,862,643	1,845,773,449	1,740,687,254	–
1,365,292,885	1,221,911,982	1,624,213,996	1,836,159,375	3,296,547,019	4,473,668,847	4,358,234,766	–
2,488,987,148	2,555,126,448[12]	3,002,403,814[12]	3,474,783,528[12]	6,076,308,124[12]	8,250,368,866[12]	8,035,692,471[12]	–
1,123,694,263	1,252,017,248[12]	1,289,592,672[12]	1,531,051,901[12]	2,605,119,788[12]	3,564,315,899[12]	3,467,004,980[12]	–
240,133,300	315,482,000	162,588,000	187,178,500	393,991,300	409,032,700	663,355,100	718,137,1
39,191	42,280	42,552	42,637	42,441	42,352	42,335	–
2,164,687,636	4,232,022,088	4,487,605,511	3,367,702,730	3,397,488,564	3,333,759,954	3,290,597,847	–
46,793,251	26,396,812	20,497,616	20,482,296	29,779,241	53,407,845	43,405,177	–
83,730,829[15]	74,129,694[15]	75,846,566[15]	84,631,122[15]	116,808,091[15]	147,348,566[15]	139,256,125[15]	–
458,008,891	358,549,382	334,768,557	367,179,095	538,291,947	774,971,360	718,501,764	–
422,581,205	321,025,588	283,345,968	304,373,285	403,733,542	631,497,562	623,529,472	–
1,680	1,379	1,247	1,083	1,028	1,016	1,004	–
177,187,436	215,818,096	205,062,353	204,581,406	193,532,914	179,713,277	167,698,852	–
719,305,441	720,468,361	614,890,897	632,533,152	795,170,569	1,316,571,540	1,344,916,773	–
2,282,292	1,977,441	2,265,023	2,313,748	3,265,449	3,639,989	3,506,805	–
44,536,832	49,088,310	41,391,927	42,864,150	55,334,647	88,939,451	87,515,721	–
35,945,316	35,367,068	28,807,311	29,605,328	37,030,823	64,533,940	75,550,821	–
–	378,094	410,448	497,707	561,489	552,015	553,370	–
–	66,250,229	34,966,916	62,577,241	37,237,954	32,191,134	80,589,053	–
464,805	1,200,668	1,240,124	1,439,245	1,572,784	1,497,081	1,622,463	–
–	42,231,027	61,026,358	79,915,560	91,139,300	91,181,795	87,450,942	–

hand trades, repair and custom work. Figures for 1931–46, include non-ferrous metal smelting not include earlier years. [12] Since 1924 the net value of production is computed by subtracting the cost of fuel electricity as well as the cost of materials from the gross value of the products. [13] 1876. [14] 1
[15] Duplication eliminated. [16] Fiscal years.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

Item		1871	1881	1891	1901	1911
Canals—						
Passengers carried	No.	100,377	118,136	146,336	190,428	304,904
Freight	ton	3,955,621	2,853,230	2,902,526	5,665,259	38,030,353
Shipping—						
Vessels on the registry	No.	–	7,394	7,015	6,697	8,088
	ton	–	1,310,896	1,005,475	666,276	770,446
Sea-Going—[2,3]						
Entered	ton	2,521,573	4,032,946	5,273,935	7,514,732	11,919,339
Cleared	"	2,594,460	4,071,391	5,421,261	7,028,330	10,377,847
Totals	"	5,116,033	8,104,337	10,695,196	14,543,062	22,297,186
Inland International—[2,3]						
Entered	ton	4,055,198	2,934,503	4,098,434	5,720,575	13,286,102
Cleared	"	3,954,797	2,763,592	4,009,018	5,766,171	11,846,257
Totals	"	8,009,995	5,698,095	8,107,452	11,486,746	25,132,359
Coastwise—[2]						
Entered	ton	–	7,664,863	12,835,774	17,927,959	34,280,669
Cleared	"	–	7,451,903	12,150,356	16,516,837	32,347,265
Totals	"	–	15,116,766	24,986,130	34,444,796	66,627,934
Air Transportation—						
Miles flown	No.	–	–	–	–	–
Passenger miles	"	–	–	–	–	–
Freight carried	lb.	–	–	–	–	–
Mail carried	"	–	–	–	–	–
Communications—						
Telegraphs, Govt., miles of line	No.	–	1,947	2,699	5,744	8,446
Telegraphs, other, miles of line	"	–	–	27,866	30,194	33,905
Telephones	"	–	–	–	63,192	302,759[5]
Telephones, employees[6]	"	–	–	–	–	10,425[5]
Radio receiving sets	"	–	–	–	–	–
Post Office—						
Revenues	$	803,637	1,344,970	2,515,824	3,421,192	9,146,952
Expenditures	$	994,876	1,876,658	3,161,676	3,837,376	7,954,223
Money orders issued	$	4,546,434	7,725,212	12,478,178	17,956,258	70,614,862
Wholesale and Retail Trade—						
Wholesale—[7]						
Establishments	No.	–	–	–	–	–
Employees	"	–	–	–	–	–
Net sales	$	–	–	–	–	–
Retail—Stores[7]	No.	–	–	–	–	–
Employees, full-time	"	–	–	–	–	–
Net sales	$	–	–	–	–	–
Retail Services—[7]						
Establishments	No.	–	–	–	–	–
Employees, full-time	"	–	–	–	–	–
Receipts	$	–	–	–	–	–
Commercial Failures	No.	–	–	1,861	1,341	1,332
Liabilities	$	–	–	16,723,939	10,811,671	13,491,196
Foreign Trade—						
Exports [10,11]	$	57,630,024	83,944,701	88,671,738	177,431,386	274,316,553
Imports [10,12]	$	84,214,388	90,488,329	111,533,954	177,930,919	452,724,603
Totals, Foreign Trade [10]	$	141,844,412	174,433,030	200,205,692	355,362,305	727,041,156
Total exports to British Empire [13]	$	–	–	47,137,203	100,748,097	148,967,442
Exports to United Kingdom [13]	$	21,733,556	42,637,219	43,243,784	92,857,525	132,156,924
Total imports from British Empire [13]	$	–	–	44,337,052	46,653,228	129,467,647
Imports from United Kingdom [13]	$	48,498,202	42,885,142	42,018,943	42,820,334	109,934,753
Exports to United States [13]	$	29,164,358	34,038,431	37,743,420	67,983,673	104,115,823
Imports from United States [13]	$	27,185,586	36,338,701	52,033,477	107,377,906	275,824,265
EXPORTS, DOMESTIC, BY CHIEF ITEMS—[13]						
Wheat	bu.	1,748,977	2,523,673	2,108,216	9,739,758	45,802,115
	$	1,981,917	2,593,820	1,583,084	6,871,939	45,521,134
Wheat flour	bbl.	306,339	439,728	296,784	1,118,700	3,049,046
	$	1,609,849	2,173,108	1,388,578	4,015,226	13,854,790

[1] Figures are subject to revision.
[2] Fiscal year figures prior to 1941.
[3] In foreign service, which ludes sea-going and inland international after 1936.
[4] Prior to 1941 Temiskaming and Northern Ontario ailway Commission was not included.
[5] As at June 30.
[6] Excludes rural lines in Saskatchewan.
Census figures for calendar years, 1930 and 1941, respectively.
[8] Estimated on basis of intercensal survey.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1921	1931	1936	1939	1941	1945	1946	1947[1]	
230,129	126,633	59,855	62,790	100,092	88,234	79,298	76,080	1
9,407,021	16,189,074	21,468,816	23,391,077	23,453,367	22,320,399	18,654,919	21,513,939	2
7,482	8,966	9,373	8,419	8,667	9,421	–	–	3
1,223,973	1,484,423	1,367,071	1,287,365	1,271,811	1,673,131	–	–	
12,516,503	28,064,762	28,895,751	31,353,871	31,452,400	29,655,984	30,367,071	35,926,095	4
12,400,226	26,535,387	29,156,876	32,044,242	33,313,400	33,511,617	34,144,608	–	5
24,916,729	54,600,149	58,052,627	63,398,113	64,765,800	63,167,601	64,511,679	–	6
14,828,454	17,769,690	14,472,022	13,421,245	–	–	–	–	7
14,903,447	18,542,037	14,998,858	15,008,129	–	–	–	–	8
29,731,901	36,311,727	29,470,880	28,429,374	–	–	–	–	9
28,567,545	47,134,652	42,979,361	45,386,457	48,107,158	48,098,201	45,559,014	51,766,383	10
27,773,668	47,540,555	41,815,616	43,183,652	46,433,320	44,535,356	41,218,108	–	11
56,341,213	94,675,207	84,794,977	88,570,109	94,540,478	92,633,557	86,777,122	–	12
294,449	7,046,276	7,100,401	10,969,271	12,508,390	20,087,432	28,411,993	–	13
–	4,073,552	9,653,196	26,107,750	56,723,714	159,163,445	215,747,981	–	14
79,850	2,372,467	22,947,105	21,253,364	16,559,611	14,462,400	25,226,986	–	15
–	470,461	1,161,069	1,900,347	3,411,971	6,418,944	5,930,338	–	16
11,207	9,300	8,893	8,780	9,919[4]	9,366[4]	9,343[4]	–	17
41,577	43,928	44,014	43,684	43,047	43,081	43,158	–	18
902,090	1,364,200	1,266,228	1,397,272	1,562,146	1,848,794	2,026,118	–	19
19,943	23,825	17,775	17,636	20,103	25,599	33,170	–	20
–	523,100	862,109	1,223,502	1,454,717	1,759,100	1,754,351	1,807,824	21
26,331,119	30,416,107	32,507,888	35,288,220	40,383,366	66,071,815	68,635,559	72,986,624	22
24,661,262	36,292,604	30,100,102	35,456,181	38,699,674	54,629,281	57,729,646	64,213,050	23
173,523,322	167,749,651	121,810,839	145,204,787	173,565,550	281,890,291	290,933,503	329,557,700	24
–	13,140	–	–	24,758	–	–	–	25
–	90,564	–	–	117,471	–	–	–	26
–	3,325,210,300	–	–	5,290,751,000	–	–	–	27
–	125,003	–	–	137,331	–	–	–	28
–	238,683	–	–	297,047	–	–	–	29
–	2,320,963,000	2,208,142,000[8]	2,447,658,000[8]	3,440,901,700	4,595,667,000[8]	5,506,286,000[8]	6,864,700,000[8]	30
–	42,223	–	–	49,271	–	–	–	31
–	55,257	–	–	62,781	–	–	–	32
–	249,455,900	–	–	254,678,000	–	–	–	33
2,451[9]	2,563[9]	1,238	1,299	882	95	130	304	34
73,299,111[9]	52,987,554[9]	11,314,000	11,635,000	6,959,000	2,305,000	4,003,000	7,228,000	35
800,149,296	587,653,440	937,824,933	924,926,104	1,621,003,175	3,218,330,353	2,312,215,301	2,774,902,355	36
799,478,483	628,098,386	635,190,844	751,055,534	1,448,791,650	1,585,775,142	1,927,279,402	2,573,944,125	37
1,599,627,779	1,215,751,826	1,573,015,777	1,675,981,638	3,069,794,825	4,804,105,495	4,239,494,703	5,348,846,480	
403,452,219	219,781,406	479,646,028	430,806,546	878,640,907	1,486,847,837	904,700,873	1,168,501,085	38
312,844,871	170,597,455	395,351,950	328,099,242	658,228,354	963,237,687	597,506,175	751,198,395	39
266,002,688	151,999,922	189,319,021	188,900,276	359,942,070	271,668,462	340,500,712	354,393,855	40
213,973,562	109,468,081	122,971,264	114,007,409	219,418,957	140,517,448	201,433,220	189,369,855	41
542,322,967	240,196,849	333,916,949	380,392,047	599,713,463	1,196,976,726	887,940,676	1,034,226,394	42
856,176,820	393,775,289	369,141,513	496,898,466	1,004,498,152	1,202,417,634	1,405,296,699	1,974,679,178	43
129,215,157	194,825,612	243,041,530	162,904,586	196,646,340	329,672,842	157,529,350	160,426,359	44
310,952,138	117,871,254	226,913,763	109,050,542	161,856,075	475,786,639	250,305,507	265,200,441	
6,017,032	5,697,224	4,850,071	5,342,172	11,439,191	13,730,584	14,984,287	18,081,882	45
66,520,490	20,207,319	20,638,718	16,378,301	44,807,353	97,854,944	126,733,077	196,578,113	

[9] Includes Newfoundland. [10] Fiscal years prior to 1921. [11] Exports of domestic merchandise only. [12] Imports of merchandise for home consumption. [13] Fiscal years 1921 and prior years; calendar years 1931–47.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item		1871	1881	1891	1901	1911
	Foreign Trade—concluded						
	EXPORTS, DOMESTIC, BY CHIEF ITEMS —concluded[2]						
1	Oats	bu.	42,386	2,926,532	260,569	8,155,063	5,431,662
		$	231,227	1,191,873	129,917	2,490,521	2,144,846
2	Hay	ton	23,487	168,381	65,083	252,977	326,132
		$	290,217	1,813,208	559,489	2,097,882	2,723,291
3	Bacon and hams, shoulders and sides.	cwt.	103,444	103,547	75,542	1,055,495	598,745
		$	1,018,918	758,334	628,469	11,778,446	8,526,432
4	Butter	lb.	15,439,266	17,649,491	3,768,101	16,335,528	3,142,682
		$	3,065,234	3,573,034	602,175	3,295,663	744,288
5	Cheese	lb.	8,271,439	49,255,523	106,202,140	195,926,397	181,895,724
		$	1,109,906	5,510,443	9,508,800	20,696,951	20,739,507
6	Silver	oz.	–	–	–	4,022,019	33,731,010
		$	595,261	34,494	238,367	2,420,750	17,269,168
7	Copper[3]	lb.	6,246,000	39,604,000	10,994,498	26,345,776	55,005,342
		$	120,121	150,412	505,196	2,659,261	5,575,073
8	Nickel	lb.	–	–	5,352,043	9,537,558	34,767,523
		$	–	–	240,499	958,365	3,842,332
9	Coal	ton	318,287	420,055	833,684	1,888,538	2,315,171
		$	662,451	1,123,091	2,916,465	5,307,060	6,014,095
10	Asbestos	ton	–	–	7,022	26,715	69,829
		$	–	–	513,909	864,573	2,076,477
11	Wood-pulp	cwt.	–	–	–	–	6,588,655
		$	–	–	280,619	1,937,207	5,715,532
12	Newsprint paper	cwt.	–	–	–	–	–
		$	–	–	–	–	3,092,437
	EXPORTS, DOMESTIC, BY CLASSES—[2]						
13	Vegetable products (except chemicals, fibres, and wood)	$	–	–	13,742,557	25,541,567	84,368,425
14	Animals and their products (except chemicals and fibres)	$	–	–	36,399,140	68,465,332	69,693,263
15	Fibres, textiles, and textile products	$	–	–	872,628	1,880,539	1,818,931
16	Wood, wood products, and paper	$	–	–	25,351,085	33,099,915	56,334,695
17	Iron and its products	$	–	–	556,527	3,778,897	9,884,346
18	Non-ferrous metals and their products	$	–	–	1,618,955	33,395,096	34,000,996
19	Non-metallic minerals and their products (except chemicals)	$	–	–	3,988,584	7,356,444	10,038,493
20	Chemicals and allied products	$	–	–	851,211	791,855	3,088,840
21	All other commodities	$	–	–	5,291,051	3,121,741	5,088,564
	Totals, Exports, Domestic	$	57,630,024	83,944,701	88,671,738	177,431,386	274,316,553
	IMPORTS FOR CONSUMPTION—[2]						
22	Vegetable products (except chemicals, fibres, and wood)	$	–	–	24,212,140	38,036,146	79,214,041
23	Animals and their products (except chemicals and fibres)	$	–	–	8,080,862	14,022,896	30,671,908
24	Fibres, textiles, and textile products	$	–	–	28,670,141	37,284,752	87,916,282
25	Wood, wood products, and paper	$	–	–	5,203,490	8,196,901	26,851,936
26	Iron and its products	$	–	–	15,142,615	29,955,936	91,968,180
27	Non-ferrous metals and their products	$	–	–	3,810,626	7,167,318	27,579,572
28	Non-metallic minerals and their products (except chemicals)	$	–	–	14,139,024	21,255,403	53,430,475
29	Chemicals and allied products	$	–	–	3,697,810	5,684,999	12,471,730
30	All other commodities	$	–	–	8,577,246	16,326,568	42,620,479
	Totals, Imports	$	84,214,388	90,488,329	111,533,954	177,930,919	452,724,603
	Dominion Finance—						
31	Customs revenues	$	11,841,105	18,406,092	23,305,218	28,293,930	71,838,089
32	Excise revenues	$	4,295,945	5,343,022	6,914,850	10,318,266	16,869,837
33	War-tax revenues	$	–	–	–	–	–
34	Income tax	$	–	–	–	–	–
35	Sales tax	$	–	–	–	–	–
36	Total receipts from taxation	$	16,320,369	23,942,139	30,220,068	38,612,196	88,707,926
37	Per capita receipts from taxes	$	4·42	5·54	6·25	7·19	12·31
38	Total revenues	$	19,335,561	29,635,298	38,579,311	52,514,701	117,780,409
39	Revenues per capita	$	5·24	6·85	7·98	9·78	16·34
40	Total expenditures	$	19,293,478	33,796,643	40,793,208	57,982,866	122,861,250

[1] Figures are subject to revision. [2] Fiscal years 1921 and prior years; calendar years 1931-47. [3] Copper, fine, contained in ore, matte, regulus, etc.

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

1921	1931	1936	1939	1941	1945	1946	1947[1]
14,321,048	11,177,072	8,488,040	12,115,598	7,691,664	71,116,842	30,243,197	12,834,9
14,152,033	3,767,918	3,136,891	4,142,375	3,295,148	47,659,619	23,108,066	12,388,6
179,398	89,056	127,996	94,191	33,412	145,566	208,076	167,2
4,210,594	839,278	989,557	773,782	391,605	2,619,934	3,318,492	3,131,2
982,338	127,752	1,580,496	1,878,251	4,646,140	4,498,346	2,892,916	2,357,8
31,492,407	2,035,382	25,957,012	32,656,049	77,494,498	96,493,111	66,388,591	62,081,1
9,739,414	10,680,500	5,128,800	12,398,600	1,481,800	5,598,300	4,509,400	3,107,1
5,128,831	2,329,853	1,178,916	2,673,765	493,525	2,235,749	2,003,302	1,597,0
133,620,340	84,788,400	81,890,300	90,944,800	92,331,000	135,409,300	106,495,400	55,531,1
37,146,722	10,594,917	11,347,125	12,248,650	13,554,911	27,909,305	21,947,738	14,162,3
13,331,050	18,666,367	16,130,875	21,030,580	17,235,320	4,956,103	4,180,506	10,236,6
11,127,432	5,399,259	7,283,547	8,525,173	6,585,443	2,597,010	3,490,421	7,427,7
36,167,900	48,761,200	45,519,600	121,500,900	95,538,700	38,589,200	35,255,800	58,187,5
4,336,972	3,891,045	2,971,042	8,505,064	6,687,709	2,701,244	2,467,906	9,310,0
47,018,300	60,420,300	168,316,400	229,930,400	275,190,300	216,443,300	223,877,200	234,114,0
9,405,291	13,188,928	42,987,140	56,522,602	67,679,708	54,778,226	55,204,632	60,442,7
2,277,202	359,853	411,574	376,203	531,449	840,708	862,489	714,5
16,501,478	1,909,922	1,792,584	1,666,934	2,596,626	5,303,543	5,946,224	5,440,7
154,152	70,903	136,547	186,238	220,255	210,628	215,872	224,6
12,255,793	3,929,317	7,391,517	12,463,177	14,550,435	16,224,118	16,509,480	20,720,6
14,363,006	12,450,741	15,089,928	14,110,308	28,234,485	28,690,537	28,371,158	33,974,2
71,552,037	30,056,643	31,246,695	31,000,602	85,897,736	106,054,911	114,020,659	177,802,6
15,112,586	40,164,815	59,861,787	53,174,453	65,240,248	61,178,918	77,169,338	84,415,5
78,922,137	107,233,112	103,639,634	115,687,288	154,356,543	179,450,771	265,864,969	342,293,1
482,140,444	209,760,786	346,980,652	220,118,056	285,708,739	819,445,087	578,487,716	683,696,7
188,359,937	70,938,351	124,694,815	131,803,706	201,730,555	398,063,480	358,472,794	331,444,6
18,783,884	5,394,084	12,227,387	14,427,669	30,819,633	56,881,105	53,759,827	49,347,3
284,561,478	185,493,491	210,206,707	242,541,043	387,113,232	488,040,542	625,591,155	886,192,0
76,500,741	19,086,492	52,303,878	63,102,432	239,900,848	555,090,103	227,472,926	273,156,2
45,939,377	56,158,939	134,436,740	182,890,103	244,012,336	352,545,645	247,810,065	303,937,2
40,345,345	14,976,873	23,974,191	29,332,099	45,172,085	59,555,035	57,360,525	74,614,1
20,142,826	10,848,946	17,749,628	24,263,342	58,676,338	111,318,110	67,588,719	83,803,9
32,389,669	14,995,478	15,250,935	16,447,654	127,869,409	377,391,246	95,671,574	88,710,0
1,189,163,701	587,653,440	937,824,933	924,926,104	1,621,003,175	3,218,330,353	2,312,215,301	2,774,902,3
259,431,110	134,433,268	126,245,938	127,835,146	171,835,408	235,558,101	310,752,921	356,277,5
61,722,390	28,629,914	25,845,624	32,757,666	34,845,584	46,625,324	64,237,006	86,909,1
243,608,342	90,151,516	98,915,100	100,866,078	161,138,512	196,761,222	264,120,526	390,589,0
57,449,384	34,923,391	27,099,785	33,703,149	36,739,071	49,760,716	69,623,406	89,548,1
245,625,703	116,209,368	135,359,104	183,159,650	431,622,365	384,459,898	491,068,506	762,358,9
55,651,319	38,666,648	35,040,115	42,108,374	94,758,269	99,119,533	120,281,405	160,925,9
206,095,113	106,087,909	115,497,181	132,823,892	189,953,788	265,405,010	332,611,081	452,197,9
37,887,449	31,336,994	31,971,047	43,705,905	65,382,196	79,758,655	92,874,113	113,084,7
72,688,072	47,659,378	39,216,950	54,095,674	262,516,457	228,326,683	181,710,438	162,052,5
1,240,158,882	628,098,386	635,190,844	751,055,534	1,448,791,650	1,585,775,142	1,927,279,402	2,573,944,1
163,266,804	131,208,955	74,004,560	78,751,111	130,757,011	115,091,376	128,876,811	237,355,3
37,118,367	57,746,808	44,409,797	51,313,658	88,607,559	151,922,140	186,726,318	196,043,8
168,385,327	107,320,633	197,484,627	305,642,025	558,175,014	1,869,660,263	1,864,556,332	1,969,996,3
46,381,824	71,048,022	82,709,803	142,026,138	220,471,004	977,758,068	932,729,273	939,458,2
38,114,539	20,783,944	77,551,974	122,139,067	179,701,224	209,389,876	326,252,799	328,073,0
368,770,498	296,276,396	317,311,809	435,706,794	778,175,450	2,154,626,648	2,202,358,387	2,427,661,3
41·96	28·55	28·98	38·51	67·63	177·79	178·95	192·9
436,292,185	356,160,876	372,595,996	502,171,354	872,169,645	2,687,334,799	3,013,185,074	3,007,876,3
49·64	34·32	33·79	44·38	75·80	221·74	244·84	239·(
528,302,513	440,008,855	532,585,555	553,063,098	1,249,601,446	5,245,611,924	5,136,228,506	2,634,227,4

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—continued

	Item		1871	1881	1891	1901	1911
	Dominion Finance—concluded						
1	Expenditures per capita	$	5·23	7·82	8·44	10·79	17·04
2	Gross debt	$	115,492,683	199,861,537	289,899,230	354,732,433	474,941,487
3	Assets	$	37,786,165	44,465,757	52,090,199	86,252,429	134,899,435
4	Net debt	$	77,706,518	155,395,780	237,809,031	268,480,004	340,042,052
	Provincial Finance—						
5	Revenue, ordinary, totals	$	5,518,946	7,858,698	10,693,815	14,074,991	40,706,948
6	Expenditure, ordinary, totals	$	4,935,008	8,119,701	11,628,353	14,146,059	38,144,511
	Note Circulation—						
7	Bank notes	$	20,914,637	28,516,692	33,061,042	50,601,205	89,982,223
8	Dom. or Bank of Canada notes[4]	$	7,244,341	14,539,795	16,176,316	27,898,509	99,921,354
	Chartered Banks—						
9	Capital, paid-up	$	37,095,340	59,534,977	60,700,697	67,035,615	103,009,256
10	Assets	$	125,273,631	200,613,879	269,307,032	531,829,324	1,303,131,260
11	Liabilities to the public	$	80,250,974	127,176,249	187,332,325	420,003,743	1,097,661,393
12	Deposits payable on demand	$	–	–	–	95,169,631	304,801,755
13	Deposits payable after notice	$	–	–	–	221,624,664	568,976,209
14	Totals, Deposits [4,5]	$	56,287,391	94,346,481	148,396,968	349,573,327	980,433,788
15	Bank debits	$'000	–	–	–	–	–
	Savings Banks—						
16	Deposits in Post Office	$	2,497,260	6,208,227	21,738,648	39,950,813	43,330,579
17	Deposits in Government banks	$	2,072,037	9,628,445	17,661,378	16,098,146	14,673,752
18	Deposits in special banks	$	5,766,712	7,685,888	10,982,232	19,125,097	34,770,386
	Loan Companies (Dominion)—						
19	Assets	$	8,392,464	73,906,638	125,041,146	158,523,307	389,701,988
20	Liabilities	$	8,392,958	71,965,017	123,915,704	158,523,307	389,701,988
	Small Loans Companies (Dominion)—						
21	Assets	$	–	–	–	–	–
22	Liabilities	$	–	–	–	–	–
	Loan Companies (Provincial)—						
23	Assets	$	–	–	–	–	–
24	Liabilities	$	–	–	–	–	–
	Trust Companies (Dominion)—						
	ASSETS—						
25	Company funds	$	[9]	[9]	[9]	[9]	[9]
26	Guaranteed funds	$	[9]	[9]	[9]	[9]	[9]
	LIABILITIES—						
27	Company funds	$	[9]	[9]	[9]	[9]	[9]
28	Guaranteed funds	$	[9]	[9]	[9]	[9]	[9]
29	ESTATES, TRUST AND AGENCY FUNDS.	$	[9]	[9]	[9]	[9]	[9]
	Trust Companies (Provincial)—[10]						
	ASSETS—						
30	Company funds (par value)	$	–	–	–	–	–
31	Guaranteed funds (par value)	$	–	–	–	–	–
32	ESTATES, TRUST AND AGENCY FUNDS.	$	–	–	–	–	–
	Dominion Fire Insurance—						
33	Amounts at risk, Dec. 31	$	228,453,784	462,210,968	759,602,191	1,038,687,619	2,279,868,346
34	Premium income for each year	$	2,321,716	3,827,116	6,168,716	9,650,348	20,575,255
35	Claims paid during each year	$	1,549,199	3,169,824	3,905,697	6,774,956	10,936,948
	Provincial Fire Insurance—						
36	Amounts at risk, Dec. 31	$	–	–	–	–	–
37	Premium income for each year	$	–	–	–	–	–
38	Claims paid during each year	$	–	–	–	–	–
	Dominion Life Insurance—[11]						
39	Amounts at risk, Dec. 31	$	45,825,935	103,290,932	261,475,229	463,769,034	950,220,771
40	Premium income for each year	$	1,852,974	3,094,689	8,417,702	15,189,854	31,619,626
41	Net amounts of policies become claims during each year	$	–	–	–	7,182,358	11,434,901
	Provincial Life Insurance—						
42	Amounts at risk, Dec. 31	$	–	–	–	–	–
43	Premium income for each year	$	–	–	–	–	–
44	Net amounts of policies become claims during each year	$	–	–	–	–	–

[1] Figures are subject to revision. [2] Active assets only. [3] Fiscal year ended nearest Dec. 31 of the year stated. [4] As at June 30 from 1871 to 1901. Monthly averages from 1911 to 1947. [5] Including amounts deposited elsewhere than in Canada from 1901. [6] Figures are for 1924, the first year for which bank debits are available. [7] Included in Post Office Savings Banks. [8] 1922 figures; first year provincial figures made available by the Department of Insurance. [9] Prior to 1920 when the Dominion Department of

STATISTICAL SUMMARY OF THE PROGRESS OF CANADA—concluded

1921	1931	1936	1939	1941	1945	1946	1947[1]
60·11	42·41	48·29	48·88	108·60	432·84	417·34	209·
2,902,482,117	2,610,265,699	3,431,944,027	3,638,320,816	5,018,928,037	15,712,181,527	18,959,846,183	17,698,195,7
561,603,133[2]	348,653,762[2]	425,843,510[2]	485,761,502[2]	1,370,236,588[2]	4,413,819,509[2]	5,538,440,734[2]	4,650,439,19
2,340,878,984	2,261,611,937	3,006,100,517	3,152,559,314	3,648,691,449	11,298,362,018	13,421,405,449	13,047,756,5
102,030,458	179,143,480	232,616,182	296,836,927	404,791,000[3]	507,955,000[3]	–	–
102,569,515	190,754,202	248,141,808	289,467,574	349,818,000[3]	451,108,000[3]	–	–
194,621,710	141,969,350	119,507,306	94,064,907	78,761,049	28,636,174	23,172,717	19,675,9
271,531,162	153,079,362	105,275,223	184,904,919	406,433,409	1,078,988,028	1,125,986,281	1,161,855,2
129,096,339	144,674,853	145,500,000	145,500,000	145,500,000	145,500,000	145,500,000	145,500,0
2,841,782,079	3,066,018,472	3,144,506,755	3,591,564,586	4,008,381,256	6,743,217,134	7,429,608,029	7,810,913,9
2,556,454,190	2,741,554,219	2,855,622,232	3,298,351,099	3,711,870,680	6,438,617,676	7,123,979,417	7,476,627,4
551,914,643	578,604,394	618,340,561	741,733,241	1,088,198,370	1,986,075,142	2,155,312,749	2,138,771,1
1,289,347,063	1,437,976,832	1,518,216,945	1,699,224,304	1,616,129,007	2,750,358,254	3,327,057,442	3,681,231,0
2,264,586,736	2,422,834,828	2,614,895,597	3,060,859,111	3,464,781,844	6,159,997,976	6,771,555,153	7,075,355,8
27,157,474[6]	31,586,468	35,928,607	31,617,352	39,242,957	68,384,813	69,247,607	74,498,0
29,010,619	24,750,227	22,047,287	23,045,576	22,176,633	33,468,799	35,537,154	35,764,5
10,150,189	[7]	[7]	[7]	[7]	[7]	[7]	[7]
58,576,775	69,820,422	69,665,415	81,566,754	76,391,775	122,574,607	140,584,525	153,137,5
96,698,810	147,094,183	137,210,511	136,358,786	130,795,391	133,774,431	145,016,997	–
95,281,122	146,046,087	137,199,814	136,351,602	130,787,116	133,774,429	145,016,997	–
–	827,373	4,392,390	5,466,679	7,918,926	16,000,830	24,917,469	–
–	823,120	4,361,126	5,424,047	7,918,926	16,000,830	24,917,469	–
86,144,153[8]	65,728,238	58,909,744	58,526,904	58,220,073	63,680,642	70,345,417	–
87,385,807[8]	66,387,987	58,762,522	58,533,671	58,220,073	63,680,642	70,345,417	–
10,237,930	15,459,347	16,374,558	20,176,418	20,596,781	22,475,024	23,699,397	–
8,774,185	25,718,219	35,456,607	36,001,000	38,570,855	53,149,578	62,184,103	–
9,907,331	15,066,431	15,878,061	19,351,839	20,086,776	22,311,762	23,339,787	–
8,549,642	25,718,221	35,456,607	36,001,000	38,570,855	53,149,577	62,184,103	–
79,252,639	215,698,469	226,024,454	242,369,850	268,596,524	363,332,677	392,430,578	–
31,418,403[9]	66,338,148	63,770,447	61,292,364	58,165,471	67,028,647	65,268,327	–
32,885,302[9]	125,829,165	121,986,843	114,606,960	108,912,208	136,074,768	154,216,706	–
629,953,917[9]	1,961,948,175	2,311,906,898	2,422,219,901	2,418,950,841	2,754,475,732	2,758,442,016	–
6,020,513,832	9,544,641,293	9,248,273,260	10,200,346,551	11,386,819,286	15,054,848,612	17,376,429,865	20,286,046,2
47,312,564	50,342,669	40,218,296	40,984,276	49,305,539	58,335,728	68,825,470	86,770,6
27,572,560	29,938,409	14,072,237	15,738,902	17,814,322	30,585,357	35,379,627	39,475,7
1,269,764,435	1,341,184,333	1,184,852,046	1,284,998,454	1,120,181,968	1,491,715,144	1,699,550,230	–
5,545,549	7,185,066	5,002,603	5,750,302	3,992,765	6,205,250	7,354,491	–
3,544,820	4,985,605	2,190,624	3,170,597	2,237,832	3,213,221	3,889,185	–
2,934,843,848	6,622,267,793	6,403,037,477	6,776,262,587	7,348,550,742	9,751,010,835	10,812,392,864	11,900,239,3
98,864,371	225,100,571	200,541,265	198,042,144	203,459,238	261,176,100	283,938,079	–
24,014,465	54,410,589	58,086,634	73,936,661	75,082,008	97,638,990	98,846,258	–
222,871,178	202,094,301	130,044,228	134,554,434	164,451,218	346,074,464	429,336,354	–
4,389,008	5,178,615	3,025,124	3,491,402	3,988,952	8,259,537	10,347,658	–
2,812,077	2,603,453	2,195,537	3,178,604	2,583,958	3,361,253	3,813,245	–

Insurance took over the administration of the legislation concerning loan companies, the figures are not compar
They are shown, however, at pp. xl and xli of the 1938 Year Book. [10] Compiled from data supplied volunt
to the Superintendent of Insurance by provincial companies but estimated to cover about 90 p.c. of all provi
business. The figures include all the large and most of the small provincial companies. [11] Not inclu
fraternal insurance.

INTRODUCTION *

The war and post-war economic efforts were of such magnitude that in less than a decade the Canadian economy became highly industrial. The consolidation of this changed position in the post-war era has meant the full revival of a peacetime economy but on other than the pre-war economic patterns. Far-reaching adjustments have still to be made that will take account of Canada's economic progress during the war years, the deterioration in the economic position of Europe, and the greater importance of the United States as a determinant in levels of world trade, a competitor, and a market. All Canadian industries are necessarily participants in the process of economic adjustment and readjustment. They are assisted by governmental action, both federal and provincial, particularly wherever appropriate measures are beyond the scope of private firms and individuals. It is proposed in this Introduction to review in a general and topical way changes in the Canadian economy since 1939, and Federal Government measures during and after the War that were associated with those changes. A more specific discussion of Federal and Provincial Government activities in connection with post-war reconstruction is to be found in Chapter XXVII.

That adjustments would have to be made to bring the Canadian economy into line with post-war conditions was recognized by the Federal Government before hostilities ended, and the implications—translated into policy terms—were outlined in April, 1945, in the White Paper on *Employment and Income* (summarized in the Canada Year Book, 1945, pp. 843-847). The Government, in that Paper, stated "unequivocally its adoption of a high and stable level of employment and income, and thereby higher standards of living, as a major aim of Government policy", and pointed out that "if it is to be achieved, the endeavour to achieve it must pervade all Government economic policy" and "must be wholeheartedly accepted by all economic groups and organizations as a great national objective, transcending in importance all sectional and group interests".

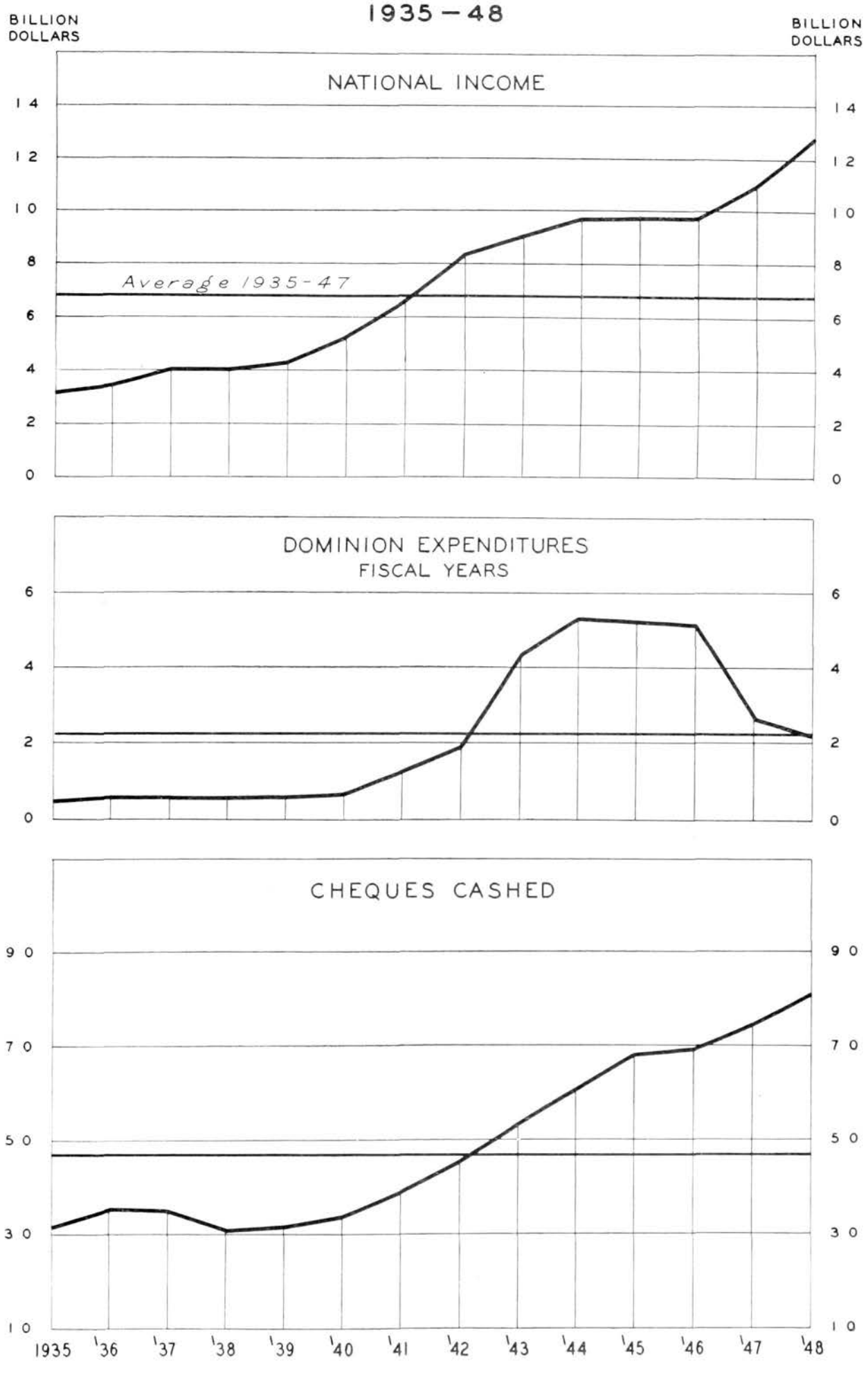
The economic and industrial developments of the post-war period, apart from those of a definite reconstruction nature, and the role of the Federal Government in helping to deal with them, can be conveniently considered under the following headings: (1) Changing Government Functions, (2) Private and Public Investment, (3) Foreign Trade, (4) Special Problems of Industry, (5) the Labour Market and (6) Social Security. Before dealing with these subjects, however, it is advisable to consider briefly the economic conditions under which developments in these fields have been taking place.

Economic Environment of the Post-War Period.—The liquidation of the industrial and military war effort and the expansion of peacetime economic activities to take the place of large-scale government buying of war material were complementary parts of the reconstruction task. Despite innumerable difficulties, both these objectives were attained with little economic dislocation, the result

* Prepared by the Economic Research and Development Branch, Department of Trade and Commerce.

SIGNIFICANT ECONOMIC FACTORS

1935 – 48



being that both employment and national income were sustained at high levels during the transition period. Unemployment did not exceed 4 p.c. of the working force and dropped to about 1½ p.c. in 1947, close to an irreducible minimum. At the end of 1948 Canada had 5,000,000 people in gainful employment, 700,000 more than the number of civilians gainfully employed in the peak war year of 1943 and 1,300,000 more than in 1939. Gross national product at market prices reached its wartime peak at $11,887,000,000 in 1944. After a fall of little more than 1 p.c. to $11,732,000,000 in 1945, it rose to $11,863,000,000 in 1946, to $13,375,000,000 in 1947, and is expected to be about $15,500,000,000 in 1948.

When account is taken of rising prices since the end of hostilities, the *real* improvement in gross national product is, of course, lower than the above figures would indicate; the rise in prices was particularly rapid during 1947. If allowance is made for higher price levels and for net investment, the increase in gross national product since the pre-war period—from $5,598,000,000 in 1939 to an approximate $15,500,000,000 in 1948—has meant an average improvement of about 50 p.c. in the living standards of the Canadian people. This improvement resulted primarily from the fuller and more effective utilization of man-power, which in turn brought about the most rapid expansion of production experienced in any period of Canadian history for which records exist. Among the factors that contributed to the maintenance of employment and national income and to strong inflationary pressure in the post-war period were:—

An Increase in Investment in Capital Goods.—Investment in capital goods and housing, excluding outlays made directly by governments, increased from $865,000,000 in 1945 to an estimated $2,600,000,000 in 1948. This resulted in a heavy demand for building materials and machinery to equip plants and to erect houses and other buildings. In addition, a heavy accumulation of inventories has taken place. The factors influencing capital outlays were the current need for additional production facilities coupled with a large backlog of replacement needs, favourable market prospects, and availability of investment funds out of savings of the war period, current income, and a money market reasonably favourable to investors.

An Increase in Personal Expenditure on Goods and Services.—From $6,945,000,000 in 1945, this expenditure rose to an estimated $9,800,000,000 in 1948, or by more than 40 p.c. A considerable part of the increase, but by no means all, reflected rising prices. An important part of the *real* increase resulted from greater purchases of durable consumer goods such as automobiles and household equipment and furnishings. The purchasing power to make consumer demand effective came from personal savings of the war period and increasing current income from both wage-earning and non-wage-earning employment. During the post-war period, personal income has been supplemented by increased payments from governments to individuals in the form of new social security benefits and certain payments of a non-recurring nature such as veterans' grants and refunding of the compulsory savings portion of the income tax.

The Maintenance of a Large Volume of Exports of Goods and Services.—The bulk of Canadian wartime commodity exports, apart from foodstuffs and certain other unspecialized products, consisted of mass-produced war munitions and equipment no longer in demand after the end of the War. The supplying of post-war export demand involved, therefore, extensive changes in production and, in the circum-

stances, it is remarkable that the annual value of the Canadian exports during the transition period never fell below two-thirds of that of 1944—the peak war year. Purchases in Canada by war-devastated countries have been supported during the post-war period by large export credits extended to them by the Canadian Government and more recently by United States Government financing under the European Recovery Program.

While the above three factors—increased investment, increased consumption expenditure, and the large volume of Canadian exports—have contributed to the demand for goods and services that has ensured high levels of employment and income, the great increase in demand for goods and services since pre-war days has not been an unmixed blessing. It has imposed a heavy additional inflationary pressure on the Canadian economy during a time when it was not fully geared for civilian production. At the same time it contributed to the foreign exchange problem by pushing the level of imports of goods and services from the United States from $1,200,000,000 in 1945 to $1,975,000,000 in 1947. A decrease in annual government expenditure on goods and services from $3,700,000,000 to an estimated $1,500,000,000 over the same period of time, together with a change from deficit to surplus budgeting, has acted as a restraining influence on inflationary forces, while the gradual easing of general wartime controls with the retention of certain key controls has prevented the full impact of the inflationary pressures from being felt in the economy.

Changing Government Functions

As a result of the adoption of the policy of a high and stable level of employment and income, there have been some changes in the Government's approach to problems of broad economic development and, in certain fields, a more active participation in economic activity than before the War. The implications of such a policy became more clearly defined during the War and in the immediate post-war period. Four main tasks evolved: (1) the need to integrate the Government's efforts to assist in the maintenance of a high and stable level of national income and employment; (2) the need to devise economic units within the Government effective and flexible enough to cope with the changing day-to-day economic problems that have an important bearing on the execution of the first task; (3) the need for an objective appraisal, both in quantitative and qualitative terms, of what is involved in making the most effective use of Canada's resources, both human and material; (4) the need to establish a two-way liaison between the Federal Government and the Provincial Governments, management and labour, and consumers and producers in order to ensure that the effort to maintain a high level of employment and income would be a truly national one.

Policy Formulation.—The growing recognition of the implications of the employment and income policy led to the establishment of the Cabinet Committee on Economic and Industrial Development in May, 1948. This Committee succeeded the Cabinet Committee on Reconstruction established in 1944, but has wider terms of reference. The Committee is to advise the Government on: (1) matters connected with general economic and industrial development; (2) appropriate measures to maintain a high level of employment and income in any region or in Canada as a whole; (3) public investment policy as related to public projects and resources development, including preparation and utilization of a number of reserve projects and use of the special projects vote.

Administrative Agencies.—To help cope with the administrative problems of the post-war period, the Government has made a number of important changes in departmental organization and has used the instrumentality of Crown Companies, boards and other agencies to decentralize certain continuing peacetime functions of government. Among examples of this line of development are:—

Departments.—A Department of Reconstruction, established in 1944, was amalgamated a year later with the Department of Munitions and Supply to form the Department of Reconstruction and Supply, charged with liquidating the Government's commitments arising out of the War and with the continuing function of assisting in the formulation of plans designed to maintain a high level of employment and income (see pp. 1113-1119). Duties discharged by the Department of Pensions and National Health were taken over on a much expanded basis by two new departments set up in 1944—the Departments of Veterans Affairs and of National Health and Welfare (see Chapters XXIX and VII). The reconstitution of one single Department of National Defence at the end of the War involved a closer integration of the three Armed Services and was followed by the establishment of a Defence Research Board to co-ordinate military research and development and an Industrial Defence Board to co-ordinate plans for rapid industrial and economic mobilization in the event of war (see Chapter XXVIII).

*Crown Companies and Boards.**—Among the Crown Companies and Boards established during or after the War to discharge duties that the Government wished to decentralize are (1) Canadian Arsenals Limited, which develops and provides weapons for the Armed Forces, (2) Canadian Commercial Corporation, a purchasing and sales organization, (3) the Export Credits Insurance Corporation, which writes insurance against credit losses on exports or agreements to export general commodities or capital goods, (4) Polymer Corporation Limited, manufacturing synthetic rubber, (5) Eldorado Mining and Refining (1944), Limited, which mines and refines uranium ore, (6) the Atomic Energy Commission, to control the production and use of radio-active materials, (7) the Dominion Coal Board, established to assist the coal industry, (8) the Canadian Maritime Commission, dealing with problems peculiar to the shipbuilding and merchant shipping industries, (9) the Industrial Development Bank, to assist financially small and medium-sized business enterprises and (10) Central Mortgage and Housing Corporation, to co-ordinate federal housing policy and to administer federal housing enterprises and enactments.

Economic Analysis.—To help formulate a program for maintaining a high level of employment and income in the country, there has been a marked development since the end of the War of economic forecasting and a close follow-up of economic development. The Economic Research Branch, created within the Department of Reconstruction (later the Department of Reconstruction and Supply) and recently transferred to the Department of Trade and Commerce, undertakes to forecast levels of employment and income, exports and imports, investment and consumer expenditures, supply of labour and materials, progress of industrial development, changes in cost-price and supply-demand relations, productivity, inventory holdings, and savings habits of the Canadian people. This information is assembled into national forecasts of employment and income and supplemented by special reviews of the outlook for development of major economic regions and the more important industries. Other Government departments assist the Economic Research Branch

* See also pp. 1117-1118, and 1947 Year Book, pp. 1107-1108.

in this work by preparing and assessing outlook information in the economic fields in which they specialize. Starting in 1946, the Economic Research Branch has made an annual forecast of the probable level of private investment. In 1948 this was expanded to cover public investment. In 1947 and 1948 the investment forecast was supplemented by a forecast of the probable levels of production of critical basic and building materials. The Dominion Bureau of Statistics developed, during the war years, a system of "national accounts" of annual gross product and gross expenditure of the economy and is steadily expanding the detail, thereby providing a useful tool of analysis to assist both the Government and the business community in formulating their respective plans.

Fiscal Policy.—In line with the policy of helping to maintain a high and stable level of employment and income, the Government is placing greater emphasis on economic considerations in formulating fiscal policies. In particular, budgeting now takes account of a period longer than one year and operates on an anti-cyclical basis, i.e., calls for budget surpluses and debt reduction in periods of buoyant employment and income and for deficits and debt increases when unemployment and lower levels of income threaten. Surpluses have been realized in the years 1947 and 1948. There have been, nevertheless, a number of reductions in tax rates and other tax concessions have been granted, particularly of the type that would encourage private investment and saving. In 1948, Parliament passed new income-tax legislation which simplified the administration of direct taxes. Interest rates have been maintained at a low rate to encourage private investment. During 1945, the rate on long-term Government bonds was lowered from around 3 p.c. to nearly 2·5 p.c. In 1948, however, in the face of steady inflationary pressure, the rate was allowed to rise to nearly 3 p.c.

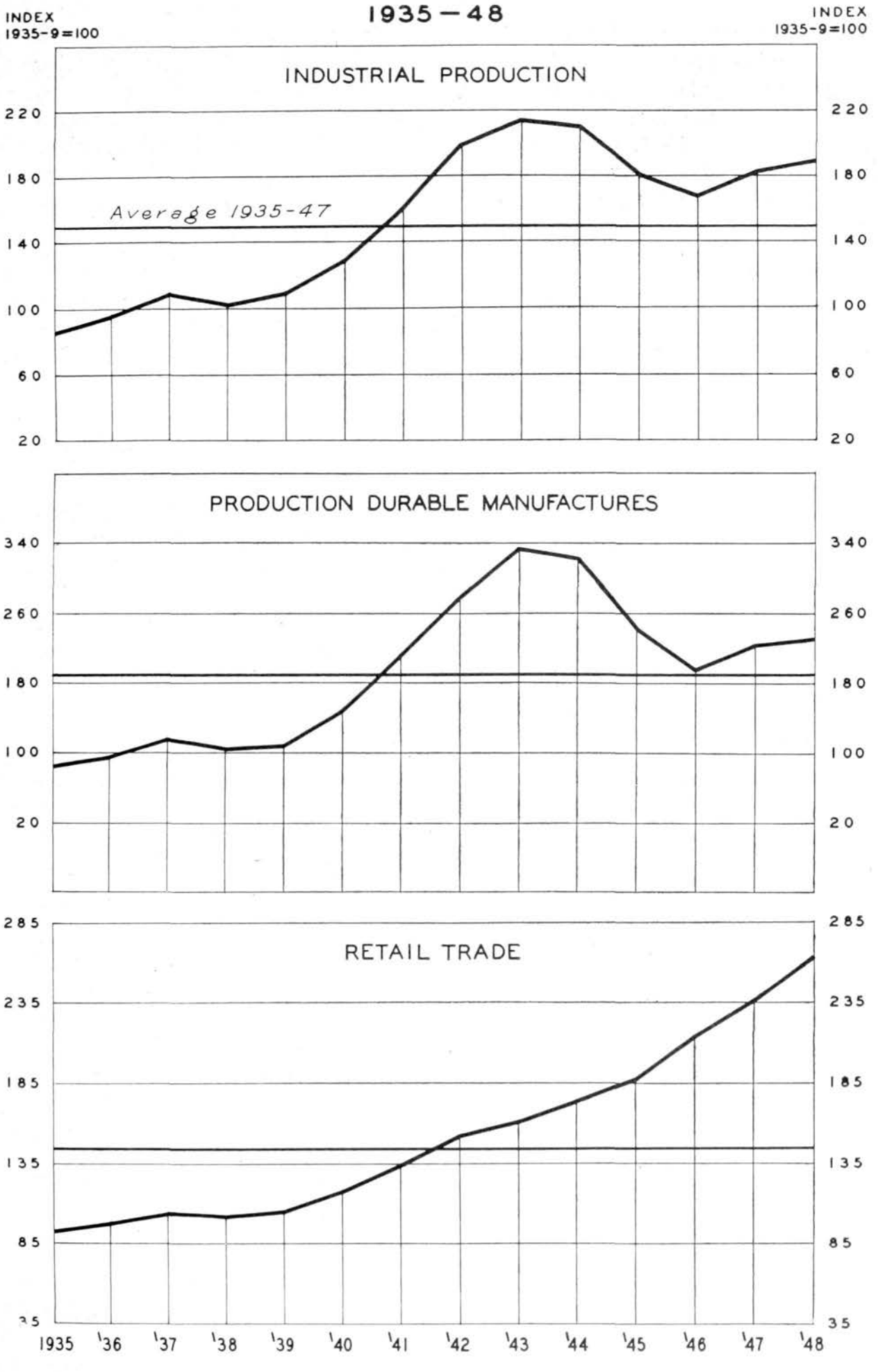
The Government has attempted in the post-war period to arrive at a new division of the field of taxation between the Federal and the Provincial Governments. The Provincial Governments vacated the income and corporation tax fields during the War in return for certain Federal Government grants. At the Dominion-Provincial Conference on Reconstruction in the autumn of 1945, the Government proposed that the Provincial Governments withdraw from these two fields and the succession duty field in return for annual subsidies that would not fall below certain minima and would rise proportionately with population and increases in per capita gross national product. No agreement could be reached. In Chapter III, pp. 117-122, the circumstances are reviewed together with the Budget proposals of June, 1946, whereby the Government offered to enter into tax agreements with the provinces on an individual basis, and subsequent agreements reached with seven of the nine provinces under the Dominion-Provincial Tax Rentals Act (11 Geo. VI, c. 58).

Private and Public Investment

When the War ended, there was need for an enormous capital outlay to modernize and expand plant and equipment so that it could support a high level of employment and income. Those industries associated directly with the war effort had received substantial amounts of investment during the War. Expanded war plant needed to be adapted to peacetime production. Industries not actually engaged in war production had received only limited investment over a period of fifteen years and in most cases had overworked their equipment during the war years.

SIGNIFICANT ECONOMIC FACTORS

1935—48



Residential investment had been so low in the depression and war years that it was much below current needs of the increased number of families without taking into account population movements and the obsolescence of existing houses. Compared with the late 1920's, the investment expenditures of governments remained low until 1937, when large amounts were spent on relief works. When war broke out, public investment of a non-war character was limited to the maintenance of essential services.

Realizing both the necessity of increasing Canada's physical assets and the important direct and secondary effects of the level of investment on the country's general prosperity, the Government's post-war policy for encouraging private investment has been comprehensive. At the same time, the Federal Government's own investment policy has been so designed as to complement but not compete with private investment. Government assistance to private investment has been of three types:—

Taxation Relief and Concessions.—To encourage investment, certain of the War budgets, particularly that of 1944, made a large number of concessions from the high levels of war and post-war direct taxes on business. The most significant of these concessions from the point of view of the business community has been the privilege of writing off certain types of new investment at special rates of depreciation for income tax purposes. This privilege was available from Nov. 10, 1944, to Mar. 31, 1947, on investment projects completed before Mar. 31, 1949. Some 4,200 companies availed themselves of this privilege on 8,000 projects worth $1,400,000,000.* Starting with the year 1946 the rate of 100 p.c. on excess profits was lowered and in 1948 the tax was dropped entirely.

Financial Assistance.—Financial assistance for purposes of industrial development was made available through the Industrial Development Bank (see pp. 1026-1027) and for other kinds of investment under the Canadian Farm Loan Act, 1927, the Farm Improvement Loan Act, 1944, the National Housing Act, 1944, and legislation in favour of war veterans (see Chapters X, XVII and XXIX).

Supplies of Capital Goods.—The Government has been active in increasing the available supply of building materials and machinery. The rapid disposal of surplus war plants and equipment, machine tools, trucks, ships, etc., and the strict limits placed on the Federal Government's public investment program have increased the flow of capital goods into private channels. The controllers of basic materials and the Building Materials Co-ordinator of the Department of Trade and Commerce (formerly of the Department of Reconstruction and Supply) are concerned primarily with boosting the production of iron, steel, timber and other basic products and with allocating them so as to ensure a large and increasing flow of capital goods to both domestic and foreign markets. When it became necessary to impose austerity measures in November, 1947 (see p. 946), to conserve foreign exchange, capital goods imports were placed under a licensing system so as not to limit arbitrarily this type of import and to ensure that the goods admitted went to uses that would contribute most to Canada's long-term welfare.

Plans have been worked out and put into operation for the planning and timing of Federal Government investments. In the presence of a high level of economic activity since the end of the War, outlays on public works and resources development

* *Encouragement to Industrial Expansion in Canada*, Department of Reconstruction and Supply, 1948.

have been kept to a minimum. In the meantime, the Government has gone ahead with the planning of projects for implementation when economic activity shows signs of slackening. Fully planned projects registered on the reserve "shelf" of the Public Projects Branch involve expenditures in excess of $100,000,000.

This Government policy of planned and timed public investment as an anti-cyclical measure envisages similar action by the provinces and municipalities. To this end, the Government proposed at the Dominion-Provincial Conference in 1945 an appropriate division of responsibility between governments or the working out of methods of co-operation, and offered technical and financial assistance in planning and timing investment. The Government's proposals have yet to be agreed upon and implemented.

Details on the levels of private and public investment since the end of the War will be found at pp. 1059-1063 of the 1947 Year Book. The forecast for investment in 1948 has been published and is obtainable by application to the Economic Research and Development Branch of the Department of Trade and Commerce, Ottawa.

Foreign Trade

Broadly speaking, one-third of Canada's national income is derived from foreign trade, a degree of dependence on external economic conditions equalled in only two or three other countries of the world. The Government's short-term policies have been aimed at assisting Western European countries to stabilize their economies, and at protecting Canada's foreign exchange position until Western Europe can trade on a cash basis. Long-term trade policies seek to establish international commerce at the highest level possible on a multilateral basis, and to fit Canada's foreign trade into world trade on favourable terms. (See Chapter XXI.)

Foreign Exchange Difficulties. — Canada's foreign trade reached record proportions during the War. In 1944, exports were valued at $3,483,000,000 and imports at $1,759,000,000, for a total trade of $5,242,000,000. Trade fell off as the need for war materials dropped, but by 1947 the total had passed the 1944 level, reaching $5,386,000,000—$2,812,000,000 exports and $2,574,000,000 imports. However, where the excess of exports over imports had yielded a visible balance of trade in Canada's favour of $1,724,000,000 in 1944, it yielded only $238,000,000 in 1947. Since a considerable part of the exports to wartime allies was being financed by Canadian loans in the latter year, the foreign exchange earned by the exports was not enough to pay for imports. On the other hand, had Canada and the United States not been prepared to make loans, the revival of European trade would have been delayed for a good many years with serious long-term loss to Canada in the form of a smaller export market. Canada's loans under the Export Credits Insurance Act were in excess of $1,800,000,000, of which $1,250,000,000 was for the United Kingdom. Most of the loans had been used or pledged by the end of 1947 when it was found necessary to place restrictions on the use of remaining funds. However, in January, 1949, it was announced that drawings on the unused portion of the United Kingdom loan would be resumed at the rate of $10,000,000 a month.

The most serious aspect of the failure of exports to pay for imports was the fact that Canada was obtaining relatively less foreign exchange of the type needed to pay for imports from the United States, i.e., American dollars. There were three reasons for this. Firstly, the value of imports in 1947 was about four times its

1939 level compared to a threefold increase in exports. Secondly, about four-fifths of the imports came from the United States and had to be paid for in hard currency, against two-thirds before the War. Thirdly, the volume of exports to the United States had dropped from the pre-war level of one-third of the total to one-quarter.

Canada's foreign exchange problem came to a head in 1947. During the course of the year the gap between receipts and payments on current international account was such that it was necessary to draw on a reserve of American dollars and gold to the extent of $743,000,000, leaving $502,000,000 in the reserve at the end of the year. The course of action taken in November, 1947, to meet the situation was threefold—control of imports, restrictions on extension of credit to foreign governments, and restrictions on the amount of foreign exchange that Canadian travellers could take out of the country.

The import controls consisted of prohibition of certain types of imports and the admission of others under quotas and the licensing of imports of capital goods and some basic materials and parts. The Government also sought the co-operation of business to bring about a correction of the foreign exchange position more quickly by importing wherever possible from the non-dollar area and by increasing exports to the dollar area. The result of this program is reflected in 1947 and 1948 trade with the United States. Exports to that country increased from $1,057,000,000 in 1947 to $1,522,000,000 in 1948, while imports dropped from $1,975,000,000 to $1,808,000,000, reducing the unfavourable balance of commodity trade from $918,000,000 to $286,000,000.

Canada's participation in the European Recovery Program, started in mid-year 1948, had the effect of maintaining the level of exports and of increasing the receipt of American dollars. To ensure supplies of exportable goods for shipment to countries participating in the European Recovery Program, a system of export controls was applied in the latter part of 1948. It operates selectively with respect to both type of export and country of destination.

Long-Term Trade Prospects.—The Government has been aware of the substantial shifts in foreign trade that are inevitable as a result of the War and is attempting to meet them, firstly, by vigorously encouraging exports and, secondly, by supporting international efforts aimed at attaining a high level of world trade.

Among the steps taken to encourage trade, and particularly exports, are: (1) strengthening the Department of Trade and Commerce by incorporating several units from the Department of Reconstruction and Supply, by establishing import and industrial development divisions, and by adding personnel to certain divisions; (2) expanding the Trade Commissioner Service, which now has representatives in 42 offices throughout the world; (3) sponsoring a World Trade Fair in 1948, the first event of its kind on this Continent, and one that may be continued as an annual event; (4) extending export credits to wartime allies; (5) providing insurance for exports or agreements to export; and (6) continuing long-term food commodity contracts with the United Kingdom.

Canada favours a multilateral approach to the solution of international trading problems and has supported actively the various organizations in the commercial field sponsored by the United Nations. Canada was host to the first session of the conference of the Food and Agriculture Organization and is one of the most active

members of the permanent organization. The Dominion participated in the formulation of the Bretton Woods Agreement and became a member of the International Bank for Reconstruction and Development and the International Monetary Fund established under the Agreement. Also Canada was one of the "Big Three" in the deliberations during 1947 that resulted respectively in the General Agreement on Tariffs and Trade (see pp. 873-875) and the Charter of the International Trade Organization—placed provisionally in effect by all the signatory countries, except Chile, by the end of 1948.

The ratification of these two international agreements would materially assist Canada in readjusting her post-war trade, since the idea behind both is that international trade should be conducted as far as possible on a non-discriminatory most-favoured-nation basis. Most of the tariff concessions granted under the 20 schedules of the General Agreement on Tariffs and Trade have been put into effect provisionally by the contracting parties to the Agreement. Canada extended provisionally to the other countries concessions on about 1,000 of the 2,000 items in the tariff of which about one-half represented a reduction of most-favoured-nation rates and the other half a binding of existing rates against increase. The concessions cover about two-thirds by value of Canada's imports. In return, concessions on three-quarters of the value of Canada's exports were received from the other contracting parties to the Agreement.

At present, Canada conducts trade under formal arrangements of one kind or another with 49 countries, with all of which, except Paraguay, most-favoured-nation treatment is exchanged. (See Chapter XXI.)

Special Problems of Industry

The high level of economic activity that has prevailed since the end of the War has minimized the development of unfavourable economic conditions in Canadian industry generally. A notable exception has been gold mining, where rising costs and a fixed price for the product made it unprofitable to operate the lower-grade properties. The Government made provision in 1948 to give financial assistance to overcome increasing costs.

The shipbuilding industry, greatly expanded during the war period, was able to maintain a considerable volume of production after the War, but operations declined in late 1948 as foreign orders neared completion. With foreign exchange difficulties spreading more widely throughout the world, the Canadian flag fleet also experienced declining business and revenues during 1948. In 1947, a Canadian Maritime Commission was established to recommend policies and measures for the operation, maintenance, manning and development of a merchant marine and a shipbuilding and ship repair industry and to administer steamship subventions. When special rates of depreciation for income tax purposes were cut off at Mar. 31, 1947, the provision was continued with respect to ships acquired from War Assets Corporation or built in Canadian shipyards in the period Apr. 1, 1947, to Dec. 31, 1948. Because some net decrease in the size of the Canadian merchant fleet seemed necessary and to encourage replacement of older wartime vessels with more expensive but more efficient modern ships, Canadian shipping companies have been permitted to sell out of Canadian registry a number of ships previously acquired from War Assets Corporation. To ensure that the funds so

realized will be spent in Canadian shipyards, provided they can supply suitable replacements, there is a provision that orders placed abroad must be approved by the Canadian Maritime Commission.

The most far-reaching development in the field of special problems of industry has been the Government's efforts to provide a more stable economic base for farming and fishing communities than was found to exist during the depression years before the War. In respect to the farming community, for example, it has involved such things as spreading the flow of income to Western Canadian grain growers more evenly through the payments policy of the Wheat Board; the development of a system of agricultural commodity contracts with the United Kingdom; the provision of irrigation and other water utilization projects and an attempt at better land utilization through projects under the Prairie Farms Rehabilitation Act and the Eastern Rocky Mountains Forest Conservation Act; the assurance of fair prices for agricultural products by means of the Agricultural Prices Support Act; and greater facilities for obtaining short-term and intermediate loans provided for under the Farm Improvement Loans Act. Similar provisions have been made for fishermen where applicable.

The report in 1947 of a Royal Commission inquiry into the coal industry was followed in the same year by an Act* establishing a Dominion Coal Board (see p. 452) to absorb the functions of the Dominion Fuel Board and keep the production and marketing of coal in Canada under continuous review. The Board administers coal subventions and advises the Government on a flexible policy designed to meet the varying coal needs of the major economic regions of the country. An important section of the Act gives the Government wide powers of control over coal and fuel oils upon proclamation of a fuel emergency by the Governor in Council.

The Labour Market

The Canadian labour force increased from a total of 4,946,000 in 1946 to 5,017,000 in 1948. The change represented an increase in civilian employment of 227,000—from 4,652,000 to 4,879,000—allowance being made for the decrease over the two years in the other two components of the labour force—a decrease in the strength of the Armed Forces from 151,000 to 36,000 and in the number of unemployed from 143,000 to 102,000. Unemployment in all three post-war years has been at a relatively low figure; it represented about 3 p.c. of the civilian labour force in 1946, and dropped to about 2 p.c. in the two succeeding years. (See also Chapter XVIII.)

Part of the increase in the working force was recruited from the flow of immigrants into the country (see Chapter V), but the increment is not known because of incomplete data on the numbers withdrawn from the working force through emigration. Over the three years 1946-48, the total number of immigrants was about 260,000, of whom 80 p.c.—about 94,000 males and 114,000 females—were 15 years of age or over.

* Geo. VI, c. 57, July 17, 1947.

The composition of the labour force has been subject to considerable change since the end of the War. The proportion of women in employment has dropped from wartime levels. The agricultural labour force declined from 1,186,000 in 1946 to 1,096,000 in 1948—a proportionate decrease from 25 p.c. of the civilian labour force to 22 p.c. Among non-agricultural industries, large absolute gains in the number employed have occurred in manufacturing, construction (particularly building construction), and in transportation and communications. In the group of manufacturing industries, markedly more than average gains have been made in the durable goods sector. Regionally, Ontario and British Columbia have registered both absolute and proportionate increases in the civilian labour force, while the reverse is true of the Prairie Provinces. Ontario had 35·2 p.c. of the total Canadian labour force in 1948, compared with 34·4 p.c. in 1946; British Columbia 9·0 p.c. in 1948, against 8·0 p.c. in 1946; the Prairie Provinces 19·5 p.c. in 1948, against 20·6 p.c. in 1946. Quebec and the Maritimes registered absolute increases in the working force but little change relatively; Quebec's proportion of the labour force remained unchanged at 27·8 p.c., and the Maritimes' showed a percentage decrease from 9·0 to 8·8. The post-war changes in the regional distribution of the working force continued the general trend that prevailed during the 1930's and also the war years. In 1947, the Government assisted workers to move from the Cape Breton Island industrial area to the mining and industrial areas of central Canada. This relieved unemployment on the one hand and helped satisfy a labour shortage on the other. About 2,650 persons were involved, of whom 300 were women.

Weekly wages and salaries in eight leading industries increased by 32 p.c. in the three years from the end of 1945.* Over the same period of time, the cost-of-living index increased by 33 p.c., indicating little change in real income for the workers involved, as a group. During the years 1946-48 there has been a general decrease in average hours worked per week but, with the exception of a few industries, the decrease has been moderate. Time lost in labour disputes reached an all-time high in 1946 but registered successive decreases in 1947 and 1948.

The scope of the Federal Government's activities in the labour field was curtailed after the War with the dropping of controls over manpower and wages and the surrender of jurisdiction over labour-management relations falling within the scope of provincial powers. In 1948, however, Parliament passed the Industrial Relations and Disputes Investigation Act. The Act, which repeals the Industrial Disputes Investigation Act, is in effect a codification of practices that developed before and during the War for the settlement of labour-management differences where government agencies are brought in as third parties. The application of the Act is limited to workers in industries under Federal Government jurisdiction or placed under its jurisdiction by the provinces. One of the objectives behind the legislation is that it may serve as a model for similar legislation by provinces.

The scope of activity of the National Employment Service continues to widen. It has added a division to assist in finding and placing professional and technical workers, and has given a good deal of attention to placement problems of older and partially unemployable workers. It has also been active in encouraging the development of vocational guidance and vocational rehabilitation.

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* *Statistics of Average Hours Worked and Average Hourly Earnings*, published by the Dominion Bureau of Statistics.

Social Security

The Government, in the White Paper on *Employment and Income* (referred to at p. xxix) and in its proposals to the Dominion-Provincial Conference on Reconstruction, gave support to a broadly based development of additional social security measures for humanitarian reasons and as a contribution to economic stability through maintenance of production, income and employment and the equitable distribution of purchasing power.

Three important steps were taken to extend social security measures during the war years. These were: the establishment of Unemployment Insurance and a National Employment Service in 1941; a National Physical Fitness Program in 1943; and Family Allowances in 1944.

In 1945 the Government put forward proposals that included a program for veterans' rehabilitation, national health grants and health insurance, unemployment assistance, assistance to the aged, and housing. Owing to the failure of the Federal and Provincial Governments to reach agreement, the social security measures have been implemented in part only.

All these matters are developed in detail in the Health and Welfare Chapters of this and previous editions of the Year Book. Veterans' rehabilitation, an exclusively Federal responsibility, is dealt with in Chapter XXIX.

In 1948 the Dominion laid its proposal for health grants before Parliament, and it was subsequently accepted by all the provinces. Under this scheme the Federal Government makes grants to the provinces for a health survey, general public health, tuberculosis control, mental health care, venereal disease control, crippled children care, cancer control, training of professional workers, public health research and hospital construction. In each case, provincial authorities are required to make a contribution.

The Government proposal with respect to unemployment assistance was that the Federal Government should take over responsibility for all employable unemployed by means of unemployment insurance where possible and otherwise by special unemployment assistance, while provincial and municipal authorities should care for unemployables and residual groups. Additionally, it was proposed that the facilities of the Employment Service be extended and that employers be required to report vacancies, engagements and separations to the Service; and that vocational guidance be provided, the farm labour placement program continued, occupational rehabilitation developed, and vocational training extended on a joint Dominion-provincial basis. The latter proposals have all been implemented or started. The proposals that the Federal Government take over responsibility for employables and the provinces for unemployables has not been settled. However, the Government has continued to bring more workers within the scope of unemployment insurance, as, for example, inland and ocean seamen, stevedores and monthly-rated employees earning up to $3,120 a year against $2,400 previously. Provision has also been made for a wider interpretation of a "dependent" for unemployment insurance purposes, permissible supplementary earnings have been increased from $1·00 to $1·50 per day, increased benefits provided, and contribution rates revised.

A Federal Government proposal that it assume exclusive jurisdiction over the provision of old-age pensions for persons over 70 without a means test, and share with the provinces the cost of caring for the needy of between 65 and 70 years of age is also in abeyance. However, in 1947 the Government assumed three-quarters of the cost of old-age and blind pensions up to $30 a month, an increase over the previous basic pension rate of $5 per month. At the same time the aggregate permissible annual income from pensions and other sources was increased and is now $600 for single persons and $1,200 for married persons (see pp. 258-259).

Finally, a proposal that co-ordinated action be taken on a housing program, including community planning, uniform building by-laws, low-rent housing projects, and slum clearance has yet to be implemented. Under the National Housing Act, 1944, the Government had made unilateral provision covering these points. In the absence of agreement, the basic provisions of the legislation have been allowed to stand. Partly as a result of the serious housing shortage that has existed and partly because of the terms under which house building can be undertaken as a result of the financial provisions of the Act, Canada has had the largest housing program in its history.* In fact, a larger proportion of total investment has gone into house building than into manufacturing, the utility industries, or the primary industries. More than 210,000 housing units and 18,000 conversions have been completed in the three years 1946-48. (See Chapter XVII for details.)

* *Housing in Canada*, a quarterly publication of the Central Mortgage and Housing Corporation, Ottawa, provides current information on the progress of the Canadian housing program.

ERRATA

p. 188—Second line of paragraph 3: *should read* "Legislative Counsel" *in place of* "Legislative Councils".

p. 341—The figure in the last line of paragraph 3: *should read* "$232,563,000" *in place of* $232,563.

p. 406—Line 4 of paragraph 2: *read* "2,443,225 M cu. ft." *in place of* "2,443,225 cu. ft.".

p. 421, Table 10—*Under* "Shingles Cut—Quantity" *read* "squares" *in place of* "M".

CHAPTER I.—PHYSIOGRAPHY AND RELATED SCIENCES

CONSPECTUS

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PART I.—GEOGRAPHY*

Main Geographical Features.—Canada comprises the whole northern part of the North American Continent with its islands, except the United States territory of Alaska and the territory of Newfoundland (with Labrador). It embraces the whole Arctic Archipelago between Davis Strait and the connecting waters northward to the 60th meridian on the east and the 141st meridian on the west.

Canada is bounded on the west by the Pacific Ocean and Alaska; on the south by the United States; on the east by the Atlantic Ocean, the waters between Newfoundland and the Gulf of St. Lawrence, Labrador, Davis Strait and the dividing waters between Ellesmere Island and the Danish territory of Greenland; northward it extends to the North Pole.

The southernmost point is Middle Island in Lake Erie, in north latitude 41°41′. From east to west Canada extends from about west longitude 57° at the Strait of Belle Isle to west longitude 141°, the boundary of Alaska. Canadian territory thus extends over 48° of latitude and 84° of longitude.

The area of the Dominion is 3,690,410 square miles, a figure that may be compared with that of 3,608,787 square miles for Continental United States and Alaska; 3,776,700 the total area of Europe; 2,974,514 the area of Australia; 3,275,510 the area of Brazil; 1,581,079 the area of the Dominions of India and Pakistan (excluding Burma); 120,849 the area of the British Isles. Canada's area is about 28 p.c. of the total area of the British Commonwealth.

The sea coast of Canada, one of the longest of any country in the world, comprises the following mileages:—

Mainland—Atlantic 3,068, Pacific 1,579, Hudson Strait 1,245, Hudson Bay 3,157, Arctic 5,771; total 14,820 miles.

Islands— Atlantic 1,518, Pacific 3,979, Hudson Strait 60, Hudson Bay 2,307, Arctic 26,786; total 34,650 miles.

* Revised by F. H. Peters, Chief, Surveys and Mapping Bureau, Department of Mines and Resources, Ottawa.

The Canada-United States Boundary is 3,986·8 miles long and that between Canada and Alaska is 1,539·8 miles; the Canada-Labrador Boundary has not been surveyed but is estimated at 1,990 miles.

The St. Lawrence-Great Lakes system of navigable waterways provides ship transportation from the sea into the very heart of the continent. From the Strait of Belle Isle at the northern entrance to the Gulf of St. Lawrence, the sailing distance to the head of Lake Superior is 2,338 miles; from Montreal, Que., to Fort William, Ont., the great Canadian grain-shipping port, the distance is 1,215 miles. Throughout its length the waterway gives access to a region rich in natural and industrial resources.

The potentialities of these inland waterways of Canada are enormous since modern canal systems by-pass the unnavigable portions of the St. Lawrence River, link up the various bodies of water of the Great Lakes and have a great economic influence on the wealth and progress of the nation. There are no tides in these Lakes although considerable variation in water levels is sometimes occasioned by strong winds or heavy precipitation. At the Great Lakes ports and harbours, ships load and unload their cargoes to and from all points in Canada.

1.—Approximate Land and Fresh-Water Areas, by Provinces and Territories

NOTE.—For a classification of land area as agricultural, forested, etc., see pp. 28-29.

Province or Territory	Land	Fresh Water	Total	Percentage of Total Area
	sq. miles	sq. miles	sq. miles	
Prince Edward Island	2,184	[1]	2,184	0·1
Nova Scotia	20,743	325	21,068	0·6
New Brunswick	27,473	512	27,985	0·8
Quebec	523,860	71,000	594,860	16·1
Ontario	363,282	49,300	412,582	11·1
Manitoba	219,723	26,789	246,512	6·7
Saskatchewan	237,975	13,725	251,700	6·8
Alberta	248,800	6,485	255,285	6·9
British Columbia	359,279	6,976	366,255	9·9
Yukon	205,346	1,730	207,076	5·6
Northwest Territories—				
Franklin	541,753	7,500	549,253	14·9
Keewatin	218,460	9,700	228,160	6·2
Mackenzie	493,225	34,265	527,490	14·3
Canada	**3,462,103**	**228,307**	**3,690,410**	**100·0**

[1] Too small to be enumerated.

Section 1.—Physical Geography

The physical features of Canada are considered under this heading in the six natural divisions into which the country is divided, as shown on the map p. 4.

(1) The Appalachian Region, comprising the Maritime Provinces and most of that part of Quebec lying south of the St. Lawrence River is a hilly or mountainous region and is made up largely of disturbed beds.

(2) The St. Lawrence Region, a lowland belt bordering the St. Lawrence River and extending westward through southern Ontario to Lake Huron, is underlain chiefly by flat or gently dipping strata of Palæozoic age.

(3) The Canadian Shield is a vast V-shaped area of ancient rocks surrounding Hudson Bay.

(4) The Interior Plains Region of Manitoba, Saskatchewan, and Alberta stretches down Mackenzie Valley to the Arctic Ocean and is underlain by only slightly disturbed Palæozoic and Mesozoic strata.

(5) The Cordilleran Region, including the mountainous country of the Pacific Coast, is developed on highly disturbed rocks.

(6) The Arctic Archipelago, with which is linked the Hudson Bay Lowland, includes the islands lying north of the Canadian Shield, and a broad, flat region, underlain by flat-lying Palæozoic beds, along the southern shore of Hudson Bay.

The physiographic details and geology of each division described above are given at pp. 19-29, in the 1947 edition of the Year Book.

Subsection 1.—Hydrographical Features

The hydrographical features of Canada are described in detail at pp. 3-12 of the 1947 edition of the Year Book.

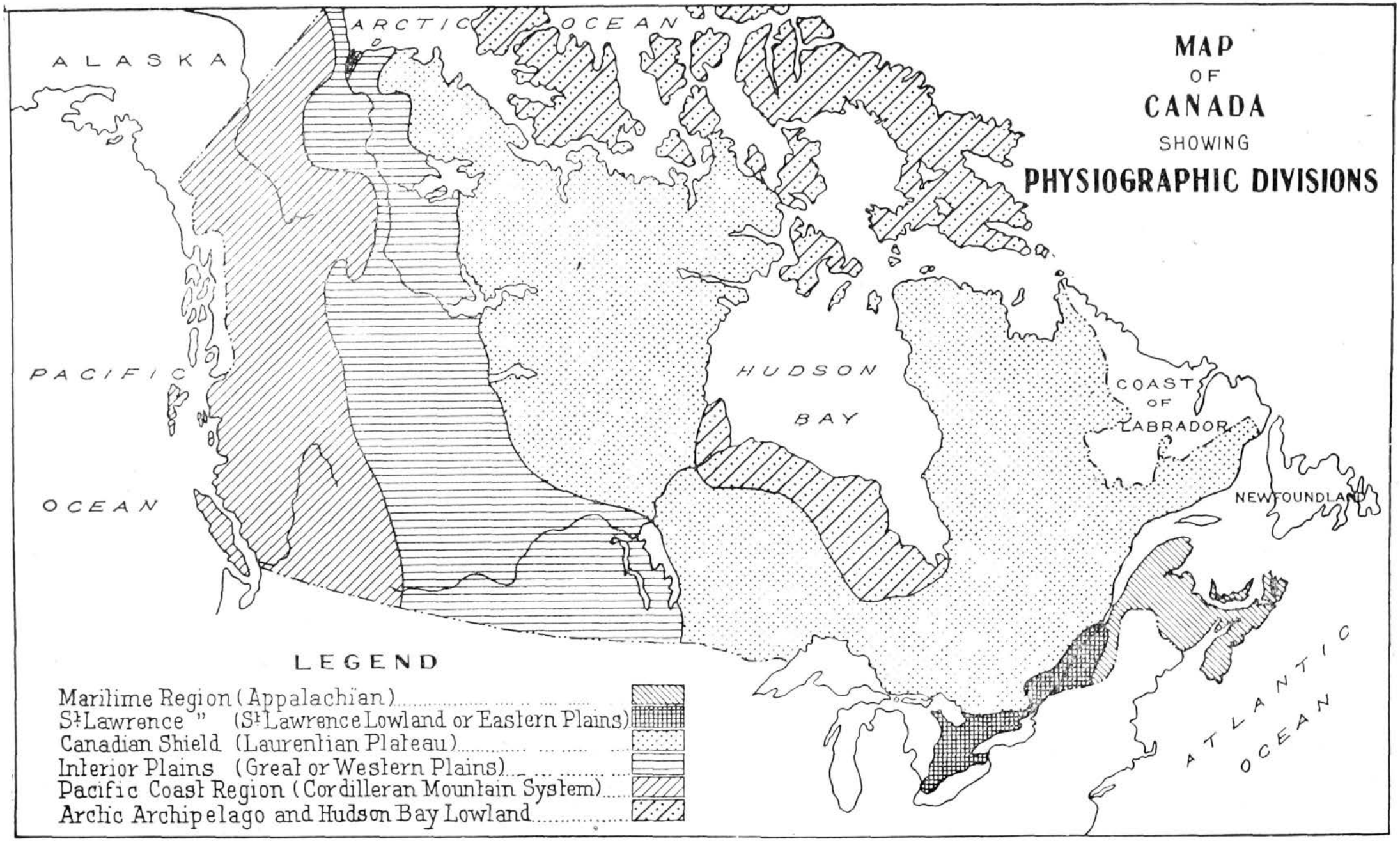
Subsection 2.—Lakes and Rivers

The fresh-water area of Canada is unusually large constituting over 6 p.c. of the total area of the country. The outstanding feature is the Great Lakes, details concerning which are given in Table 2. These lakes, with the St. Lawrence River, form the most important system of waterways on the continent and one of the world's most notable fresh-water transportation routes.

2.—Areas, Elevations, and Depths of the Great Lakes

Lake	Elevation Above Sea-level	Length	Breadth	Maximum Depth	Total Area	Area on Canadian Side of Boundary
	ft.	miles	miles	ft.	sq. miles	sq. miles
Superior	602·23	383	160	1,302	31,820	11,200
Michigan	580·77	321	118	923	22,400	Nil
Huron	580·77	247	101	750	23,010	13,675
St. Clair	575·30	26	24	23	460	270
Erie	572·40	241	57	210	9,940	5,094
Ontario	245·88	193	53	774	7,540	3,727

Lake Superior, with an area of 31,820 square miles, is the largest body of fresh water in the world. The International Boundary between Canada and the United States passes through the waters of Lakes Superior, Huron, St. Clair, Erie and Ontario. The great obstacle to navigation on this waterway—the rise of 326 feet between Lakes Ontario and Erie—is surmounted by the Welland Ship Canal, the Niagara River dropping over the escarpment at Niagara creates the famous Niagara


MAP
OF
CANADA
SHOWING
PHYSIOGRAPHIC DIVISIONS
ARCTIC OCEAN
ALASKA
PACIFIC
OCEAN
HUDSON
BAY
COAST
OF
LABRADOR
NEWFOUNDLAND
ATLANTIC
OCEAN
LEGEND
Maritime Region (Appalachian)
St Lawrence " (St Lawrence Lowland or Eastern Plains)
Canadian Shield (Laurentian Plateau)
Interior Plains (Great or Western Plains)
Pacific Coast Region (Cordilleran Mountain System)
Arctic Archipelago and Hudson Bay Lowland

Falls. In addition to the Great Lakes there are many other remarkably large lakes; the following eleven, with their areas in square miles in parentheses, are all over 1,000 square miles in area: Great Bear (12,000), Great Slave (11,170), Winnipeg (9,398), Athabaska (3,058), Reindeer (2,444), Winnipegosis (2,086), Nipigon (1,870), Manitoba (1,817), Dubawnt (1,600), Lake of the Woods (1,346) and Southern Indian (1,060). Apart from these, named as notable for their size, there are innumerable other lakes scattered all over that major portion of the area of Canada lying within the Canadian Shield. In an area of 6,094 square miles, accurately mapped, just south and east of Lake Winnipeg, there are 3,000 lakes; in an area of 5,294 square miles, accurately mapped, southwest of Reindeer Lake in Saskatchewan, there are 7,500 lakes. A list of the principal lakes of Canada, by provinces, with their elevations and their areas is given at pp. 13-14 of the 1947 edition of the Year Book.

The river systems of Canada, excluding those of the Arctic Archipelago, are best studied by segregating the main drainage basins as shown in Table 3.

3.—Drainage Basins in Canada

NOTE.—Classified by the Dominion Water and Power Bureau, Department of Mines and Resources Ottawa.

Drainage Basin	Area Drained[1]	Drainage Basin	Area Drained[1]
	sq. miles		sq. miles
Atlantic Basin		**Arctic Basin**	
Atlantic or Maritime Provinces	61,151	Great Slave Lake	370,681
Great Lakes and St. Lawrence River	359,312	Arctic	559,676
Total	**420,463**	**Total**	**930,357**
		Pacific Basin	
Hudson Bay Basin		Pacific	273,540
		Yukon River	127,190
Northern Quebec	343,259		
Southwest Hudson Bay	283,997	**Total**	**400,730**
Nelson River	368,182		
Western Hudson Bay	383,722	**Gulf of Mexico Basin**	**10,121**
Total	**1,379,160**	**Area, Canada Less Arctic Archipelago**	**3,157,662**

[1] Areas are approximate and are exclusive of those portions of the basins of all rivers that lie in United States territory.

The greater part of Canada drains into Hudson Bay and the Arctic Ocean; the Nelson River drainage is exceptional in running *through* the most arable and the most settled part of Western Canada, but otherwise the rivers of the West, east of the Rockies run *away* from the settled areas towards the cold northern salt waters and this adversely affects their industrial utility. The Mackenzie, which drains Great Slave Lake is, with its headwaters, the longest river in Canada (2,514 miles) and its valley constitutes the natural transportation route through the North-west Territories down to the Arctic Ocean. From Fort Smith, on the Slave River, large river boats run without any obstruction down to Aklavik in the delta of the Mackenzie, a distance of 1,292 miles. In Eastern Canada, the Great Lakes and St. Lawrence drainage basin dominates all others and has undergone the greatest

development. The St. Lawrence River and the Great Lakes provide a water route from the Atlantic as far as Fort William and Port Arthur, Ont., twin cities situated on Lake Superior and only 419 miles from Winnipeg, Man., the half-way mark in distance across Canada. The main tributaries of the St. Lawrence all flowing south (most of which have lakes available for reservoiring), together with the main river itself, have developed and undeveloped water powers the economic value of which it would be difficult to over-estimate. Apart from the plains region of the West, the rivers of Canada have a vast power potentiality well distributed over the country. Table 4 gives the lengths of the principal rivers with their tributaries classified according to the four major drainage basins.

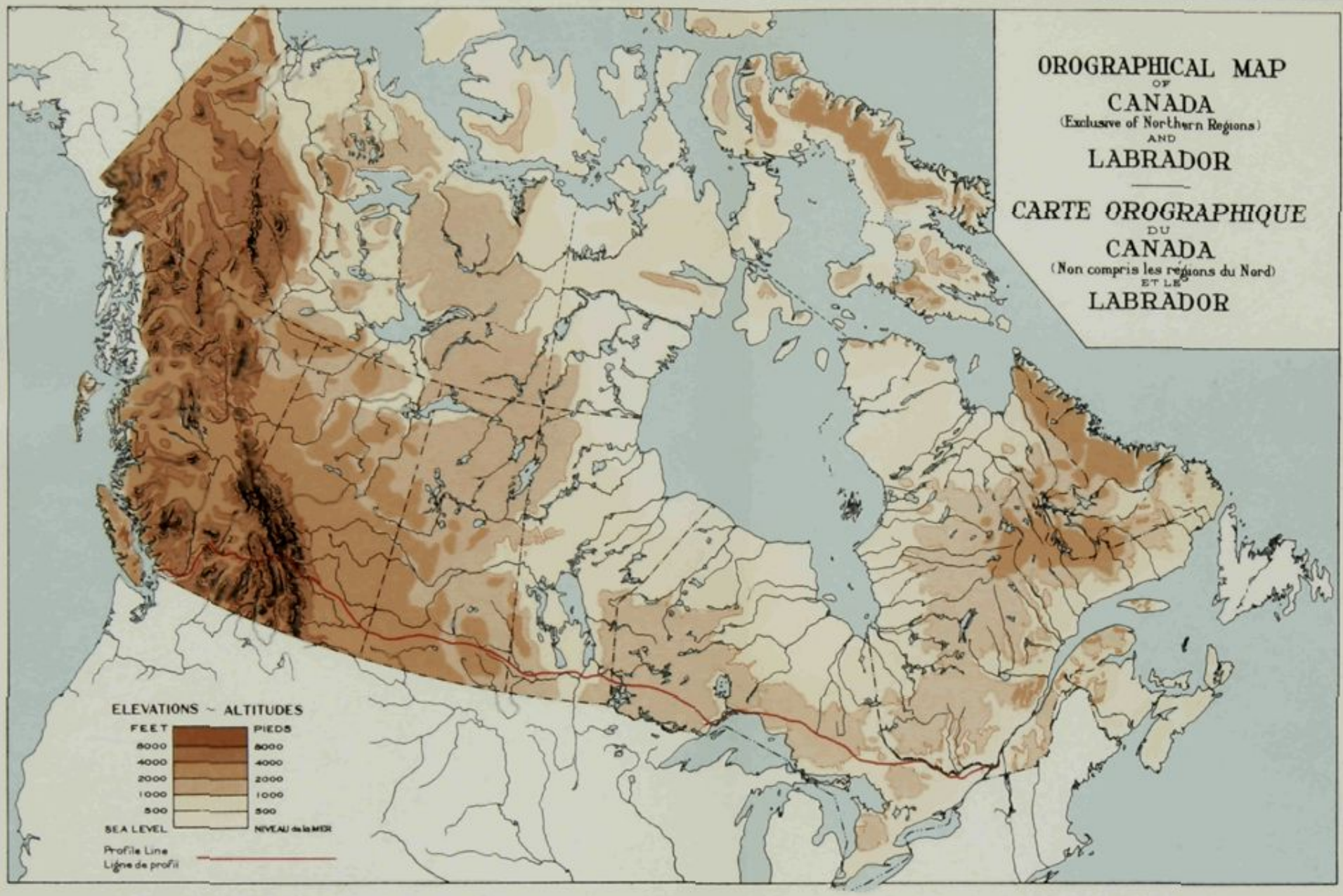
4.—Lengths of Principal Rivers and Tributaries in Canada

NOTE.—In this table the tributaries and sub-tributaries are indicated by indentation of the names. Thus the Ottawa and other rivers are shown as tributary to the St. Lawrence, and the Gatineau and other rivers as tributary to the Ottawa.

River	Length	River	Length
	miles		miles
Flowing into the Atlantic Ocean		**Flowing into Hudson Bay**—concluded	
St. Lawrence (to head of St. Louis, Minn.)	1,900	Red (to head of Sheyenne)	545
Ottawa	696	Assiniboine	590
Gatineau	240	Souris	450
du Lièvre	205	Qu'Appelle	270
Coulonge	135	Winnipeg (to head of Firesteel)	475
Madawaska	130	English	330
Rouge	115	Churchill	1,000
Mississippi	105	Beaver	305
Petawawa	95	Koksoak (to head of Kaniapiskau)	660
South Nation	90	Kaniapiskau	575
Dumoine	80	Severn (to head of Black Birch)	610
North	70	Albany (to head of Cat)	610
North Nation	60	Dubawnt	580
Saguenay (to head of Peribonca)	475	Eastmain	510
Peribonca	280	Fort George (to Nichicun Lake)	480
Mistassini	185	Attawapiskat	465
Ashuapmuchuan	165	Kazan	455
St. Maurice	325	Nottaway (to head of Waswanipi)	400
Mattawin	100	Waswanipi	190
Manicouagan (to head of Racine-de-Bouleau)	310	Nelson (to head of Lake Winnipeg)	400
Outardes	270	Rupert	380
Bersimis	240	Red (to head of Lake Traverse)	355
Richelieu	210	George (to Hubbard Lake)	345
St. Francis	165	Moose (to head of Mattagami)	340
Chaudière	120	Abitibi	340
Via the Great Lakes—		Mattagami	275
French (to head of Sturgeon)	180	Missinabi	265
Sturgeon	110	Hayes	300
Grand	165	Winisk	295
Thames	163	Whale	270
Spanish	153	Harricanaw	250
Trent	150	Great Whale	230
Mississagi	140	Leaf	165
Nipigon (to head of Ombabika)	130		
Moira	60	**Flowing into the Pacific Ocean**	
Thessalon	40		
St. John	399	Yukon (mouth to head of Nisutlin)	1,979
Romaine	270	Columbia (total)	1,150
Moisie	210	Fraser	850
Natashkwan (to Labrador boundary)	160	Thompson (to head of North Thompson)	304
Miramichi	135	North Thompson	210
Marguerite	130	South Thompson (to head of Shuswap)	206
		Nechako	287
Flowing into Hudson Bay		Stuart (to head of Driftwood)	258
		Chilcotin	146
Nelson (to head of Bow)	1,600	West Road (Blackwater)	141
Saskatchewan (to head of Bow)	1,205	Yukon (Int. Boundary to head of Nisutlin)	714
South Saskatchewan	865	Porcupine	590
Red Deer	385	Lewes	338
Bow	315	Pelly	330
Belly	180	Stewart	320
North Saskatchewan	760	Macmillan	200
		White	185

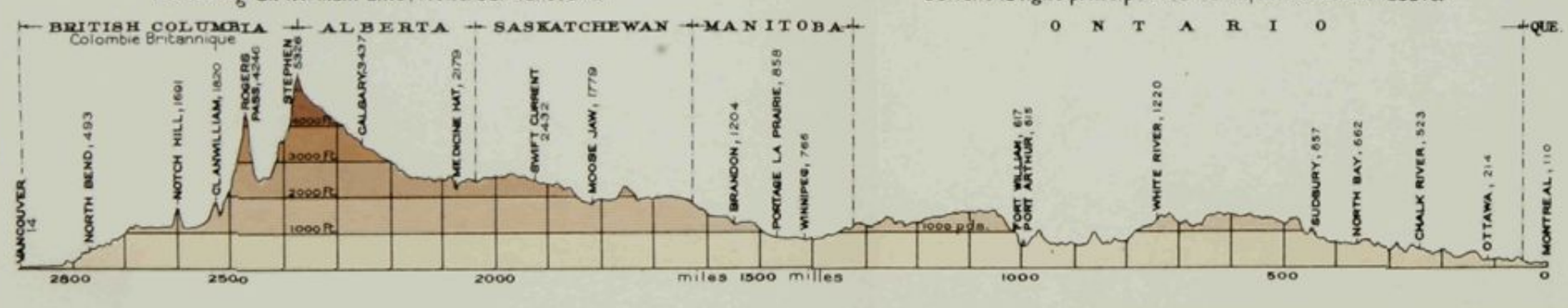
OROGRAPHICAL MAP OF CANADA
(Exclusive of Northern Regions)
AND
LABRADOR

CARTE OROGRAPHIQUE DU CANADA
(Non compris les régions du Nord)
ET LE
LABRADOR



PROFILE
Following C.P.R. Main Line, Montreal-Vancouver

PROFIL
Suivant la ligne principale du C.P.R., Montreal-Vancouver



4.—Lengths of Principal Rivers and Tributaries in Canada—concluded

River	Length	River	Length
	miles		miles
Flowing into the Pacific Ocean—concluded		**Flowing into the Arctic Ocean—concluded**	
Columbia (in Canada)	459	Athabaska	765
Kootenay (total)	407	Pembina	210
Kootenay (in Canada)	276	Liard	755
Skeena	360	South Nahanni	350
Bulkley (to head of Maxam Creek)	160	Petitot	295
Stikine	335	Fort Nelson	260
Alsek	260	Hay	530
Nass	236	Peel (to head of Ogilvie)	425
Flowing into the Arctic Ocean		Arctic Red	310
		Slave	258
Mackenzie (to head of Finlay)	2,635	Twitya	200
Peace (to head of Finlay)	1,195	Back	605
Finlay	250	Coppermine	525
Smoky	245	Anderson	430
Little Smoky	185	Horton	275
Parsnip	145		

Subsection 3.—Mountains

The predominant orographical feature in Canada is the great Cordilleran Mountain System. The principal named peaks exceeding 11,000 feet in elevation are given in Table 5.

5.—Mountain Peaks 11,000 Feet or Over in Elevation, by Provinces and Mountain Ranges

NOTE.—The highest point on the mainland of Eastern Canada (peaks of the Torngats in Labrador rise to about 5,500 feet) is Mount Jacques Cartier, a peak of Tabletop Mountain in N. lat. 48° 59′, W. long. 65° 56′. Gaspe District, Quebec, the summit of which is 4,160 feet above sea-level.

Province, Mountain Range, and Peak	Elevation	Province, Mountain Range, and Peak	Elevation
	ft.		ft.
Alberta		**British Columbia**	
Rocky Mountains—		Coast Mountains—	
Columbia[1]	12,294	Waddington	13,260
Brazeau	12,250	Tiedemann	12,000
The Twins	12,085		
	11,675		
Forbes	11,902	Selkirk Mountains—	
Alberta	11,874	Sir Sandford	11,590
Assiniboine[1]	11,870	Farnham	11,342
Temple	11,636	Hasler	11,113
Kitchener	11,500	Delphine	11,076
Lyell[1]	11,495	Huber	11,051
Hungabee[1]	11,457	Wheeler	11,023
Athabaska	11,452	Selwyn	11,013
King Edward[1]	11,400		
Victoria[1]	11,365		
Snow Dome[1]	11,340	Rocky Mountains—	
Stutfield	11,320	Robson	12,972
Joffre[1]	11,316	Clemenceau	12,001
Murchison	11,300	Goodsir	11,676
Deltaform[1]	11,235	Bryce	11,507
Lefroy[1]	11,230	Chown	11,500
Alexandra[1]	11,214	Resplendent	11,240
Sir Douglas[1]	11,174	King George	11,226
Woolley	11,170	Jumbo	11,217
Lunette[1]	11,150	The Helmet	11,160
Hector	11,135	Whitehorn	11,101
Diadem	11,060	Bush	11,000
Clearwater	11,044	Sir Alexander	11,000
Edith Cavell	11,033		
Fryatt	11,026	St. Elias Mountains—	
Coleman	11,000	Fairweather[2]	15,287
Wilson	11,000	Root[2]	12,860

[1] This peak is on the interprovincial border between Alberta and British Columbia. [2] This peak is on the International Boundary between British Columbia and Alaska.

5.—Mountain Peaks 11,000 Feet or Over in Elevation, by Provinces and Mountain Ranges—concluded

Province, Mountain Range, and Peak	Elevation	Province, Mountain Range, and Peak	Elevation
Yukon[1]	ft.	**Yukon**—concluded	ft.
St. Elias Mountains—		St. Elias Mountains—concluded	
Logan	19,850	McArthur	14,400
St. Elias	18,008	Augusta	14,070
Lucania	17,150	Strickland	13,818
King	17,130	Newton	13,811
Steele	16,439	Cook	13,760
Wood	15,885	Craig	13,250
Vancouver	15,696	Badham	12,625
Hubbard	14,950	Malaspina	12,150
Alverstone	14,500	Jeannette	11,700
Walsh	14,498	Baird	11,375

[1] The enumerated peaks in Yukon are on or near the Yukon-Alaska Boundary.

There are no other elevations in Canada that come near rivalling those of the Cordilleran Region. Only small areas in northeastern Quebec rise above 2,000 feet in elevation; there are no great eminences, but the surface is generally accidented by many hills and hollows with countless numbers of lakes and streams.

South and east of the River St. Lawrence, the St. Lawrence Lowlands are bordered by extensions and outliers of the Appalachian Mountains. The Appalachian System, in fact, extends through the Maritime Provinces and the Gaspe Peninsula of Quebec. The whole area may be regarded as a peninsula jutting out with bold and broken coast line to separate the Gulf of St. Lawrence from the Atlantic. Peaks in this area, notably the Notre Dame and the Shickshock Mountains, reach elevations up to 4,000 ft.

Subsection 4.—Islands

The islands of Canada are among its most remarkable geographic features. They include the very large group lying in the Arctic Ocean, the fringe of both large and small islands off the Pacific Coast, those of the Maritime Provinces and Quebec in the Atlantic Ocean and the Gulf of St. Lawrence, together with the islands of the Great Lakes and other inland waters. The Pacific Coast islands, with the exception of Vancouver Island and the Queen Charlotte group, are small and dot the coast of British Columbia from Dixon Entrance to the southern boundary of the Province. Vancouver Island is 285 miles long and from 40 to 80 miles broad, covering an area of about 12,408 square miles; the mountain range which forms its backbone rises again to form the Queen Charlotte Islands farther north. These islands figure largely in the mining, lumbering and fishing industries of the West and, together with the bold and deeply indented coast line, provide a region for superb scenic cruises.

On the eastern coast of the Dominion are the island province of Prince Edward Island, the Islands of Cape Breton (an integral part of Nova Scotia), Anticosti, and the Magdalen group (included in the Province of Quebec), and the Islands of Grand Manan and Campobello (part of the Province of New Brunswick) in the Bay of Fundy. Prince Edward Island is 2,184 sq. miles in area, Cape Breton 3,970 sq. miles and Anticosti 3,043 sq. miles. Fishing activities in these eastern islands are important, while agriculture on Prince Edward Island and mining on Cape Breton are the chief occupations of the inhabitants.

Manitoulin Island, area 1,068 sq. miles, and the Georgian Bay islands in Lake Huron and the Thousand Islands group in the St. Lawrence River, at its outlet from Lake Ontario, are the more important islands of the inland waters.

Table 6 gives the principal islands in Canada having an area of over 2,000 sq. miles.

6.—Area of Principal Islands[1] in Canada

Island	Area	Island	Area
	sq. miles		sq. miles
Arctic Ocean—		**Arctic Ocean**—concluded	
Baffin	197,754	Ellef Ringnes	3,719
Victoria	80,340	Cornwallis	2,660
Ellesmere	77,392	Amund Ringnes	2,027
Banks	25,675		
Devon	21,606	**Atlantic Ocean—**	
Melville	16,503	Cape Breton	3,970
Southampton	16,350	Prince Edward	2,184
Prince of Wales	13,736	Gulf of St. Lawrence—	
Axel-Heiberg	13,583	Anticosti	3,043
Somerset	9,594		
Prince Patrick	7,192	**Pacific Ocean—**	
King William	5,106	Vancouver	12,408
Bylot	5,005		

[1] Islands with area of over 2,000 sq. miles

PHYSICAL GEOGRAPHY OF THE CANADIAN WESTERN ARCTIC*

NOTE.—This article is a companion contribution from the Lands and Development Services Branch, Department of Mines and Resources, to the Article, "Physical Geography of the Canadian Eastern Arctic" that appears at pp. 12-19 of the 1945 Year Book.

The Western Arctic comprises that part of the mainland of northwestern and north-central Canada lying north of the tree-line, and the nearby Arctic Islands. The region includes a strip of Yukon coast and off-shore Herschel Island, the mainland tundra coast of northern Mackenzie District, and the northern coast of Keewatin District as far eastward as Boothia Peninsula and the 95th meridian west longitude. The Western Arctic Islands include Banks, Victoria, King William, and Prince of Wales Islands.

This rectangular region is a treeless Arctic territory. Its physical appearance, although similar to that of many parts of the larger Eastern Arctic which forms the northeastern fifth of Canada, is differentiated from the latter by method of entry. There is very little intercourse between the two Arctic regions as transportation lines, supply routes, and communication in the Western Arctic generally come from the west—either from the Mackenzie Valley or occasionally from around the coast of Alaska. The Western Arctic is also differentiated from the nearby Subarctic and forested Mackenzie Valley, which, in the Northwest Territories, extends from Fort Smith to Aklavik. The physical characteristics and problems of the Mackenzie Valley are quite different from those of the Western Arctic.

There are many contrasts within the Western Arctic region. The mainland and southern parts of the islands have a thinly scattered population of migratory Eskimos and a few white settlements, whereas the northern sections of the islands are uninhabited. The Eskimos who live near the delta of Mackenzie River differ in culture and equipment from the primitive natives of Boothia Peninsula and Back River. Transportation facilities and problems vary throughout the region. Navi-

* Prepared under the direction of R. A. Gibson, Director, Lands and Development Services Branch, Department of Mines and Resources, Ottawa.

gation difficulties encountered along the open coast of Beaufort Sea and Amundsen Gulf are different from those met in the almost-enclosed seas of Coronation Gulf and Queen Maud Gulf. Quite different transportation problems are met in the eastern part of the region north of King William Island. These contrasts illustrate the diversities within an area which has regional unity. A description of the physical character of the country helps to explain the reason for these differences, and at the same time shows the general similarities within the natural environment.

General Geology.—The rocks underlying the Western Arctic are of Precambrian and Palæozoic age. Around Coronation Gulf there appears to be a deep embayment in the Precambrian rocks. The mainland coast from Boothia Peninsula to Darnley Bay, except for a sedimentary strip north of Coppermine and on Kent Peninsula, is composed of rugged or worn Precambrian rocks. East of Coppermine settlement granites and gneisses predominate. On the north side of this basin Precambrian rocks outcrop on the central west coast of Victoria Island and extend in a broad belt across the northern part of the Island to the heads of Richard Collinson Inlet and Hadley Bay, and possibly to the northeastern tip of Victoria Island. Within this basin, Precambrian sedimentary rocks and early Palæozoics, chiefly Ordovician in age, have been deposited.

The best known of the Precambrian rocks in the Western Arctic is the Coppermine Series. They outcrop on both sides of the Coppermine River and extend eastward. The rocks have a gentle dip towards the north. Northeast of Great Bear Lake, they have been eroded into linear hills known as the Copper Mountains. These hills have steep, south-facing cliffs, and gentle northward slopes terminating in drift-filled valleys. The mountains are composed of a series of superimposed flows of basaltic lavas. A similar type of topography, unidentified as to age, is located 40 miles east of the junction of Coppermine and Hepburn Rivers. There the escarpments face eastward. North of Copper Mountains, Precambrian shale and limestone overlie the basalts of the Coppermine Series. Basaltic rocks of similar appearance outcrop again on southern Victoria Island at Richardson Island and west of Cambridge Bay, but they do not constitute the whole south coast of the Island.

Palæozoic rock, largely unclassified as to age, underlies the remainder of the Western Arctic Islands, and a mainland coastal section northwest of Coppermine. It is probable, however, that more recent rocks of Cenozoic age have been laid down in parts of Banks and northwest Victoria Islands. The detailed geology of much of the Western Arctic, particularly identification of the sedimentary rocks, is as yet imperfectly known.

Rocks of Ordovician age have been reported from the flat west coast of Boothia Peninsula and on part of low King William Island. Fossils found in rocks in other parts of King William Island indicate Silurian age. At Read, Liston and Sutton Islands, off the southwest coast of Victoria Island, Ordovician rocks appear again; probably similar rocks can be found on the nearby mainland. Younger rocks have been reported from both the south and north coasts of Banks Island suggesting that much of the Island may be considered post-Silurian in age.

Glaciation.—Although the southern limit of continental glaciation in North America is well established, there is much doubt about the northern boundary. Recent geological work has established the fact that at least the southern part of Victoria Island was glaciated, and possibly the whole Island.* The thickness of

*Washburn, A. L. "Geology of Victoria Island and Adjacent Regions, Arctic Canada". Geological Society of America Memoir 22, 1947.

the ice over Cambridge Bay has been estimated to have been at least 2,000 feet. Evidence of glaciation is obtained from the distribution of erratics, and glacial striæ, especially glacial deposition, including eskers and moraines.

The last direction of movement of the ice can be interpreted by glacial striæ. These scratches in the rock surface of the mainland coast indicate that ice pushed to the northwest. On Victoria Island the recorded striæ point westward and southward suggesting a final centre of dispersal on the Island itself.

Since the melting of the ice-cap of glacial times, the whole Arctic has slowly risen out of the sea. This rise has been recorded by emergent beachlines containing fossil marine shells. In some places these gravel ridges are found as high as 500 to 600 feet above the present sea-level. Many of the present-day coasts, and especially the low coasts of sedimentary rock, are characterized by rows of ancient beachlines rising successively higher inland.

The slow emergence may still be continuing. At Cambridge Bay, a shoal reported by the explorer Collinson in 1852, is now a small islet above water. The rise, in this case, has amounted to about five feet in 100 years. Further evidence of deeper water in the Western Arctic is found in the ancient whalebone houses built by Eskimos around King William Island almost 1,000 years ago. The seas in that area are now too shallow for large whales.

Topography.—Topography in the Western Arctic is characterized by combinations of low, level, grassy plains and rounded, barren, rugged hills. There are no mountainous regions; even the rough hilly country does not exceed 2,000 feet in elevation. The highest elevations are found on western Victoria Island and southern Banks Island. The mainland coast from Yukon Territory to Boothia Peninsula is mainly low and flat, but elsewhere rises abruptly from the water to a height of a few hundred feet.

Along the Yukon coast a low tundra strip about 10 miles wide fronts the rugged Richardson and Buckland Ranges. Numerous small streams cross the rolling plain, and lakes dot its surface. The Mackenzie Delta region and the coast eastward to Baillie Island are very low and swampy. Innumerable small lakes, cut off from the sea by strips of beaches, cover the coastal regions, and shallows extend offshore. A sharp bluff rises along the east side of the Mackenzie Delta, beyond which many small conical hills, called "pingos", are found near Port Brabant (Tuktoyaktuk). The inland country to the west is gently rolling tundra, with numerous lakes filling the depressions in the permanently frozen ground.

The coast east of Baillie Island has steep bluffs rising about 200 feet above the water. The Smoking Mountains along the west side of Franklin Bay are steep hills of about 500 feet altitude. South of Darnley Bay, hills rise to about 1,000 feet and appear more rugged on the coastal side. These hills are actually the eroded front of the Precambrian plateau facing towards the sea: they have very little relief on the south side. The lake-dotted country inland from Horton and Anderson Rivers is a rolling tundra with few major topographic features.

Between Pearce Point and Stapylton Bay the coast is straight and in many places lined with low cliffs of 50 to 200 feet. In the low sections elevations increase inland in a series of terraces to a rolling interior plateau where altitudes average about 1,000 feet. Tundra vegetation of grasses, sedges and mosses is fairly abundant over the plateau. The coast around Bernard Harbour is flat, rising in series of former beachlines to a rolling grassy interior. Gravel beaches are the main topographic features.

Between Coppermine Settlement and Bathurst Inlet, the coast is more rugged than that to the westward. Rocky cliffs line the south coast of Coronation Gulf, except where broken by river mouths and valley plains. South of Coppermine settlement, the Copper Mountains are linear ranges of hills with south-facing cliffs. Much of the interior country south of the Copper Mountains and extending towards Burnside River consists of barren rocky ridges and drift-filled valleys. South of Burnside River the Peacock Hills, which have an altitude of about 2,000 feet, rise abruptly 500 to 1,000 feet above the rolling plain.

Around Bathurst Inlet rugged hills rise directly from the water, sometimes to over 1,000 feet elevation. The hills decrease in relief inland. Numerous rocky islands fill the Inlet and almost block its mouth. Their precipitous cliffs make a scenic setting of rugged grandeur.

Elevations decrease east of Bathurst Inlet as the rocky hills become lower and the grassy valleys widen. Kent Peninsula is generally low. Its shelving beaches rise from the shallow shores to low rocky hills in the interior. Higher hills of Precambrian rock form the neck of the peninsula, and numerous small rocky islands are sprinkled offshore to the east.

The south coast of Queen Maud Gulf is low and flat. Numerous islands and unmapped shoals are found in the shallow water offshore. The lowland is rocky near the shore and extends far inland in swampy, lake-covered tundra. Several long rivers, some of them entrenched, drain through the area towards the coast. The low divide between these streams and Back River is covered with glacial deposits forming low hills. Southeast of Perry River there is a hilly section consisting of rock ridges rising about 500 feet above the surrounding region. Streams with steep-sided valleys have cut into it. The extent of the hilly section is not known and details are scarce concerning the topography of the inland region.

The only features on low Adelaide Peninsula are disintegrated rock and gravel ridges which indicate ancient beachlines. A similar low coast extends eastward to the mouth of Murchison River. Little is known about the interior country other than the fact that rugged hills are found between Chantrey Inlet and Wager Bay.

East of Rae Strait and along the west coast of Boothia Peninsula as far north as the Tasmania Islands, shelving coasts marked by old beach terraces are common. The rugged Precambrian hills rise abruptly above this plain on the west side of central Boothia Peninsula and occupy the entire northern part of the peninsula north of Wrottesley Inlet. This rough region has barren rocky hills and ridges rising about 1,000 feet above lake-filled, narrow valleys. The west coast of Somerset Island is also rugged and has numerous high, steep, offshore islands.

The whole of King William Island is low. Near the coast the surface consists of broad terraces marking former beaches. Except for a small conical hill east of Gjoa Haven, and slightly higher land on the northwest corner, it is doubtful if any of the island exceeds 400 feet in altitude. Its surface is mantled with broken sedimentary rock and glacial deposits. Lakes fill the depressions above the permanently frozen ground. Shallow water extends offshore in most places, especially along the northeast coast.

Prince of Wales Island has three physiographic divisions. The southern third of the Island is low and flat and is covered with numerous small, shallow lakes. Vegetation is unusually sparse, with much of the exposed surface consisting of disintegrated, angular sedimentary rock in low, flat ridges or domes. Another flat plain is located on the northwest corner of the Island. The central part of the

Island is a plateau of 500 to 1,000 feet altitude, which is deeply incised by numerous streams along the eastern side. There are very few lakes in this section, and many of the stream beds are broad, shallow, gravel-filled valleys. The red escarpment front of the plateau rises abruptly above a narrow lowland west of Browne Bay. The northeastern parts of the Island and the large rocky islands blocking the east side of Browne Bay are high and rugged, possibly reaching 2,000 feet altitude. This rugged section is probably caused by underlying Precambrian rocks which also appear on nearby northwestern Boothia Peninsula and western Somerset Island.

The eastern half of Victoria Island is similar in appearance to King William Island. A low, flat coast rises inland in low, gravel ridges and flattened domes across lake-dotted country. Outstanding hills are only a few hundred feet high. One of the most notable, Mount Pelly, near Cambridge Bay, is 675 feet high, and probably consists of unconsolidated glacial material. The south coast is also low and shelving, except at Richardson Island where Precambrian rocks form low, rugged hills. The eastern interior is also low and is covered with innumerable circular, shallow lakes as far westward as the head of Prince Albert Sound.

Higher hills rise in western Victoria Island. Wollaston Peninsula, north of Dolphin and Union Strait, is rugged in places in the interior. Elevations of about 1,700 feet have been reported. The hills consist of irregular ridges of unconsolidated material. Elevations decrease towards Prince Albert Sound. North of the Sound, ridge and valley topography is characteristic. The broad linear valleys trend to the northeast, and are separated by rocky ridges, sometimes with perpendicular, columnar cliffs. Altitudes are probably about 1,000 feet, but may reach 2,000 feet south of the east end of Minto Inlet. Low hills surround Minto Inlet, and in some places form prominent headlands. Inland, north of the Inlet, a generally rolling plateau is rugged in places. In northwestern Victoria Island rocky hills are cut by many ravines. Wide valleys extend east-west, and are separated by ridges with south-facing escarpments. Lakes are not as numerous in this northwestern region.

The north coast of Victoria Island is only sketchily known. High and precipitous cliffs have been reported between Collinson Inlet and Hadley Bay. A line of higher hills rises inland to about 1,500 feet. Many small rocky islands are found offshore in the bays. The northeastern corner of the Island is a newly-discovered separate large rocky island with elevations of about 1,000 feet.

Banks Island is generally high and rolling, being marked by high cliffs on both the south and north coasts. Highest elevations are found at the south where Nelson Head, the southern cape, rises a sheer 1,000 feet from the water. Rugged hills increase their altitudes inland to about 2,000 feet. The precipitous cliffs and hilly sections of the north coast rise about 600 feet above sea-level. The northern interior is rough and hilly.

The west side of Banks Island has a low flat coast. It slopes gradually inland to low rolling hills of about 1,000 feet altitude. The hills are separated by broad valleys with abundant grassy tundra vegetation. Numerous large rivers drain the interior to the west and north. The east coast is low in the central section, but is rocky and rugged towards the northeast. The northeast interior has less vegetation than central Banks Island. Several flat sandy areas have been reported there.

Climate.—There are only three meteorological stations in the Western Arctic* from which climatic records may be obtained. They are at Cambridge Bay, Coppermine and Holman Island. They indicate that the western part of the region, around Amundsen Gulf, is milder than the interior sections around Queen Maud Gulf. The region has an Arctic climate, which means that no month has an average mean temperature above 50°F. This 50° isotherm for the warmest month is generally found a short distance north of the tree-line.

Old records at the Herschel Island whaling station indicate that its warmest month is below 50°F., and it is, therefore, within the Arctic zone. The treeless, tundra character of the vegetation of Herschel Island and the nearby mainland substantiates this Arctic characteristic.

Aklavik, in the Mackenzie River Delta, has two months when average mean temperatures are above 50°F. This places it in the Subarctic zone. The forested character of the country is further proof of its relatively mild summers. The Arctic line is found somewhere between Aklavik and the barren coast. Although not within the region, the Aklavik figures may be used as characteristic of the coast since there are no other meteorological stations along the western mainland of the Western Arctic. Actual temperatures at the coast would be somewhat lower than the Aklavik figures. East of the Mackenzie Delta the coast and the inland areas between rivers are treeless tundra. Forests finger north along the valleys of the Anderson and Horton Rivers, but do not reach the coast.

Coppermine settlement is in the zone between Arctic and Subarctic. The meteorological station there has an average of 50°F. for July, placing the Settlement on the line between the two climatic regions. Trees are found a short distance inland along the sheltered valley of the Coppermine River, indicating the warmth of the summer months.

Because of inaccessibility, no meteorological stations are located in the vast region of the Canadian mainland east of Coppermine, until Baker Lake and the west coast of Hudson Bay are reached. The tree-line trends away from the Arctic coast to the southeast. It is located north of the east end of Great Slave Lake and continues eastward to the Hudson Bay coast near Churchill. Exactly where the southern limit of the Arctic is in this area is not known, but it probably parallels the tree-line as it does in other regions where there are climatic records.

Summers may be described as cool in the Western Arctic. The four months of June to September have average mean monthly temperatures above 32°F. in the southern parts of the region. In July and early August, afternoon temperatures may rise above 60°F., and usually fall to around 40°F. in the evening. The day-by-day temperature at settlements may depend upon the direction of wind. A wind blowing from the warm land will be milder than a breeze from the cold waters of the Arctic gulfs. Temperatures seldom rise above 65°F. at Cambridge Bay and 70°F. at Holman Island. The absolute maximum recorded at both stations is 75°F. Occasionally during the summer, temperatures may reach almost 80°F. at Coppermine, and the maximum recorded is 87°F.

The change from autumn to winter is very rapid during early October. During that month the lakes and harbours have frozen over and the length of the period of daylight has decreased rapidly. Average mean monthly temperatures drop below zero in November and remain below zero for 5 months at Coppermine, Holman Island and Aklavik, and for 6 months at Cambridge Bay.

* As defined in the opening paragraphs of this article.

February is the coldest month at each of the three Western Arctic weather stations. The monthly mean of −27°F. at Cambridge Bay is one of the coldest known in Canada, being exceeded only slightly by records from stations on northern Baffin Island. Winters, which average between −15°F. and −20°F. during January and February, are not as cold at Coppermine, Holman Island and Aklavik.

Minimum temperatures do not drop as low in the Western Arctic as in the Mackenzie Valley. Holman Island, located on Amundsen Gulf which may occasionally have open water between ice floes, has a usual winter minimum of about −37°F. Lower temperatures are often recorded by settlements in northern Ontario and on the Prairies. The lowest temperature ever recorded at Holman Island is −45°F. Coppermine is colder, having a mean winter minimum of −48°F., and a record minimum of −54°F. Cambridge Bay has the lowest minimum temperatures known in the whole Canadian Arctic. Nearly every winter readings in the Arctic of about −54°F. are observed, and the lowest recording reported is −63°F. from there.

In April, monthly mean temperatures rise to slightly above zero at all stations except Cambridge Bay. Spring comes quickly as the days become longer in May. Average monthly mean temperatures jump 20 degrees between April and May. The snow begins to melt from southern slopes about mid-May on the mainland. Summer begins in July when the ice breaks up along the coasts and in the lakes.

Since most of the Western Arctic settlements are in the vicinity of latitude 69°N., they have about the same duration of daylight and darkness. In summer there are 24 hours of light from the latter part of May to the end of July. During this time the sun circles low in the sky, dipping down towards the horizon in the north. By the end of July the sun is setting for a short period in the north. The period of darkness lengthens each day thereafter.

By the first of December the sun no longer rises above the horizon to the south. For the next month there is a period of twilight darkness, brightened by the light of the stars and moon, a twilight glow on the southern horizon, and reflections from the snow. Early in January the sun again peeps above the horizon, and each day thereafter the daylight lasts longer until there is equal day and night on March 21.

Precipitation is not heavy in the Western Arctic. About 10 inches are recorded at Coppermine and Aklavik, half of which falls as rain during the four warmest months. Six and seven inches are recorded by the stations at Cambridge Bay and Holman Island respectively, about one-third of which is rain coming chiefly in July and August. At Coppermine, three inches is the most rain ever recorded in one month, and in dry summers as little as one-half inch has fallen in a month.

Snowfall is difficult to record accurately at all Arctic stations because of the excessive drifting. From 40 to 50 inches is the usual amount which falls during the winter. Northern snow is generally hard and finely crystalline, especially when on the ground. It packs solidly, and where it collects to sufficient depths in depressions or on the sea-ice, can be cut into snow blocks for igloo-building.

Heaviest snowfalls come in October and November, but continue intermittently throughout 10 months of the year. Although a small amount of snow falls, the low winter temperatures and lack of sunlight prevent melting. In rocky, hilly country the ridge tops are often blown free of snow, but a snow cover, which is used for sledge-dog transportation, always remains throughout the winter in the valleys and over the lowlands and sea-ice.

Fog is most frequent during spring and summer months, especially near the coast. When warming air from the land comes in contact with ice-covered or cold seas, condensation occurs and fogs roll out to sea. Fogs are not as frequent a transportation hazard in the Western Arctic, however, as they are in Hudson Strait of the Eastern Arctic. Cambridge Bay and Coppermine average two to three days of fog each month during May, July and August. A maximum in May of eight foggy days at Coppermine and of nine at Cambridge Bay is the greatest number ever reported in one month.

Fogs are rare in the winter months when sea-ice and snow-covered land have about the same temperatures. Visibility is sometimes poor in this season, however, owing to drifting snow. During these "blizzards" all movement ceases, as Eskimo and white travellers wait in snow-houses or in tents for the storm to blow over. On the other hand, many days of spring are clear and bright, with scattered high clouds. This is the best time for travelling provided snow-goggles are worn as a precaution against snow blindness.

Winds blow predominantly from the northwest during the winter at most stations. At Coppermine, however, southwesterly winds are more common in the winter. In summer, winds from the east or northeast occur more frequently in the Western Arctic, but again shift to the northwest in autumn. Calms are more usual in winter than in summer.

Ice Conditions.—As in all Arctic regions, one of the main problems of accessibility is unpredictable ice conditions. For about 9 to 10 months coasts are closed to sea transportation by land-fast ice, and the open gulfs off Beaufort Sea are jammed with heavy ice floes from the shifting pack of the Arctic Ocean. During the short open season, when the ice moves off from the shores of the open coast, and melts in the enclosed seas, navigation is possible. The length of that season, and the degree of accessibility, however, vary greatly from year to year.

Early in September the lakes in the northern parts of the region begin to freeze over; by the end of the month small lakes on the mainland also have an ice-covering. Towards the end of September or early October ice forms across the harbours and inlets, and starts to build out from the shore. By the end of November or early in December, Coronation and Queen Maud Gulfs, and the connecting straits off the mainland coast, are frozen over completely except where there are unusually strong currents. If freeze-up comes during a period of calm, the ice will be hard and level, making an excellent winter highway. If the freeze-up period is stormy, and the ice is broken up several times before finally setting, the resulting ice-cover will be rough and hummocky.

One of the notable differences between Eastern and Western Arctic winter ice is the lack of a "tidal hinge" in the western region. Tides are quite minor in the Western Arctic, averaging from one to two feet on the open coast. In summer the height of the tide is influenced more by prevailing winds than any other factor. In the Eastern Arctic, high tides raise and lower the harbour ice, leaving a zone of weakened ice or open water between the main mass and the shore. In the Western Arctic, on the other hand, tides are so minor that the harbour ice freezes solidly to the shore. Its average thickness in late winter is five to seven feet.

In spring the ice breaks up first along the coasts, especially near the mouths of rivers. A strip of open water melts along the shore, and cracks appear in the harbour ice. Soon the cracks grow wider, and the floes are shifted about with the

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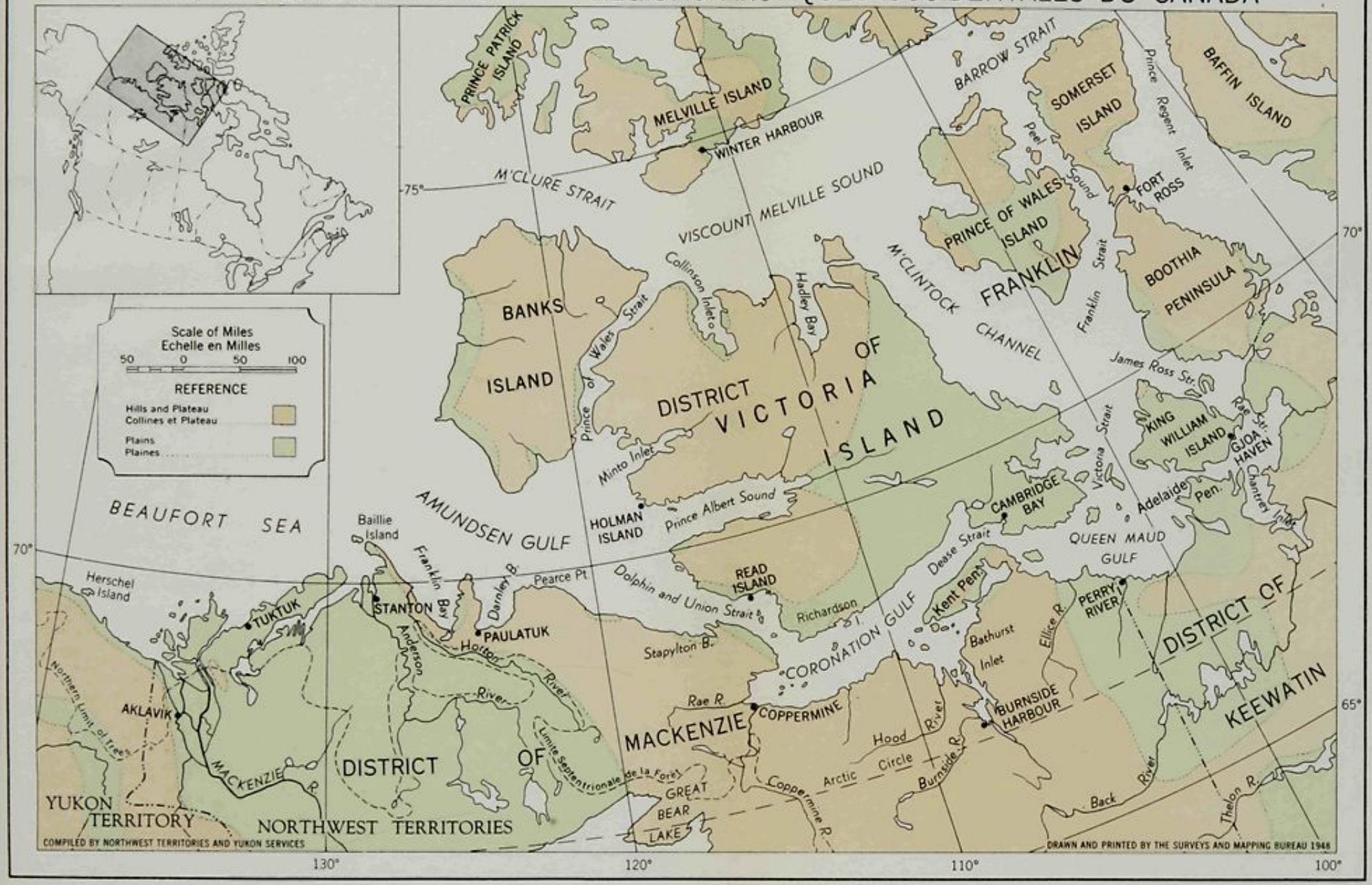


wind. Finally, a strong off-shore wind will move the ice out of the harbour into the shifting mass in the main channels. This harbour break-up occurs in the last half of June or early July along the mainland coast, but may be as late as the middle of July among the Western Arctic Islands.

Similarly, small lakes on the mainland begin to break up towards the end of June, and larger lakes are ice-free by the middle of July. On northern Victoria and Banks Islands, large lakes may still be frozen over early in August.

After the harbour ice has moved out there still remains a period of weeks before navigation is possible along the coasts. The open coast of Beaufort Sea near the Mackenzie River Delta and that south of Amundsen Gulf usually have a strip of open water along the shore by early August. At any time during the summer, however, strong northerly winds may push the heavy floes of Beaufort Sea southward against the coast. Westerly winds may block the harbours and inlets of western Victoria Island throughout July, and may jam Dolphin and Union Strait. In some years this latter Strait has been blocked with ice floes throughout the summer, but this barrier is not common.

By the end of July, Coronation Gulf usually has enough open water for navigation. The floes move about with the winds in the central part of the gulf until they melt. In shallow Queen Maud Gulf the ice remains until the latter part of August before melting away. At any time heavy polar ice from M'Clintock Channel may push southward through Victoria Strait and into Queen Maud Gulf. Simpson Strait, south of King William Island, is too narrow for polar ice to enter so that this strait and the straits to the eastward are open in August.

North of King William Island there is almost no ice-free season, or at best a period of only a few weeks around the first of September. Heavy polar ice from M'Clintock Channel pushes southward throughout the year, and having no outlet, jams into the passages of Victoria, James Ross and Franklin Straits. Only occasional navigation by shallow-draught vessels has been possible off the west coast of Boothia Peninsula, particularly when favourable winds hold the ice off the coast. Peel Channel apparently has pack ice throughout the year, but in some seasons it is loose enough to permit schooner navigation with difficulty.

North of Banks and Victoria Islands heavy polar ice from the Arctic Ocean packs the channels throughout the year and pushes against the coasts. It is possible that the ice loosens slightly by the end of August, but navigation will always be hazardous. Prince of Wales Strait, between Banks and Victoria Islands, has been reported open in late August in some years, and jammed full of floes in other years.

Summary.—The Western Arctic is a treeless region along the north-central and northwestern coast of the mainland of Canada and includes the nearby Arctic Islands. It is underlain chiefly by ancient worn Precambrian rocks on the mainland, whereas sedimentary rock predominates on the islands. Most coasts are characterized by old gravel and disintegrated rock beach-lines which indicate the emergence of the region from the sea since the last Glacial Age. Topography, often dependent on the underlying bedrock, is either rough and rugged in places, or low and flat. Most of the region, owing to the permanently frozen subsoil, is covered with innumerable lakes of all sizes and shapes.

The region has an Arctic climate, in which winters are continuously cold for five or six months, but do not record the extreme minima of the nearby Subarctic Mackenzie Valley. Summers are cool and short in the Western Arctic. Afternoon

temperatures occasionally rise above 60°F., and no month has an average mean temperature above 50°F. Precipitation is low throughout the year. Rains fall in July and August, and snowfall is most frequent in October and November.

The seas and straits off the mainland and between the Arctic Islands are frozen over for about nine months of the year. The ice begins breaking up in July along the mainland, the exact time of break-up varying regionally and from season to season. The wide channels north of the Western Arctic Islands remain jammed throughout the year with heavy pack-ice from the Arctic Ocean.

Section 2.—Political Geography

Politically, Canada is divided into nine Provinces and two Territories. From east to west these are: the Maritime Provinces of Prince Edward Island, Nova Scotia and New Brunswick; Quebec; Ontario; the Prairie Provinces of Manitoba, Saskatchewan and Alberta; and the most westerly province, British Columbia. North of the area included in the provinces the country is divided into Yukon and the Northwest Territories. The political characteristics and the resources of each of these areas are reviewed at pp. 23-27 of the 1946 Year Book. Each of the provinces is sovereign in its own sphere, as set out in the British North America Act (The B.N.A. Act with amendments to date, appears at pp. 40-60 of the 1942 Year Book) and, as new provinces have been organized from the Federal lands of the Northwest, they have been granted political status equivalent to that of the original provinces. Yukon and the Northwest Territories with their boundaries of to-day are administered by the Federal Government.

PART II.—GEOLOGY

For the latest material published under this heading see the 1947 edition of the Year Book, pp. 19-29.

Further reference to earlier articles will be found at the front of this edition.

PART III.—GEOPHYSICS*

Section 1.—Gravity

Absolute and Relative Measurements of Gravity.—Determinations of gravity fall into two classes (a) absolute determinations (b) relative determinations. The latter are made by setting up an apparatus and taking observations with it at a base station (where gravity is known or assumed to be known) and at other stations where the value is required. Relative measurements which really determine only differences in gravity can be made with great accuracy because they do not necessitate the measurement or evaluation of certain quantities that are required in absolute determinations.

There are only very few places where absolute gravity measurements of the highest accuracy have been made; the best of these are probably The Geodetic Institute at Potsdam, Germany, the Bureau of Standards at Washington, U.S.A., and the National Physical Laboratory at Teddington, near London, England. Such measurements have all been made by determination of the time of vibration

* Prepared under the direction of W. B. Timm, C.B.E., Director, Mines, Forests and Scientific Services Branch, Department of Mines and Resources, Ottawa.

of a pendulum the square of which is inversely proportional to gravity. All or nearly all other measurements of gravity are referred to these locations and all relative determinations in North America are referred to one of them.

Observations extended over lengthy intervals at each place: at Potsdam between 1898 and 1904; by Kühnen and Furtwangler, at Washington between 1933 and 1935; by Heyl and Cook, and at Teddington, near London, by Clark, between 1936 and 1939. These three places have been compared by relative measurements with pendulums which show that the previously accepted value for Potsdam, to which all relative measurements in North America are referred, is in error by 17 milligals in terms of the commonly accepted unit of one milligal equals 0·001 centimetre per second, per second. Although there is a slight difference depending on how the relative measurements are interpreted, Heyl's determination suggests a correction of 20 milligals to Kühnen's value and Clark's result gives a correction of 15 milligals, the mean of the two being 17 milligals. This is the correction (it is negative) recommended by the sub-committee on gravity of the National Research Council of the United States in 1942.

Dryden, who, in 1942, made a re-examination of the Potsdam determination considers that an unwarranted correction was made by the Potsdam observers to account for certain systematic errors. If this correction had not been made Dryden argues that the Potsdam result would have been 12 milligals less and, in order to obtain the most probable absolute values for stations expressed in terms of the Potsdam system, he would subtract 15 milligals.

The absolute measures at Washington appear correct to better than 10 milligals. They may be subject as has been the experience in the past with pendulum results, to some unsuspected systematic error. An accurate absolute determination of gravity by some method other than pendulums is most desirable.

The first serious attempt in Canada to measure gravity appears to have been an absolute measurement by A. M. Scott in the School of Practical Science of the University of Toronto, Ont., in 1896. Observations were made with a Kater's pendulum constructed of steel and manufactured by Nalder Brothers of London, England. Observations and investigations in connection with the determination extended over a period of three months or more. Mr. Scott, who was then an undergraduate in Arts, presented the results of his work and a valuable thesis on the pendulum in competition for the 1851 Science Scholarship. He obtained 980·304 centimetres per second, per second, or 32·3590 feet per second, per second, for the acceleration due to gravity or in other words for the increase in velocity acquired in one second by a freely falling body at Toronto. The most direct way to determine gravity, but apparently not the most accurate, would be to measure this increment in velocity directly.

Scott estimated the probable error of his determination at about one part in one hundred thousand or 0·01 cm. per second, per second. Recent observations on the campus of the University with a gravimeter indicate that Scott's value is in error by about 140 milligals which compares rather unfavourably with an accuracy of 50 milligals obtained by Kater in an absolute determination in London, in 1818. Employing an invariable pendulum, Kater made a number of relative determinations between the Isle of Wight and the Orkneys with an accuracy of from 2 to 3 milligals equal to or better than that frequently obtained in recent years with invariable pendulums.

The greatest accuracy normally obtained in relative determinations with pendulums appears to have been with an apparatus developed by the Gulf Oil Corporation in the United States for which an accuracy of 1 in 4,000,000 in routine field operations is claimed. In this routine, three to five stations were occupied in one day with two sets of apparatus and a crew of 25 men including surveyors to determine locations and elevations of stations.

The first relative determination of gravity in Canada was made with reference to Paris by Commandant Defforges of the Service Geographique of the French Army in the basement of the Macdonald Physics building of McGill University, Montreal, Que., in 1893. Other determinations were made by him the same year at Montreal, Que., and at Washington, Chicago, Denver, Salt Lake City, Mount Hamilton and San Francisco, U.S.A. A defect of gravity (now known to be due to isostatic compensation) according to the Bouguer theoretical method of computing gravity had already been observed over the Continents of Europe, Africa and Asia. Observations were made at the previously mentioned places to determine whether the same condition prevailed in North America. The results indicated a deficiency of gravity over the continent reaching a maximum of over 200 milligals at Salt Lake City, thus confirming what had been previously discovered on the other continents.

Gravity Work of the Dominion Observatory.—Observations of gravity were begun by the Dominion Observatory, in 1902, when a pendulum apparatus constructed by Saegmuller under the supervision of the United States Coast and Geodetic Survey was purchased in Washington. Dr. O. J. Klotz took observations with it that year at Washington, U.S.A., Ottawa, Ont., Toronto, Ont., and at Montreal, Que., and in connection with the determination of Trans-Pacific longitudes in 1903, also observed at Suva, Fiji, and Doubtless Bay, New Zealand. In connection with the observation of the total eclipse of the sun on Aug. 30, 1905, a determination of gravity was made at Northwest River, Labrador, by Professor Louis B. Stewart of the University of Toronto with the Dominion Observatory pendulum apparatus.

This apparatus consists of a set of three pendulums with the knife edge not on the pendulums but on a bracket which can be made fast in the pendulum case. The head of the pendulum has the form of an inverted stirrup with an agate plane in the head which rests upon the knife edge when the pendulum is in motion. Considerable trouble was experienced with the apparatus in the early days until the bobs were fastened securely to the stems by rivetting. A description of the instrument appears in Publication, Vol. II, No. 10, of the Dominion Observatory.

After Professor Stewart's observations in Labrador no further work was done until 1914 when F. A. McDiarmid made a comparison of gravity between Washington and Ottawa. He observed on the gravity pier in the Dominion Observatory which since that time has remained the base to which all gravity determinations by the Dominion Observatory are referred. With reference to the former base station of the United States Coast and Geodetic Survey at 205 New Jersey Avenue, S.E., Washington, and the value 980·118 cm., per sec., per sec., for it, McDiarmid obtained 980·621 cm. per sec., per sec., for Ottawa. For the same comparison, in 1921, A. H. Miller obtained 980·624 cm. per sec., per sec., and in 1929 the value 980·622 cm. per sec., per sec., for Ottawa. Until 1928, Washington was the only station in North America that had a trustworthy connection with Potsdam. By direct connection with Potsdam, in 1900, by Putnam, and following a world adjustment

by Borass, the value 980·112 cm. per sec., per sec., was adopted for the New Jersey Avenue Base. Observations at Washington by Meinesz and Miller, in 1928 and 1929, suggested that this value was a few milligals too low. Due to its importance as a reference point and in order to remove doubt, the Coast and Geodetic Survey made a direct connection between Washington and Potsdam by Lieutenant Edwin J. Brown of the staff of the Survey in 1932 and 1933. By this time the New Jersey Avenue Base had been destroyed by building operations. It had, however, been connected in 1893 with the first gravity base station in Washington in the Smithsonian Institution. In April and May, 1932, a connection was made between the Smithsonian base and the new base station established in the new Department of Commerce building on Constitution Avenue, Washington, D.C. Brown adopted 980·118 cm. per sec., per sec., for the new commerce base the mean of his own observations and those of Miller's reduced to the new base. The two sets by the separate observers, agreed within one-tenth of a milligal for the bronze pendulums employed by both observers. The invar pendulums used only by Brown, gave a discordant result differing by 3 milligals.

Although it is not made expressly clear in Brown's report, it appears that the adopted value 980·118 cm. per sec., per sec., for the new Commerce base, implies 980·117 cm. per sec., per sec., for the New Jersey Avenue base at which observations have been made by the Dominion Observatory, Ottawa.

During 1928 and 1929, a careful comparison was made by the Dominion Observatory between Ottawa, Greenwich, Potsdam and the New Jersey Avenue base in Washington. Three pendulums and two knife edges were used. Assuming the value for Potsdam, six individual values were obtained for each of the other places. The average departure of the mean from the six individual values for Greenwich was 1 milligal, for Washington, 1 milligal and for Ottawa, 2 milligals. The value 980·622 cm. per sec., per sec., has been adopted for Ottawa, with reference to Potsdam. The most probable absolute value for Ottawa is 980·605 cm. per sec., per sec.

Forty-two stations were established across Canada between Halifax, N.S., and Vancouver, B.C., with the pendulum apparatus in 1914 and 1915. Since then, the number of pendulum stations observed in Canada has increased to a total of 186. Most of them are in the southern part of the country but 10 stations have been observed in the Northwest Territories north of 60°. The most northerly station, at present, is Cambridge Bay latitude 69° 07·4 N. and longitude 105° 04·1 W. A combined airborne gravity and magnetic expedition established seven stations, including that at Cambridge Bay in the Northwest Territories, in 1945.

The results of these gravity observations are of value as reference points to commercial concerns engaged in exploration by the gravity method. They are of great value in determining the shape of the earth and the form of the geoid or level surface of the earth. The results of the observations have been used to investigate the nature of the earth's outer and lighter crust in Canada. These studies suggest that the crust varies in thickness from 35 kilometres along the coasts and less elevated regions to about 50 kilometres or more in the mountains of British Columbia. The crust rests upon a lower and denser layer in a condition of isostatic equilibrium somewhat akin to that of an iceberg in the sea, except that the lower layer is not fluid like water, but yields to long continued stress. It is apparent though, that the layer beneath the outer crust possesses some strength even over long periods of

time for there are extensive areas in both Canada and the United States where isostatic gravity anomalies of 20 milligals or even more prevail, representing unbalanced loads of rock of 500 feet or more in thickness.

At a considerable number of pendulum stations in the glaciated regions of the Canadian Shield the isostatic anomalies are negative, suggesting, possibly, that the crust of the earth depressed by the ice may not have regained its pre-glacial elevation.

Investigations of Geophysical Methods of Prospecting.—An exceedingly sensitive gravity apparatus is the Eötvös torsion balance. This instrument, unlike the pendulum or the gravimeter, does not measure, directly, either gravity or gravity differences. It does measure the rate of change of gravity or gradient of gravity in the level or horizontal surface and also the differential curvature of the level surface with extraordinary accuracy. Differences of gravity may be obtained by setting up at two or more points. Gravity gradients can be measured to an accuracy of one Eötvös unit corresponding to a rate of change of gravity which, over a distance of one mile, would represent a variation of gravity of one-sixth of a milligal. The instrument has been displaced but not entirely supplanted, by the gravimeter.

For several years the Observatory carried on investigations and tests in collaboration with the Geological Survey of Canada and other institutions, with torsion balances and magnetometers over certain geological structures and ore deposits with quite favourable results in several cases. Reports on the work appear in publications of the Dominion Observatory and elsewhere.

Investigations with Gravimeters.—With the development of the modern gravimeter and particularly with the development of these instruments in the United States during the latest decade, extraordinary progress has been made in the investigation of the earth's crust by the gravity method. Many thousand determinations have been made in the United States and Canada in the search for oil and other minerals. Gravimeters are in principle exceedingly delicate weighing machines capable of measuring gravity differences to one-hundredth of a milligal which is one one-hundred millionth part of gravity, although the instrument, like the invariable pendulum, does not really measure gravity itself. Up to 100 determinations can be made in a restricted area with the gravimeter in a day. Deposits or formations of light or heavy rock can, therefore, be rapidly outlined with them.

In the summer of 1944, the Humble Oil and Refining Company of Houston, Texas, through the courtesy of the American Geophysical Union, placed a gravimeter at the disposal of the Dominion Observatory. In collaboration with the Geological Survey of Canada and the Department of Lands and Mines of the Province of New Brunswick during that season several hundred observations were made with this gravimeter in Eastern Canada and particularly over the carboniferous basin of central New Brunswick where indication of the location of buried pre-carboniferous ridges was sought. Evidence of these ridges was discovered at several places. Further observations, in 1945, by the Dominion Observatory, brought the number of observations with the instrument up to over 1,000 and showed that granite batholiths in the Maritimes are definitely associated with negative anomalies and that the Caledonia Mountain region of New Brunswick and the Cobequid Mountains of Nova Scotia, in which igneous rocks and altered sediments of Precambrian and Palæozoic age are prevalent, are both areas of positive gravity anomaly.

A Mott Smith gravimeter was purchased by the Observatory from the Atlas Corporation of Houston, Texas, in 1946. Over 1,600 observations have since been made with it across Canada between Amherst, N.S., and Jasper, Alta. A network of gravity and magnetometric stations was established in the mining areas of northern Ontario and western Quebec in 1947 and pronounced anomalies related to the geology were observed. It is believed that study of the results will lead to better understanding of the correlation between the anomalies and the geology. Observations over the Prairies suggest the existence and indicate the location of buried formations underlying the soil, clay and gravel.

During 1947, a party in charge of M. J. S. Innes, of the staff of the Dominion Observatory, operated in an area in northern Canada almost entirely within the Canadian Shield observing gravity and vertical magnetic intensity. A gravimeter was hired from the North American Geophysical Company of Houston, Texas for this work. Traverses were made along the northern railways leading to Hudson and James Bays. A test of the applicability of gravity and magnetic methods to the location and delineation of mineral deposits was made by Mr. Innes by observation of 220 stations over the East Sullivan sulphide ore body at Val d'Or, Que. Two hundred and thirteen stations were established by Mr. Innes' party in six weeks during July and part of August in northwestern Ontario, northern Manitoba and Saskatchewan between latitudes 50° and 58° N. and longitudes 92° and 108° W. covering an area of 185,000 sq. miles within the Canadian Shield. An aeroplane was employed for transportation in this work.

Section 2.—Seismology

That branch of science which treats of earthquakes has received considerable attention in Canada during recent years. It has been generally recognized that earthquakes are frequent in regions of adjustment of strata and are characteristic of the newer mountain and coastal regions where steep level-gradients occur. The energy radiated from an earthquake in the form of elastic waves in the earth is, however, recorded on sensitive seismographs up to great distances, even to the antipodes of the earthquake. Seismological researches, while regularly recording the routine statistical data regarding earthquakes, seek also to determine particular causes. Moreover, they endeavour to ascertain the physical properties of the earth's crust and interior as revealed by the peculiarities on the "time-distance curves" for earthquakes.

A time-distance curve, as its name implies, shows the relation between the arcual surface distances from the origin of the earthquake to the various recording stations and the elapsed time required for the initial impulses and their various reflections from layers in the earth to reach each station from the origin concerned. Of late years, these time-distance curves have been greatly improved. Further improvement of these curves must be through taking account of the depth of the origin—the "focal depth". The point within the earth from which energy of an earthquake is liberated is called the "focus"; the point vertically above the focus, on the surface, the "epicentre".

The records of seismograph stations within 500 miles of an earthquake are used to determine the epicentre, focal depth, and focal time. Those same stations, together with the others at distances up to the antipodes of an earthquake, are used to determine arrival times for making up the time-distance curves. The curves themselves are the point of departure for a study of the earth's crust and deep interior.

For a complete history of seismology in Canada, see pp. 7-9 of the 1943-44 edition of the Year Book.

There are at present, six permanent seismograph stations located in Canada. The control station is at the Dominion Observatory in Ottawa, Ont. There are stations operated by Dalhousie University at Halifax, N.S., by the University of Saskatchewan at Saskatoon, Sask., by the Dominion Astrophysical Observatory at Victoria, B.C., and by the Shawinigan Water and Power Company at Shawinigan Falls and Seven Falls, Que. All of these stations send their seismograms to Ottawa for study. From these records all the earthquakes recorded are listed and monthly bulletins are forwarded to most of the seismograph stations of the world. Those earthquakes which are called "local", that is they originate in this eastern part of North America, are reported to a central station at Boston, Mass., to be included in a special monthly bulletin. Any strong shock within Canadian borders is investigated and its place of origin is definitely located both by field study and by a mathematical solution from the seismograms available. In this regard, detailed studies have been made of the St. Lawrence earthquake of 1925, the Grand Banks earthquake of 1929, the Temiskaming earthquake of 1935, the Cornwall-Massena earthquake of 1944, and the British Columbia earthquake of 1946. In the case of the last two the mathematical solution of the epicentre from seismograms is now proceeding.

In order that the crustal structure of the Canadian Shield may be thoroughly studied a new program has been organized. From time to time, some of the mines at Kirkland Lake, Ont., suffer what is known as a rockburst. Some of these bursts have sufficient energy to record on seismographs up to 500 or 600 miles. These bursts, besides giving a record similar to that of an earthquake, have the feature that their exact location and depth are known. So that if seismograph stations are established, one at the mine to record the time of the burst, and several others along a line, a time-distance curve may be drawn up on which both time and distance are accurately known. From this curve and some mathematical calculation the depths of the various layers in the earth beneath the area studied are known. For this purpose a permanent seismograph station at Kirkland Lake has been established, and two other stations are operating on a semi-permanent basis between Ottawa and Kirkland Lake. This program promises to yield valuable scientific data for the future study of earthquakes in the area of the Canadian Shield and to give an accurate picture of the earth structure immediately beneath.

A modified form of seismograph is used for seismic prospecting. Dynamite is detonated in specially drilled holes and the resulting shock waves are recorded on seismographs at measured distances. A study made of the records obtained yields information which leads to the location of subsurface structures including those likely to contain oil or natural gas. Such work is being done more and more in the oil fields in southern Alberta and is responsible in some part for the recent discovery of new productive areas. The Dominion Observatory has had an observer attached to several of these surveys and at all times the seismologists endeavour to keep posted on the developments in this application of seismology.

The Seismological Service of Canada co-operates with seismograph stations from all parts of the world in supplying data and records for study of various earthquakes and, in return, co-operation is obtained from them in the obtaining of data for large Canadian earthquakes. The Bibliography of Seismology, a bi-annual publication of the Dominion Observatory listing all the articles on the subject for ready reference, is distributed to seismologists in every country.

Section 3.—Terrestrial Magnetism

The study of the magnetic phenomena of the earth is of paramount importance in the field of geophysics. The cause and origin of the earth's magnetic field are not fully known and in this regard it has something in common with that other great natural phenomenon, gravitation.

The magnetic field is not confined within the earth. It extends far out into space and at a height of 4,000 miles is still one-eighth as great as at the surface. The magnetic field is being constantly affected and deformed by effects of the sun, moon and radiations from space. It is subject to changes both in direction and magnitude. There is a slow progressive change throughout the years known as secular variation. There are orderly daily changes varying in magnitude and character with geographic position, with the seasons and with cycles of disturbances on the sun. There are also short-period and sudden commencement disturbances known as magnetic storms which apparently are linked up with solar disturbance and other cosmical phenomena. Great magnetic storms are usually accompanied by brilliant auroral displays.

Although the earth's magnetic field is not apparent to the senses, it can be measured with facility. There are three magnetic elements whose values must be known to supply a complete knowledge of the magnetic field at any place. These are the declination, inclination and intensity. The declination, sometimes called variation of the compass, is measured in the horizontal plane and represents the angular distance between the true and magnetic meridians. The inclination or dip is measured in the vertical plane and represents the angular distance between the direction of the magnetic field and the horizon. The intensity, if measured in the plane of inclination, is known as total intensity but if measured in the horizontal or vertical plane is known as horizontal or vertical intensity.

Probably the most practical use made of the earth's magnetic field has been in surveying and in navigation by water and air. The magnetic compass was used in early survey work in Canada to delineate the boundaries of parcels of land. Its importance to navigation is universally recognized. Another important practical use, now probably ranking equal to that of navigation, occurs in mapping magnetic anomalies caused by bodies of magnetic ore. Magnetic methods and techniques in geophysical prospecting for ore and favourable locations for oil are being employed more and more extensively. The science of terrestrial magnetism plays an important part in the study of highly penetrating radiation known as cosmic rays, in the study of currents of electricity in the earth which frequently interrupt telegraphic communications by land line and cable, and related electrical phenomena in the air which have an important effect on the transmission and reception of radio waves.

The development of the science of terrestrial magnetism in Canada closely parallels the development of the country. Magnetic observations were made at Halifax, N.S., by Champlain in 1604. Observations at Quebec date back to 1642 and at Montreal to 1700. Owing to the voyages of the Hudson's Bay Company into Hudson Bay, magnetic observations were made as early as 1668 at Fort Albany and 1725 at York Factory. Captain Cook observed at Nootka, Vancouver Island, in 1778. Observations in Northern Canada and the Canadian Arctic were commenced in 1818 and continued for an entire century by such explorers and scientists as Parry, Franklin, Sabine, Ross, Lefroy, Greely, Amundsen and Stefansson. Although the magnetic investigations accomplished by many Arctic explorers have

equal rank, particular reference may be made to those of Ross, 1829-31, whereby he located the position of the North Magnetic Pole on the western coast of Boothia Peninsula at Cape Adelaide and those of Amundsen, 1903-05, which confirmed the general location of Ross's pole.

In 1880, the Topographical Survey Branch of the then Department of the Interior began to gather magnetic information chiefly pertaining to declination. The determination of the magnetic elements was an adjunct to the regular survey work of the Topographical Survey and being designed for immediate practical use did not always possess the degree of accuracy required for a mathematical discussion of the problem of the earth's magnetism. The Carnegie Institution of Washington, D.C., therefore, began sending scientific magnetic survey parties into Canada in 1905. These parties were withdrawn in 1913.

The Dominion Observatory, in 1907, recognized the importance to Canada of the science of terrestrial magnetism and instituted a systematic scientific magnetic survey of the country using instruments of the design approved by scientists of international renown. Since that time, the Observatory has established a network of base magnetic stations extending from Cape Race, Newfoundland, to Triangle Island, off the northwest tip of Vancouver Island, and from the Canada-United States boundary in the south to latitude 80° N. in Ellesmere Island. Over 1,200 magnetic stations have been established and at approximately 400 of these observations are repeated at roughly five-year intervals in order to record the secular change in the magnetic elements. In addition, several hundred declination stations have been occupied in Northern Canada during recent years by the Geodetic and Topographical Surveys.

The Dominion Observatory maintains at present, two permanent and one temporary magnetic observatories where continuous records are made of the changes in the earth's magnetic field.

The Toronto Magnetic Observatory began operations in September, 1840. The Observatory has been in continuous operation ever since and it is and has been one of the principal magnetic observatories of the world. In 1898, owing to the artificial disturbances due to electric streetcars in Toronto, Ont., the Observatory was moved 12 miles distant to Agincourt, Ont., where it still is in operation. Meanook Magnetic Observatory, about 90 miles north of Edmonton, Alta., was established in 1916. This Observatory has become invaluable in furnishing control to field observations made in Northern Canada. A temporary magnetic observatory was established at Baker Lake, N.W.T., in December, 1947, for the purpose of studying Sub-Arctic magnetic phenomena. The observatories at Agincourt and Meanook were operated by the Meteorological Service until December, 1936, when they were transferred to the Dominion Observatory. It should be noted that temporary magnetic observatories operated in 1882-83 at Fort Rae, near North Arm of Great Slave Lake, at Kingua Fiord, near Pangnirtung, Baffin Island and at Fort Conger in north Ellesmere Island. Fifty years later, in 1932-33, magnetic observatories were operated at Fort Rae and Chesterfield Inlet. In both these epochs the observatories were part of an international network established to study the earth's magnetic field in Polar regions.

The Dominion Observatory has given particular attention in recent years to the collection and subsequent analyses of magnetic data from the Canadian Arctic. Such information is essential to the construction of accurate and complete air navigation charts. A very interesting and important contribution to the science

of Terrestrial Magnetism relative to the position of the North Magnetic Pole is now possible as a result of the extension of the network of ground magnetic stations in the Arctic Islands. It is now definitely established that the North Magnetic Pole is no longer in Boothia Peninsula but has moved to a location near the northern part of Prince of Wales Island.

The magnetic data gathered by the Dominion Observatory is used in the mathematical analysis of the cause and effects of the earth's magnetism and in the construction of all magnetic charts of Canada for use of air and marine navigators, surveyors and prospectors. Base magnetic stations have been established in many of the important mining areas for which absolute values of the magnetic elements for any time can be supplied to geophysical prospectors. The magnetograms from the magnetic observatories afford measurements of disturbances which must be taken into account in the interpretation of magnetic surveys made in mining areas.

The necessity of more accurate and sensitive magnetic instruments required to undertake specific and highly specialized investigations has not been overlooked by the Division of Terrestrial Magnetism of the Dominion Observatory. An induction type universal magnetometer was designed and constructed in 1947. This instrument was severely tested in the environs of the North Magnetic Pole where it performed satisfactorily when the standard type magnetometer was useless.

It is expected that increasing use will be found in the future for instruments of this type and for certain purposes they may largely displace the older instruments

Airborne Magnetometers in Canada.—An important development in the field of Terrestrial Magnetism was made during the Second World War when instruments were devised for the measurement of total magnetic force from the air. While the original purpose of these devices was the detection of submarines they have since found useful application in magnetic surveying particularly in its application to geology.

The first use in Canada of an airborne magnetometer was initiated by the Geological Survey of Canada, when a trial demonstration in the vicinity of Ottawa, Ont., was made by officials of the United States Geological Survey in September, 1946. Partly as a result of this demonstration, development work in Canada carried out jointly by the National Research Council and the Geological Survey was brought to the point where a trial area of 3,000 square miles in the vicinity of Ottawa was surveyed during the latter part of 1947. Following the initial successful trials it is expected that the airborne magnetometer will be extensively used in the future as an adjunct to geological mapping and to assist in the discovery and interpretation of geological structures where more conventional methods have proved to be inadequate.

Similar types of airborne magnetometers were first used by commercial companies in 1947. During the year large areas have been surveyed in northern Ontario, northern Manitoba and along the north shore of the St. Lawrence River in Quebec. In addition, a large area was surveyed in Alberta and several thousand square miles in northern Ontario and Quebec.

A second type of airborne magnetometer was developed during 1947 by Hans Lundberg Geophysics Company of Toronto, Ont. This instrument is of the earth inductor type and is carried in a helicopter rather than the conventional type aircraft and is, therefore, more suitable for surveying small areas.

PART IV.—FAUNA AND FLORA

See list at the front of this edition for special material, under this heading, published in previous editions of the Year Book.

PART V.—LANDS, PARKS, SCENIC AND GAME RESOURCES

Canada is a comparatively new country with resources that are, for the most part, in the early stages of development. The fur, fishery and forest resources have, it is true, been the basis of trade for two or three hundred years, but exploitation on the present commercial scale is of relatively recent growth. Nevertheless, much effort has been directed to conservation in the cases of those resources that admit of such methods. Details of such policy are given in the chapters dealing with the individual resources.

Numerous surveys and investigations of the extent and value of the resources have been made from time to time and the results have been reviewed in special publications. Detailed information regarding individual natural resources will be found in the later chapters.

Section 1.—Lands Resources

1.—Land Area of Canada, Classified as Agricultural, Forested or Unproductive

NOTE.—The land area of Canada is shown classified by tenure in Chapter XXX.

Description	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
Agricultural Land (Present and Potential)—						
Occupied—						
Improved—Crops and summerfallow	741	906	1,366	9,600	14,972	14,211
Pasture	370	273	464	3,937	5,059	712
Other	41	90	100	623	849	435
Unimproved—Pasture	126	1,143	569	3,267	6,061	7,537
Forest (woodland)	493	3,243	3,455	9,317	6,039	2,390
Other	55	308	240	1,478	2,001	1,108
Totals, Occupied	1,826	5,963	6,194	28,222	34,981	26,393
Unoccupied—Grass, brush, etc	64	3,677	1,056	1,500	5,899	8,197
Forested	80	3,000	9,500	36,893	61,990	16,000
Totals, Unoccupied	144	6,677	10,556	38,393	67,889	24,197
Non-forested	1,397	6,397	3,795	20,405	34,841	32,200
Forested	573	6,243	12,955	46,210	68,029	18,390
Totals, Agricultural Land[1]	**1,970**	**12,640**	**16,750**	**66,615**	**102,870**	**50,590**
Forested Land—						
Softwood—Merchantable	90	4,600	5,000	202,080	36,900	1,830
Young growth	215	3,180	3,000	46,270	29,300	9,110
Mixed wood—Merchantable	150	820	7,000	24,880	24,100	1,100
Young growth	130	480	5,000	20,840	67,400	5,120
Hardwood—Merchantable	15	1,620	1,000	2,880	5,900	1,680
Young growth	10	850	1,000	5,750	10,200	11,600
Total Productive Forested Land	610	11,550	22,000	302,700	173,800	30,440
Unproductive Forested Land	[2]	50	190	69,590	63,400	62,500
Tenure—Privately owned	608	8,220	11,000	26,630	14,240	11,830
Crown land	2	3,380	11,190	345,660	222,960	81,110
Totals, Forested Land	**610**	**11,600**	**22,190**	**372,290**	**237,200**	**92,940**
Net Productive Land[3]	**2,007**	**17,997**	**25,985**	**392,695**	**272,041**	**125,140**
Waste and Other Land[4]	**177**	**2,746**	**1,488**	**131,165**	**91,241**	**94,583**
Totals, Land Area	**2,184**	**20,743**	**27,473**	**523,860**	**363,282**	**219,723**

For footnotes, see end of table, p. 29.

1.—Land Area of Canada, Classified as Agricultural, Forested or Unproductive—concluded

Description	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.[5]	Canada
Agricultural Land (Present and Potential)—	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
Occupied—					
Improved—Crops and summerfallow	52,454	29,422	1,038		124,710
Pasture	1,225	978	268		13,286
Other	1,911	1,046	89	4	5,188[6]
Unimproved—Pasture	30,962	29,290	2,885		81,840
Forest (woodland)	4,010	4,261	1,584		34,792
Other	3,127	2,624	438		11,379
Totals Occupied	93,689	67,621	6,302[7]	4	271,195
Unoccupied—Grass, brush, etc	8,391	24,019	2,948	10,065	65,816
Forested	23,000	45,000	11,450	4,000	210,913
Totals, Unoccupied	31,391	69,019	14,398	14,065	276,729
Non-forested	98,070	87,379	7,666	10,069	302,219
Forested	27,010	49,261	13,034	4,000	245,705
Totals, Agricultural Land[1]	**125,080**	**136,640**	**20,700**	**14,069**	**547,924**
Forested Lands—					
Softwood—Merchantable	1,500	7,700	35,400	4,200	299,300
Young growth	6,420	24,070	50,490	22,800	194,855
Mixed wood—Merchantable	2,000	9,360	[2]	1,000	70,410
Young growth	9,390	31,430	[2]	5,000	144,790
Hardwood—Merchantable	2,860	3,620	[2]	2,800	22,375
Young growth	23,890	16,880	[2]	11,200	81,380
Total Productive Forested Land	46,060	93,060	85,890	47,000	813,110
Unproductive Forested Land	40,000	37,560	128,560	76,000	477,850
Tenure—Privately owned	10,257	10,004	7,386	Nil	100,175
Crown land	75,803	120,616	207,064	123,000	1,190,785
Totals, Forested Land	**86,060**	**130,620**	**214,450**	**123,000**	**1,290,960**
Net Productive Land[3]	**184,130**	**217,999**	**222,116**	**133,069**	**1,593,179**
Waste and Other Land[4]	**53,845**	**30,801**	**137,163**	**1,325,715**	**1,868,924**
Totals, Land Area	**237,975**	**248,800**	**359,279**	**1,458,784**	**3,462,103**

[1] These totals embrace present agricultural land of all possible classes and land that has agricultural possibilities in any sense. [2] Very small or negligible. [3] Total agricultural land plus forested land minus forested agricultural land. [4] Includes open muskeg, rock, road allowances, urban land, etc. [5] The figures given are strictly estimates but are the best available until definite data are obtainable. [6] Includes 4 sq. miles of occupied land in Yukon and the Northwest Territories. [7] An estimate from provincial sources places the total area of land suitable for tillage at 6,626 sq. miles.

The figures of Table 1 are based on estimates from the Decennial Census of 1941 in regard to agricultural lands, the Dominion Forest Service as regards forested lands, and from the Surveyor General and Chief of the Surveys and Engineering Branch as regards total land areas of Canada and of the Provinces; they show how the land area is classified as between present and potential agricultural lands, present and potential forested lands, and lands that are unproductive as regards surface resources. Between the totals of present and potential agricultural lands and the totals of forested lands there is, of course, duplication to the extent of the agricultural lands under forest.

Section 2.—Parks and Other Areas under the Federal District Commission

The Federal District Commission, known as the Ottawa Improvement Commission previous to 1927, was established by Parliament in 1899 for the beautification and improvement of the city of Ottawa, Canada's Capital, by the construction and maintenance of parks and driveways.

In 1927, with the change in name, the scope of the Commission's operations was widened to include the adjoining districts, and its membership increased from eight to ten, including a representative of the city of Hull, Que. Subsequently the Commission was given the additional responsibility of maintaining the grounds of all Federal Government Buildings in Ottawa and vicinity.

Departments of the Federal Government from time to time ask the Commission to carry out improvements to the grounds of newly-constructed Government buildings on the basis of full reimbursement for the actual costs entailed. The Commission has the trained personnel and the special equipment required for such work.

Funds for the purposes of the Commission are provided by statutory grants and votes of Parliament.

By amendment to the Federal District Commission Act, 1946, the membership of the Commission was increased to nineteen, thus providing for a more national character in its composition by the provision for inclusion therein of a representative from each of the provinces of Canada.

In the cities of Ottawa and Hull and immediate environs, eighteen parks have been developed and, in addition, the large and beautiful area known as Gatineau Park, described under a separate heading below, has been established in the Laurentian Hills. Twenty-two miles of landscaped driveways have been built and are being maintained.

Details of parkland owned or controlled by the Commission are as follows:

Owned in Ottawa, Hull, and in immediate vicinity of these two cities (Undeveloped—1,017 acres)	1,325	acres
Leased from the Crown (Undeveloped—32 acres)	224	"
Leased from the city of Ottawa and maintained by the Commission	129	"
Total Forwarded	1,678	"
Grounds of Federal Government buildings maintained by the Commission	200	"
Total	1,878	"
Less undeveloped	*1,049*	"
Total Developed as Parks and Parkland	829	"

The National Capital Planning Committee, appointed by the Federal District Commission is presently engaged, in co-operation with an eminent landscape architect and town planner, in preparing a master plan for the further improvement and beautification of the National Capital District, as a memorial to Canadians who made the supreme sacrifice in the Second World War.

Gatineau Park.—Gatineau Park differs from the other National Parks by being under the administration and control of the Federal District Commission. The Park is situated in the Province of Quebec about 8 air miles from the Federal Capital. It comprises at present about 22,000 acres of wooded hills, valleys, lakes and streams located in the southerly fringe of the Laurentians, the oldest mountains in Canada, and is being preserved in its natural state for the enjoyment of the public.

The Park is a game sanctuary. Deer, bear, fox, beaver, mink, raccoon and other fur-bearing animals are quite numerous. Well-located trails, picnic spots and camping sites afford the maximum of pleasure and healthful recreation for the many thousands who patronize this beautiful natural park located at the very

doorstep of Canada's capital city. Gatineau Park furnishes excellent opportunities for the enjoyment of skiing and is the principal centre in the Ottawa district for this popular winter sport.

In the further development of this Park, it is expected that its area will be increased to 50,000 acres, that overnight cabins will be provided and that administration buildings, shelters, refectories, bath-houses and other essential structures will be added.

The Park is administered by a Superintendent and a force of five rangers who act also as game wardens, police constables and fire guards.

Section 3.—National and Provincial Parks

National Parks of Canada.* — The Federal Government maintains the National Parks of Canada as a means of preserving regions of outstanding natural beauty or marked interest. The parks are dedicated to the people of Canada for their benefit, education and enjoyment, for which they provide remarkable opportunities. Differing widely in character and varying in purpose, the park areas include: the scenic and recreational parks situated from the Rocky and Selkirk Mountains to the Atlantic Coast; the national wild-animal parks—areas established for the protection and propagation of species once in danger of extinction; and the national historic parks. The administration of the parks is directed by the National Parks Service of the Lands and Development Services Branch, Department of Mines and Resources, Ottawa. Maintenance of the park areas is carried out by the respective Park Superintendents and their staffs, and major developments by the Engineering Service. Also under the supervision of the National Parks Service are the historic sites of national interest that have been acquired throughout the country. (See pp. 78-90 of the 1938 Year Book.)

In the national parks all wildlife is rigidly protected, and, as far as possible, primal natural conditions are maintained. Biological conditions in park waters are under constant scientific supervision, and modern management procedures, including stocking and transfer of game fish, used to maintain or improve angling. Opportunities for outdoor life and recreation have been increased by the provision of equipped camp-grounds, bath-houses and playgrounds, as well as golf courses, tennis courts, hot mineral-spring swimming pools, and winter sports facilities. Accommodation is provided in many of the parks by modern hotels, bungalow cabins, and chalets operated by private enterprise. Rail, air and highway transportation systems serve the parks, and within the parks nearly 700 miles of highways and 2,500 miles of trails have been built to provide access to outstanding scenic regions. To assist in forest conservation and other aspects of park administration 1,188 miles of telephone lines have been constructed. A number of these lines link fire lookout towers and wardens' cabins with park headquarters, and in some of the parks two-way radio equipment is used to maintain communication between headquarters and actual fire-fighting operations.

Scenic and Recreational Parks.—The scenic and recreational parks include regions of superb beauty and grandeur in the Rocky and Selkirk Mountains of Western Canada. Among these are: in Alberta, Banff, Jasper, and Waterton Lakes National Parks, on the eastern slope of the Rockies; and in British Columbia, Kootenay and Yoho, on the western slope of the Rockies; Glacier and Mount

* Prepared under the direction of R. A. Gibson, Director, Lands and Development Services Branch, Department of Mines and Resources, Ottawa.

Revelstoke National Parks in the Selkirks. While these parks bear a general resemblance to one another, each possesses individual characteristics and phenomena, varying fauna and flora, and distinct types of scenery. Banff and Jasper Parks contain the famous holiday resorts Lake Louise, Banff and Jasper. Direct connection between these parks is provided by the Banff-Jasper Highway, one of the most scenic mountain highways in the world.

Eastwards from the mountains are Prince Albert National Park in Saskatchewan, a typical example of the forest and lake country bordering the northwestern plains region; and Riding Mountain National Park in Manitoba, a well-timbered area dotted with numerous lakes, at a general altitude of 2,000 feet above sea-level. In Ontario there are small parks established primarily as recreational areas. They are Point Pelee, Georgian Bay Islands, and St. Lawrence Islands National Parks.

In the Maritime Provinces, two remarkable areas have been established as National Parks. Cape Breton Highlands National Park, situated in the northern part of Cape Breton Island, N.S., has an area of 390 square miles. Its rugged and picturesque shore line, indented by numerous bays and coves, and its rolling mountainous interior provide a delightful setting reminiscent of Scotland. Girdled on its eastern, northern, and western sides by a modern highway called the Cabot Trail, and possessing such features as trails, beaches, tennis courts, and a golf links, the park offers many diversions to the visitor. Prince Edward Island National Park, containing an area of 7 square miles, extends a distance of about 25 miles along the northern shore of the island province. Its chief attractions are magnificent sand beaches which invite ocean bathing under ideal conditions. The park also contains "Green Gables", the farmhouse made famous by the novels of L. M. Montgomery. Well maintained golf links, tennis courts, camp-grounds and marine drives enhance its attractions.

A new National Park is now being established in New Brunswick. Title to an area of nearly 80 square miles is being provided by the Provincial Government, and development of the new area is taking place, including the provision of facilities for tourist accommodation and recreation. The park is situated mainly in Albert County and lies between the Goose and Upper Salmon (Alma) Rivers. It extends northward from the Bay of Fundy for a distance of about nine miles.

Wild Animal Parks.—While all of the National Parks are wild animal sanctuaries, two are maintained, primarily, for the protection of big game species such as buffalo, elk, moose and other deer. These are Elk Island National Park in Alberta, 30 miles from Edmonton, a fenced area containing more than 1,000 head of buffalo as well as large herds of elk, moose, and mule deer; and Wood Buffalo Park, an immense region of forests and open plains extending on each side of the boundary between Alberta and the Northwest Territories and containing a large herd of buffalo and other species of wildlife.

National Historic Parks and Sites.—Canada has nine National Historic Parks. All but one of these Parks are in Eastern Canada, and they preserve places of great historic interest in the early development of this continent. Three of these Parks are in the Province of Nova Scotia—Port Royal Habitation at Lower Granville on the Annapolis Basin; Fort Anne nearby; and the Fortress of Louisbourg on Cape Breton Island; Fort Beausejour is on the Isthmus of Chignecto in the Province of New Brunswick. In the Province of Quebec are Fort Lennox on Ile-aux-Noix in the Richelieu River and Fort Chambly, also on the Richelieu, at Chambly Canton.

Fort Wellington, overlooking the St. Lawrence at Prescott, and Fort Malden, at Amherstburg, are in the Province of Ontario; and lastly, Fort Prince of Wales, near Churchill, in Manitoba, is the most northerly fortress on the North American Continent.

The National Parks Service is also charged with the preservation, restoration and marking of historic sites throughout Canada. In the work of acquiring and selecting sites worthy of commemoration, the Service has the assistance of the Historic Sites and Monuments Board of Canada, a group of recognized authorities on the history of the section of the country they represent. Of the total number of sites that have been considered by the Board, 337 have been suitably marked by the Department of Mines and Resources and 216 other sites recommended for future attention.

2.—Locations, Years Established, Areas and Characteristics of the National Parks

Park	Location	Year Established	Area	Characteristics
			sq. miles	
Scenic and Recreational Parks				
Banff	Western Alberta, on east slope of Rockies.	1885	2,585·00	Mountain playground containing famous resorts, Banff and Lake Louise. Typical example of central Rockies, with massive ranges, ice-fields, alpine valleys, glacier-fed lakes and hot mineral springs. Big-game sanctuary. Recreations: climbing, motoring, riding, bathing, golf, tennis, fishing, skiing.
Yoho	Eastern British Columbia, on west slope of Rockies.	1886	507·00	Rugged scenery on western slope of Rockies. Contains wonderful Yoho Valley, with its numerous waterfalls; Kicking Horse Valley; Emerald, O'Hara, and Wapta Lakes; natural bridge. Alpine climbing centre.
Glacier	Southeastern British Columbia, on the summit of the Selkirk Range.	1886	521·00	Superb example of Selkirk Mountain region, with snow-capped peaks, glaciers, luxuriant forests, alpine flower-gardens, numerous big game. Illecillewaet and Asulkan Glaciers; Rogers Pass; and famed Macdonald tunnel.
Waterton Lakes	Southern Alberta, adjoining Glacier Park in Montana, U.S.A.	1895	204·00	Canadian section, Waterton-Glacier International Peace Park. Mountains noted for beauty of colouring; lovely lakes, picturesque trails, waterfalls. Recreations: motoring, riding, fishing, tennis, golf, camping.
Jasper	Western Alberta, on east slope of Rockies.	1907	4,200·00	Rich in historical associations. Immense region of majestic peaks, deep canyons, beautiful lakes, containing famous resort, Jasper. Also Miette Hot Springs, Maligne Lake, Mount Edith Cavell and Columbia Ice-field. Big-game sanctuary. Recreations: motoring, climbing, riding, bathing, fishing, golf, tennis, skiing.
Mount Revelstoke	Southeastern British Columbia, on the west slope of Selkirks.	1914	100·00	Alpine plateau on summit of Mount Revelstoke, accessible by spectacular 18-mile drive from Revelstoke. Contains mountain lakes, alpine flora, camp-sites. Game sanctuary; winter sports centre.
St. Lawrence Islands	In St. Lawrence River between Morrisburg and Kingston, Ont.	1914	190·00 (acres)	Mainland reservation and thirteen islands among "Thousand Islands". Recreational area; camping, fishing, bathing.

2.—Locations, Years Established, Areas and Characteristics of the National Parks —continued

Park	Location	Year Established	Area	Characteristics
			sq. miles	
Scenic and Recreational Parks—con.				
Point Pelee	Southern Ontario, on Lake Erie.	1918	6·04	Most southerly mainland point in Canada (41° 54′ N.). Recreational area with unique flora and fine beaches. Resting place for many migratory birds. Bathing, camping.
Kootenay	Southeastern British Columbia, on the west slope of Rockies.	1920	543·00	Mountain park bordering Vermilion-Sinclair section of Banff-Windermere Highway. Contains Sinclair Canyon, Radium Hot Springs, Marble Canyon. Big-game sanctuary. Recreations: motoring, bathing, camping.
Prince Albert	Central Saskatchewan, north of Prince Albert.	1927	1,496·00	Forested lakeland of northwestern Canada with extensive waterways and fine beaches. Interesting fauna; summer resort. Recreations: boating, bathing, fishing, camping, tennis, golf.
Riding Mountain	Southwestern Manitoba, west of Lake Winnipeg.	1929	1,148·08	Rolling woodland, with crystal lakes, on summit of Manitoba escarpment. Natural home for big game, including elk, deer, moose. Summer resort. Recreations: bathing, boating, fishing, tennis, golf, camping.
Georgian Bay Islands	In Georgian Bay, north of Midland, Ont.	1929	5·37	Thirty islands in Georgian Bay. Recreational and camping area, boating, bathing, fishing, on Beausoleil Island. Unique limestone formations and caves on Flowerpot Island.
Cape Breton Highlands.	Northern part of Cape Breton Island, N.S.	1936	390·00 (approx.)	Outstanding example of rugged coast line with mountain background. Remarkable views of Atlantic Ocean and Gulf of St. Lawrence visible from highway; Cabot Trail. Recreations: bathing, boating, golf, tennis, deep-sea fishing, camping.
Prince Edward Island.	North shore of Prince Edward Island.	1937	7·00	Strip 25 miles long on north shore. Recreational area with magnificent beaches. Contains famed "Green Gables" farmstead. Recreations: bathing, boating, fishing, golf, bowling, camping.
Wild Animal Parks				
Elk Island	Central Alberta, near Lamont.	1913 (Reserved 1906)	75·20	Fenced reserve containing a large herd of plains buffalo; also numerous deer, elk and moose. Recreational area at Astotin Lake; camping, boating, bathing, tennis and golf.
Wood Buffalo[1]	Partly in Alberta (13,675 sq. miles) and partly in Northwest Territories (3,625 sq. miles), west of Athabaska and Slave Rivers.	1922	17,300·00 (approx.)	Immense unfenced area of forests and open plains, dotted with lakes and coursed by numerous streams and rivers. Contains a large herd of buffalo, developed from the native "woodland" type and surplus plains buffalo from Buffalo National Park; also bear, beaver, caribou, deer, moose and waterfowl. Area as yet undeveloped.

[1] Administered by the Bureau of Northwest Territories and Yukon Affairs of the Lands and Development Services Branch, Department of Mines and Resources, Ottawa.

2.—Locations, Years Established, Areas and Characteristics of the National Parks —concluded

Park	Location	Year Established	Area	Characteristics
			acres	
Historic Parks				
Fort Anne.....	Nova Scotia (Annapolis Royal).	1917	31	Site of early Acadian settlement of Port Royal. Contains well-preserved fortifications of earthworks type; also museum housing a fine historical library and numerous exhibits relating to early periods.
Fort Beauséjour.....	New Brunswick, near Sackville.	1926	80	Site of French fort erected in middle of 18th century. Renamed Fort Cumberland by British on capture in 1755; original name since restored. Contains museum with many exhibits relating to history of region.
Fortress of Louisbourg.	Cape Breton Island, N.S., 25 miles from Sydney.	1941	340	Old walled city and strategic military and naval station built by the French, 1720–40. Captured by the British in 1758, it was destroyed in 1760. A museum on the site contains interesting mementoes of historic past.
Port Royal.....	Lower Granville, N.S., 8 miles from Annapolis Royal.	1941	17	Reconstruction on the exact site of the Port Royal "Habitation" erected by DeMonts and Champlain in 1605. The original group of buildings, which sheltered the first permanent European settlement in Canada, was destroyed in 1613.
Fort Chambly.....	Chambly Canton, Que.	1941	2·5	French fort first constructed in 1665 on Richelieu River. Rebuilt of stone in 1711, it figured in several wars. Contains a museum housing many interesting exhibits. A military cemetery outside walls of fort is included in park area.
Fort Lennox.....	Ile-aux-Noix, Que., near St. Johns.	1941	210	Military post constructed by British on site of early French fort, to command Richelieu River water route from south. Several well-preserved stone buildings together with the earthworks and moat remain.
Fort Wellington.....	Prescott, Ont.....	1941	8·5	Contains well-preserved earthworks, block-house and other buildings constructed by British as base for defence of communications between Kingston and Montreal. The block-house contains a small museum.
Fort Malden.....	Amherstburg, Ont..	1941	5	Situated on the banks of the Detroit River, the site of one of the principal frontier military posts in Upper Canada. A new museum building contains interesting exhibits of the region.
Fort Prince of Wales.	Northern Manitoba, near Churchill.	1941	50	Massive stone fort built 1733-71, to secure control of Hudson Bay for Hudson's Bay Company and England. The fort was captured and partially destroyed by a French force in 1782.

SUMMARY OF THE AREAS OF NATIONAL PARKS, BY PROVINCES

Province	Area	Province	Area
	sq. miles		sq. miles
Prince Edward Island	7·00	Saskatchewan	1,496·00
Nova Scotia	390·60	Alberta	20,739·20
New Brunswick	80·12	British Columbia	1,671·00
Quebec	0·33[1]	Northwest Territories	3,625·00
Ontario	11·72		
Manitoba	1,149·04	**Total**	**29,170·01**

[1] Not including area of Gatineau Park, 25 sq. miles in extent (see pp. 30-31).

Provincial Parks.—In addition to the National Parks already described, most of the provinces have established Provincial Parks. These parks, as in the case of the National Parks, are areas of great scenic or other interest maintained for the benefit of present and future generations. The Provincial Parks are administered by the Provincial Governments concerned, and in most cases they have not yet reached the degree of development which marks the National Parks. Following are brief descriptions of the principal Provincial Parks, by provinces.

Maritime Provinces.—There are National Parks in Prince Edward Island and Nova Scotia, and many civic parks, but none in any of the Maritime Provinces which comes within the classification of Provincial Parks.

Quebec.—There are five Provincial Parks in this Province, located in distinctive areas which enables each to offer some special interest. Like those in the other provinces, they have been established in order to preserve natural beauty and to protect the fauna and flora.

Laurentides Park is an area located a short distance north of the city of Quebec, and has an altitude of about 3,000 feet. It is remarkable for its numerous lakes, tumultuous rivers and fine speckled trout. Moose, deer, black bears, wolves, and all the fur-bearing animals of the Province abound here but no hunting is permitted. There are two well-organized hotels and about twenty fishing camps. Mount Orford Park is located on Orford Mountain, with an altitude of 2,860 feet. The slope of the mountain makes it one of the best skiing tests in Canada, and it also has a picturesque nine-hole golf course. Gaspesian Park has a flora representative of an era prior to the Great Continental Glacier. The main object of this park is to preserve the last herds of caribou on the south shore of the St. Lawrence. Speckled trout abound in the lakes and rivers of the Park. The Mont Laurier-Senneterre Road, Fish and Game Reserve, in the western part of the Province, is crossed on its full length by the road leading from Montreal to the Abitibi region. It is remarkable for its numerous lakes and rivers which provide favourable conditions for long canoe excursions. Fish include grey trout, northern pike, pickerel, black bass, and, in a limited number of lakes, speckled trout. There are two establishments for the accommodation of travellers, also a stopping place maintained by the Department of Game and Fisheries where cabins and boats may be rented.

Acreages of these parks in square miles are given below:—

Park	*Sq. Miles*	*Park*	*Sq. Miles*
Laurentides	3,670·00	Trembling Mountain	1,204·00
Mont Laurier-Senneterre Road, Fish and Game Reserve	2,800·00	Gaspesian	340·00
		Mount Orford	21·00

Total ..... *8,035·00 square miles*

Ontario.—There are six Provincial Parks in Ontario. With the exception of Ipperwash Beach Park, which is maintained exclusively for camping, picnicking and swimming, they are all dedicated primarily to the preservation of the forests, fish, birds, and all forms of wild life. The recreational possibilities which they provide are varied and extensive. A statement of the acreages of the Provincial Parks is given below.

Algonquin Park is a wilderness area accessible by highway from the southern boundary and by Canadian National Railways from both the north and south boundaries. There are first-class hotels and good camping facilities, with excellent fishing and attractive canoe trips. Quetico Park, also a wilderness area, affords good camping facilities, fishing and canoe trips. Lake Superior Park is another wilderness area. Camping facilities have not yet been provided nor canoe routes defined but there is good fishing. Sibley Park is a wilderness area as yet without camping facilities. Rondeau Park is partly cultivated, with fine timber stands and highly developed camping facilities. There are some enclosed animals and others running wild: fishing is fair and special duck shooting licences are obtainable. There are no canoe routes in this park. Ipperwash Beach Park consists of sandy beach and woodland area with highly developed camping facilities. There are no wild animals, but the fishing is fair. Special fishing licences are available in Algonquin and Quetico Parks.

Park	*Sq. Miles*	*Park*	*Sq. Miles*
Algonquin	2,741	Ipperwash Beach	109
Quetico	1,770	Sibley	61
Lake Superior	540	Rondeau	8
Total	*5,229 square miles*		

Manitoba.—Although Manitoba has many areas attractive to the sightseer and vacationist, the Province has as yet established, officially, only one which may be described as a Provincial Park. This is the area set aside in 1930 as the Whiteshell Forest Reserve, a rugged section of the Precambrian part of eastern Manitoba. The physical characteristics of this area account for its distinctiveness as a recreational, fishing and hunting reserve. More than 200 lakes and several rivers provide a network of canoe routes throughout the park. Lichen-covered rock cliffs rise steeply from the water and much of the land is rough, hilly and thickly forested with the contrasting green of pine, spruce, poplar, birch and tamarack. Although much of the northern Whiteshell remains in its primitive state, several southern lakes have been developed as resorts. West Hawk, Falcon, Caddy, Brereton, and White Lakes have become most popular. Fishing is an outstanding attraction of the Whiteshell Forest Reserve, with northern pike, pickerel, lake trout, bass and perch the most prevalent species. A large sport-fish hatchery with a capacity of 500,000 eggs was constructed in 1942. Game-bird and big-game hunting have long been popular in northern Whiteshell, though much of the southern portion has been set aside as a game preserve. Early maps show that La Vérendrye was the first white man to explore what is now the Whiteshell Forest Reserve. In 1734, he followed the turbulent Winnipeg River, which roughly outlines its northern boundary. Manitoba's "Land of the Granite Cliffs" has had a colourful past and plans for new scenic highways in this region promise it an interesting future.

Other forest reserves in the Province have important recreational values and are being developed. The Singoosh Blue Lakes area in the Duck Mountain Forest Reserve has been of local importance for camping and fishing and a road is under construction to Wellman Lake, the largest lake in this Reserve.

An area of 3 sq. miles in the Turtle Mountain Reserve has been made into a portion of an International Peace Garden.

A list of the Provincial Forest Reserves with acreages is given below:—

Forest Reserves	*Sq. Miles*	*Forest Reserves*	*Sq. Miles*
Duck Mountain	1,426	Spruce Woods	224
Whiteshell	1,078	Sandilands	189
Porcupine	775	Turtle Mountain	109
Cormorant	580		
Total	*4,381 square miles*		

Saskatchewan.—Saskatchewan's nine permanent park reserves are distributed over the southern part of the Province. They are well treed and contain many beautiful lakes providing facilities for quiet recreation, camping, hiking, fishing and boating. A short description and acreages of these parks is given below:

Cypress Hills Park, south of Maple Creek and a few miles from the United States boundary, is beautifully located in the heart of a provincial forest area; this park has modest bungalow, lodge and cabin accommodation, and an auto-camp equipped with camp kitchens, spring water, and wood for fuel. Moose Mountain Park, an area honeycombed with lakes and thickly covered with poplar and white birch, is located about 15 miles north of Carlyle, and is popular with visitors from the United States because of its fine scenery and good fishing. Katepwa Park, about 60 miles northeast of Regina, on the famous Qu'Appelle Lakes, has camp kitchens and bathhouses and offers boating, fishing and safe bathing. Good Spirit Lake Park, 20 miles west of Canora, also offers good fishing and bathing, and has excellent camp and picnic grounds with kitchen and bath-house. Greenwater Lake Park in the forest belt north of Kelvington consists mainly of virgin forests and lakes affording good bathing and fishing. Little Manito Park on Manitou Lake, is renowned for its medicinal qualities: chateau, cabin, and tourist-camp accommodation are available. Duck Mountain Park, 15 miles northeast of Kamsack, presents a well-forested area and beautiful Madge Lake, which has a shore line of 47 miles, densely wooded and with sandy beaches. Wildlife is plentiful and the lake is well stocked with fish.

Park	*Sq. Miles*	*Park*	*Sq. Miles*	*Park*	*Sq. Miles*
Lac La Ronge	1,140·00	Duck Mountain	81·00	Good Spirit Lake	5·98
Nipawin	252·00	Greenwater Lake	34·75	Little Manito	0·37
Moose Mountain	152·00	Cypress Hills	17·00	Katepwa Point	0·03
Total	*1,683·59 square miles*				

Alberta.—Although Alberta has a larger area of National Parks than any other province, many small park areas have also been set apart by the Provincial Government. The acreages of the parks are given below.

Aspen Beach Park on the shore of Gull Lake, west of Lacombe, is primarily for bathing, outing and picnic purposes; Saskatoon Island Park west of Grande Prairie has been reserved mainly for picnic purposes; Gooseberry Lake Park, on the shore of Gooseberry Lake, north of Consort, has a sports ground and a number of cottages, and accommodation for transients is available in the town of Consort; Lundbreck Falls Park is a pleasant little beauty spot on the Crowsnest Pass High-

way west of Macleod, popular with fishermen and motorists; Sylvan Lake Park, on the shores of Sylvan Lake, 11 miles west of Red Deer, is a popular bathing place; Hommy Park, in the vicinity of Albright, was established to serve residents of the district with picnic and outing facilities; Ghost River Park, is on a beautiful artificial lake on the Ghost and Bow Rivers, west of Calgary; Park Lake Park provides picnic facilities for the districts north and west of Lethbridge; Assineau Reserve, on the Assineau River south of Lesser Slave Lake, is set aside to preserve a fine stand of large spruce; Dillberry Lake Reserve, on the Alberta-Saskatchewan boundary near Chauvin, was established to preserve the natural beauty of a picturesque lake; Writing-on-Stone Reserve, on the Milk River east and north of Coutts, was established to preserve natural obelisks on which appear hieroglyphics which have never been deciphered; Saskatoon Mountain Reserve has a fine lookout point in the Grande Prairie district; Little Smoky Reserve is a picnic ground and big-game hunting base on Little Smoky River, 12 miles south of Falher; Bad Lands Reserve, north of Drumheller, was established to stop unauthorized removal of fossilized remains of pre-historic animals; Wapiti Reserve, on a canyon in the Wapiti River ten miles south of Grande Prairie, is an outing centre for the rural district and also for the use of big-game hunters.

Park	*Sq. Miles*	*Park*	*Sq. Miles*	*Park*	*Sq. Miles*
Saskatoon Mountain Reserve	4·69	Gooseberry Lake	0·50	Park Lake	0·06
Bad Lands Reserve	2·81	Saskatoon Island	0·39	Little Smoky Reserve	0·06
Writing-on-Stone Reserve	1·24	Rochon Sands	0·20	Wapiti Reserve	0·04
Ghost River	0·84	Sylvan Lake	0·01	Aspen Beach	0·03
Elkwater Lake	0·59	Dillberry Lake Reserve	0·12	Lundbreck Falls	0·02
		Taber	0·07	Hommy Lake	0·01
				Total	*11·68 square miles*

British Columbia.—With its spacious scenic areas, no province is richer in potential park areas than this Province. British Columbia has 3 classifications of parks: Class A, 18 in number, of high recreational value; Class B, large parks allowing multiple land use are 4 in number; Class C—a community-type park contains 27 areas. These 49 parks have a combined area of 11,481 square miles. In addition, there are five Special Act Parks with a total area of 5,415 square miles.

Mount Seymour Park near Vancouver and Manning Park on the Hope-Princeton Highway are two of the most important Class A parks and provide both summer and winter recreational opportunities. Both Tweedsmuir and Wells Gray Parks are in Class B and possess outstanding mountain, lake and river scenery as well as some of the finest fishing and big-game in the Province. Tweedsmuir Park is the largest wilderness park in North America. Garibaldi Park, a short distance from Vancouver, is the most outstanding of the Special Act Parks. This rugged alpine area of peaks, glaciers and snow-fields is famous for its meadows of vivid wild flowers and strange geological features. Liard River Park on the Alaska Highway and Strathcona Park in the centre of Vancouver Island are other Special Act Parks rapidly coming into prominence. The smaller Class C parks are strategically located throughout the Province to provide many communities with opportunities for convenient outings. The following statement gives acreages of all the Provincial Parks:—

Park	Sq. Miles
Tweedsmuir	5,400·00
Hamber	3,800·00
Liard River	2,816·00
Wells Gray	1,820·00
Garibaldi	957·21
Strathcona	828·00
Mount Robson	803·00
Earnest C. Manning	267·97
Kokanoe Glacier	100·00
Silver Star	34·50
Mount Assiniboine	20·00
Mount Seymour	13·25
Summit Lake	11·25
Darke Lake	8·74
Elk Falls	4·02
Sooke Mountain	2·26
Beatton	1·20
Keremeos Columns	1·13
Wendle	1·00

Park	Acres
Mount Maxwell	491·00
Mount Bruce	480·00
Princeton	341·00
MacMillan	337·00
Stamp Falls	324·00
Chasm	315·00
Clearwater	260·00
Englishman River Falls	240·00
Crescent Beach	237·00
Swan Lake	166·00
Premier Lake	165·00
Little Qualicum Falls	130·00
Nakusp Hot Springs	127·00
John Dean	98·37
Nakusp Recreation	91·00
Salt Lake	87·00
King George VI	50·00
Kitsumgallum	25·00

Park	Acres
Kitty Coleman Beach	21·40
Oliver	21·00
Peace Arch	16·15
Mara Recreation	15·00
Sir Alexander Mac-Kenzie	13·00
Elk River	10·00
Westview	10·00
Osoyoos	7·00
Inonoaklin	5·00
Lockhard Beach	5·00
Testalinda	5·00
Manitou	2·00
Memory Island	2·00
Westbank	2·00
Brentwood Bay	1·00
Dead Man's Island	1·00
Strombeck	1·00

Total..... 16,895·99 square miles

Section 4.—Game and Scenery

The resources of Canada from the standpoints of the sportsman and tourist are both unique and varied. In the wooded and unsettled areas there are caribou, moose, deer, bear and smaller game, while in the western part of the Dominion there are also wapiti, mountain sheep, mountain goat, and grizzly bear. Mountain lion or cougar, are found in British Columbia and in the mountains of Alberta, while in the northwest and far north there still exist herds of buffalo and musk-ox, which are given absolute protection by the Federal Government.

Ruffed grouse or "partridge" are found in the wooded areas of Canada from coast to coast. Sharptail grouse or "prairie chicken" inhabit the open prairies and the partly timbered areas of the three mid-western provinces. The Franklin grouse is native to the mountains of the west; the ptarmigan, an Arctic grouse, lives in the treeless northern plains and is also found in the high mountains of Alberta and British Columbia.

The valleys of Nova Scotia and New Brunswick, the broken lake-country of northern Quebec, Ontario, Manitoba and Saskatchewan, as well as the mountain districts of British Columbia and Alberta, offer a variety of attractions that have won for Canada a reputation as a paradise for sportsmen and campers. Not only are these attractions available to those who travel by land and air, the lakes and rivers that form a network over the eastern part of the country particularly, make water travel in smaller boats or canoes feasible and attractive. Further, winter sports, the unusual attractions of winter scenery and the bracing though rigorous winter climate, may be enjoyed at many winter and year-round resorts. In both National and Provincial Parks, while angling is permitted, the hunting of game is forbidden, and the wildlife resources preserved.

Migratory Birds Treaty.—The Migratory Birds Treaty and the legislation making it effective throughout Canada are administered by the National Parks Bureau of the Department of Mines and Resources and the Royal Canadian

Mounted Police. The Treaty, which has been effective since 1916, has as its object the protection of the valuable migratory bird life of Canada and the United States. Information concerning the Treaty, and regulations enacted for its enforcement, may be obtained from the Controller, National Parks Bureau, Department of Mines and Resources, Ottawa.

PART VI.—CLIMATE, METEOROLOGY, ETC.

Section 1.—Climate

At page viii at the front of this volume under the heading "Climate and Meteorology" the articles that have appeared in previous editions of the Year Book are listed. Many of the statistical compilations that accompany those articles were built up on the basis of long term averages and are still of value but, in recent years, the science of climate and weather has advanced considerably and a great many more stations for the collection of data have been established across the Dominion. This is especially true of the period since 1939 and the rapid growth of aviation.

The current article on the Climate of Canada, Part I of which is given below, represents a more comprehensive treatment than has previously been carried in the Canada Year Book.

THE CLIMATE OF CANADA*

NOTE.—This article, the first that has appeared in the Year Book on this subject since 1929, is planned in two Parts. Part I, here presented, discusses very comprehensively the Climatic Regions of Canada. Part II which will appear in a later edition will present detailed tabulations of data on climatic factors for a wide range of stations across Canada.

There are many types of climate in Canada. This is to be understood from its position as the northern half of a continent and its area, stretching from the northernmost island of the Arctic Archipelago (only 490 miles from the North Pole) to Middle Island in lat. 41°41'N. at the southwest end of Lake Erie.

A time in winter might be found when a flight from Louisburg in Nova Scotia to the northwestern tip of Yukon, southward to the southern tip of British Columbia then eastward to the starting point, would, over the more than 9,000 miles covered in about 48 hours time, experience weather similar to that simultaneously occurring in Siberia, England, Italy, parts of China and Japan.

The climate of a country of such wide expanse affects living conditions and industry everywhere within its area. There are definite advantages which Canadians enjoy in the possession of a variety of climate such as this, but there are also disadvantages. Under each of the headings designating the Climatic Regions given below, the effects of climate upon local conditions, especially in relation to the land and agriculture, are dealt with rather fully. However, climate also affects urban life, although its applications here are not so capable of descriptive treatment. As an example, however, much progress has been made in recent years in the introduction of artificial modifications of climate to processes of manufacturing and definite benefits have accrued. This applies particularly to the textile industries, to certain photographic processes of reproduction and to many other activities.

* Prepared under the direction of Andrew Thomson, O.B.E., M.A., Controller, Meteorological Division, Department of Transport, by A. J. Connor, M.A., Head of Climatological Section.

Developments are also well advanced in humidifying offices and homes and in this process both temperature and water-vapour content of the air are brought under control.

The expense involved for both temperature and humidity control is naturally heavy where wide extremes of temperature are common. For instance, the amount of fuel consumption necessary to maintain a temperature of 65°F. in winter is very closely proportional to the difference between this temperature and the outside air, all other factors, such as type of construction and size of building, being equal. The problem resolves itself into making up the deficit of heat required to maintain a building at a certain temperature, say 65°F. in any particular locality. Such a deficit is expressed by engineers and others in day-degrees and calculations show that in Victoria, B.C., for instance, a deficit of 4,935 day-degrees must be made up to maintain the winter temperature of 65°F., whereas, for Vancouver, B.C., the figure is 5,303 and for Prince Rupert, B.C., 6,195. This means that annual fuel consumption would be 8 p.c. more at Vancouver, B.C., and 25 p.c. more at Prince Rupert, B.C., than at Victoria, B.C. At Toronto, Ont., a fuel bill for a standard building such as that under consideration would be 47 p.c. more than at Victoria, B.C., at Montreal, Que., 68 p.c. more and at Halifax, N.S., 50 p.c. more.

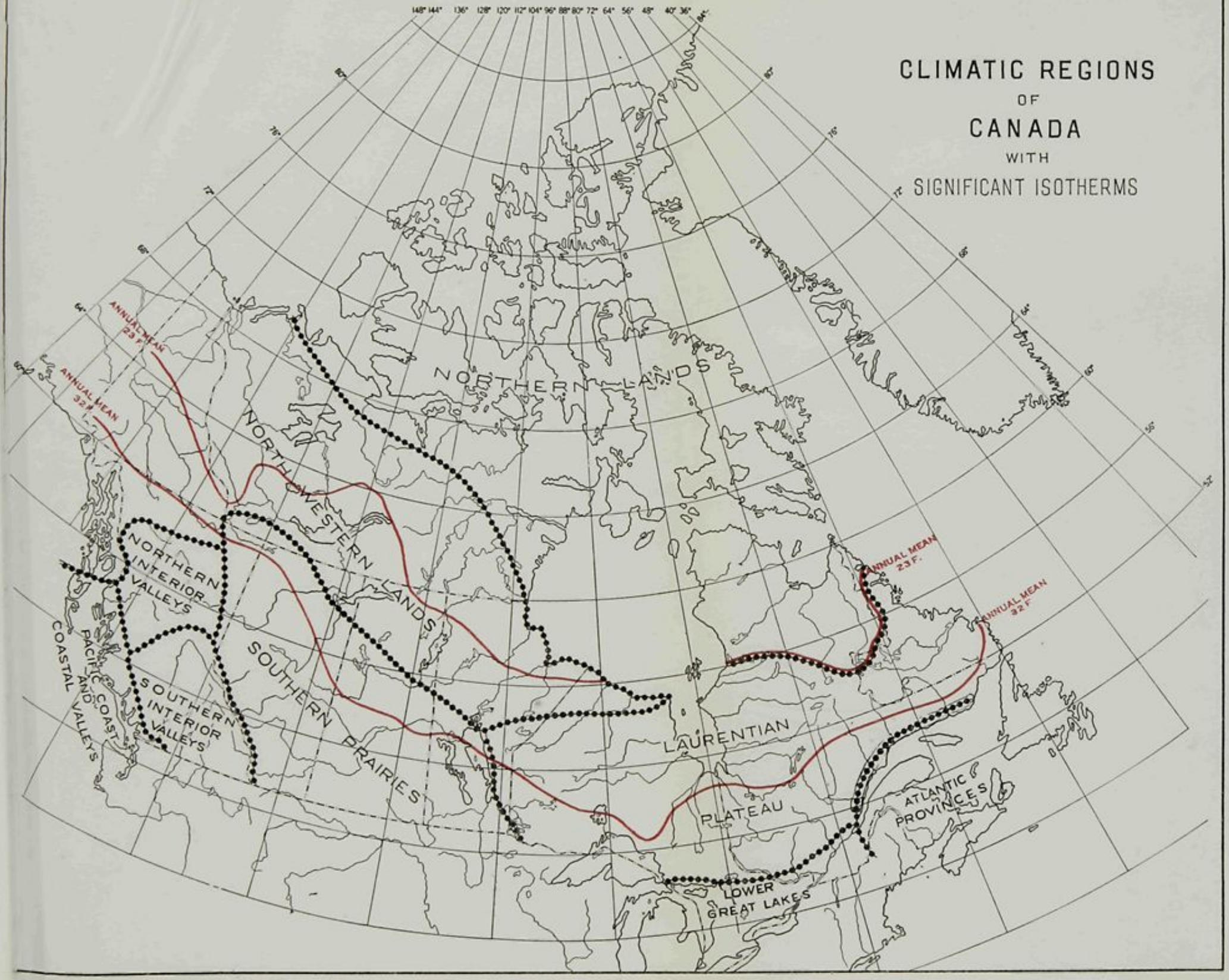
The above examples relate only to temperature, but water-vapour content is also an important consideration. As a generality, it may be assumed that 94 grains of water vapour must be mixed with each pound of dry air at 65°F. to reach 100 p.c. relative humidity. On the Pacific Coast there are normally 31 grains per pound available outdoors in January. After such air has entered the building and been heated to 65°F., the relative humidity indoors will be 31/94 or about 33 p.c. On the prairies with only 4 grains of water vapour per pound in the outside air, living conditions indoors are at a relative humidity of about 5 p.c. unless water vapour is artificially added. In the Lower Great Lakes Region the corresponding relative humidity is 14 to 17 p.c. on the average in January, and much the same in the Atlantic Provinces.

Problems in summer time are of exactly opposite character. As air is cooled it is necessary for comfort to dispose of surplus humidity. Such problems, while within the domain of the heating and ventilating engineer, depend on practical climatology for their solution.

The Meteorological Service of the Federal Government is also called upon to supply special data in the fields of medicine and chemistry. Aeronautical engineers require precise data on the conditions that exist in different levels of the upper air, etc.

From what has been said, it will be obvious that the continental expanse of Canada cannot be dealt with other than as a number of Climatic Regions, within each of which seasonal changes are sufficiently similar so that they can be dealt with as a unit, while important contrasts with other Regions are emphasized.

These Climatic Regions are (1) The Atlantic Provinces of Prince Edward Island, Nova Scotia and New Brunswick but including the Gaspe Pensinsula of Quebec; (2) The Laurentian Plateau within the areas of Quebec, Ontario and Manitoba; (3) The Lower Great Lakes or the area lying between Lakes Huron and Ontario, north to the Ottawa River and southward to Lake Erie with an extension along the St. Lawrence River to Quebec City; (4) The Southern Prairies (approximately as far north as the North Saskatchewan River); (5) The Southern Interior Valleys of the Mountains of British Columbia; (6) The Pacific Coast and Coastal Valleys;


CLIMATIC REGIONS
OF
CANADA
WITH
SIGNIFICANT ISOTHERMS
NORTHERN LANDS
NORTH WESTERN LANDS
SOUTHERN PRAIRIES
NORTHERN INTERIOR VALLEYS
SOUTHERN INTERIOR VALLEYS
PACIFIC COAST AND COASTAL VALLEYS
LAURENTIAN PLATEAU
LOWER GREAT LAKES
ATLANTIC PROVINCES
ANNUAL MEAN 23 F.
ANNUAL MEAN 32 F.
ANNUAL MEAN 23 F.
ANNUAL MEAN 32 F.

(7) The Northern Lands including the Arctic Archipelago; (8) The Northwestern Lands including most of the area drained by the Mackenzie River and the Yukon River. These Climatic Regions loosely correspond to well-known orographical and geological regions but it is not possible to follow them very closely in defining boundaries. The boundaries of the Climatic Regions are not sharply defined, chiefly because the changes in the character of the seasons through a long period of years correspond to recurring shifts of the climatic borders. The outstanding features of each of these Regions are briefly described below.

The Atlantic Provinces

Temperature.—The Atlantic Provinces, which might be expected to have a purely maritime climate, are served principally by air moving eastward off the North American Continent. The climate is, therefore, continental in character. This is easily proved by the fact that the mildest lowlands of these Provinces average only 15°F. to 25°F. in January and February, while the milder portions of the Pacific Coast average 35°F. to 40°F. in these months. The coldest day ordinarily expected in an average winter on the Bay of Fundy averages zero or a little lower for twenty-four hours but the coldest day ordinarily expected at Vancouver, B.C., will average 22°F. or 28°F. at Victoria, B.C. This difference of twenty degrees, or more, arises from the arrival of cold waves by an ocean route to the maritime areas of British Columbia but by a land route to the Atlantic Provinces. Again, in the Atlantic Provinces there is a greater difference between the temperature of the coldest and warmest months of the year. At Gaspe, Que., there is a difference of 52°F. between the temperature of January and of August, and 42°F. at Saint John, N.B., and Halifax, N.S. Compare these figures with a difference between midwinter and midsummer of only 13° to 20°F. on the outer coast of British Columbia and 20° to 26°F. along the Gulf of Georgia. The prevailing drift of air from the land to the ocean also helps to increase the warmth of the Atlantic Provinces in summer by allowing air which has been strongly heated on the southern portion of the Continent to create occasional hot spells with a southwesterly wind. The effect is seen in the average temperature of 65°F. at Halifax, N.S., in July or August. This may be compared with 54°F. to 58°F. on the outer coast of Vancouver Island. Only the inner coastal valleys of British Columbia can approach this warmth in midsummer. While the continental character of the Atlantic Coastal Region, as compared with the Coastal Regions of British Columbia and of Europe, is, of course, not pronounced in the same sense as that of the continental interior, yet the interior highlands of the Atlantic Provinces exhibit this character more obviously. These highlands are scarcely mountainous but they rise to flat-topped hills exceeding 3,000 feet in the Gaspe Peninsula and to uplands exceeding 2,500 feet in northwestern New Brunswick. Ridges which lie just north of the Bay of Fundy rise to 1,200 feet in some places. Ridges or plateaux of 1,200 feet also occur on Cape Breton Island while on the mainland of Nova Scotia ridges or hills look down 700 to 1,000 feet to tidewater. Very cold polar air entering this Region from the north does not warm readily during slow passage especially when the ridges are snow-covered. On at least an occasional night in January and February in any average winter it may be expected that the temperature will drop to 30°F. below zero in the northwestern

New Brunswick highlands, and to 20°F. below zero in the southern valleys and to 10°F. below zero on the Bay of Fundy. These are not the extreme lowest temperatures of record but only the average low points of all winters recorded. Among the lower ridges of Nova Scotia 15°F. or more below zero may be expected and 5°F. below zero at Halifax, N.S. Yarmouth, N.S. temperature will, ordinarily, not descend to zero, but 10°F. below zero may be expected on Prince Edward Island.

Occasional temperatures between 80°F. and 90°F. may be expected every year in June, July, and August in all districts and also in late May and early September in the interior of New Brunswick. To offset these high temperatures of summer there is the ever-present danger, during a spring or autumn inflow of polar air, of local frosts amid the interior valleys. Air which has been cooled on the many-faceted hills by nocturnal radiation to a clear sky on a calm, cloudless night descends easily towards the lowlands. The difference in temperature early in the night between ridge and valley may be so great that the gain in heat caused by compression during descent is not enough to bring the descending air up to the temperature of the air on the valley-floor. The descending air is, therefore, denser and will raise the warmer valley air completely off the floor. As cooling of the ground by outgoing radiation continues, the cooler and denser air gravitates to hollows and flats which cannot discharge this denser air to still lower ground. In these places, with blocked or poor drainage, local frosts may occur but often such places have rich soil and are, therefore, preferred for agriculture to the less fertile well-drained slopes. Low temperatures occur in valleys and in cranberry bogs due to cool-air drainage from the surrounding slopes. Frequently, fog collects over the low-bush cranberry but does not protect the berries from danger from this cold air flowing down the slopes and settling beneath the bank of fog. The situation can be met by flooding the bogs from reservoirs on the slopes above. Such flooding would not, of course, be practicable in other than bog areas.

Most frost-free are the lands in this Region along the shore of the Bay of Fundy with an average of 155 to 165 days continuously without frost. Grand Manan Island averages 177 days. Coastal points in Nova Scotia are frost-free for lengthy periods, Yarmouth for 159 days, Halifax 155 days, Pictou and Port Hastings 153 days, Digby 152 days, but around the bay at Sydney only 137 days. Islands of small size have long frost-free periods; St. Paul Island 155 days, Grindstone in the Magdalen Islands 156 days, and Sable Island 204 days. In the valleys the period is shorter. Back of the ridge which faces the Bay of Fundy in New Brunswick, Sussex averages 105 days and frost has occurred as late as June 20. Further into the interior of New Brunswick places with good drainage, especially to water surfaces, average 125 days while poor sites average less than 100 days. The difference between coast and interior in northern New Brunswick is well shown by Chatham with 133 days while Kedgewick has only 72 days. In the upper St. John valley, Edmundston, Grand Falls, and St. Leonard have 112 to 115 days. In Nova Scotia, the Annapolis Valley, where apples are largely grown, has frost-free periods varying from 98 days at Middleton to 139 at Annapolis Royal and 148 at Wolfville. In among the highlands looking down towards Halifax and the sea, at Mount Uniacke, there are 97 frost-free days, at Upper Stewiacke 93, and only 77 at Stillwater, but Truro has 105 days and Liverpool 108 days. On Prince Edward Island local variations are smaller: there are 135 frost-free days in the extreme northwest and 149 to 157 elsewhere. These local frost-free periods play an important part along with soils and markets in helping the agriculturist to decide upon what crops or mixture of crops will best pay for labour in his locality.

Precipitation.—In this Region, precipitation is usually ample for most purposes; 50 to 60 inches of water annually on the wetter outer coast of Nova Scotia, 40 to 45 inches on the Fundy shore and in the interior of Nova Scotia; 32 to 40 inches in New Brunswick, in the interior and north, and the same in Prince Edward Island. Of this annual total 7 to 10 inches arises from the water-content of freshly-fallen snow, the larger figure belonging to the interior of New Brunswick and the Gaspe Peninsula, Que. In these northern sections the proportion of precipitation in the form of snow is large in midwinter and good accumulation of snow in the forested highlands is advantageous for lumbering but fails in some winters. Years with least snowfall, especially in Nova Scotia, are marked by a more maritime character of the winter. Intrusions of polar continental air into the Region become less frequent or weaker and are replaced in part by a flow of air from a southerly direction moving along the Atlantic seaboard. In the more extreme cases the air moves up from the tropical areas of the Atlantic, almost wholly by a sea-route. Almost every year brief incursions of such air will occur for a day or two with temperatures higher than 50°F. in Nova Scotia in January and 45°F. to 50°F. at least in February, but the mildness is less effective in New Brunswick. When in winter, air of this character is followed immediately by fresh polar air moving southward or southeastward through Quebec and New England, U.S.A., very stormy weather ensues. Tropical air in summer brings uncomfortable humidity which is comparable to the most trying humidity of the Lower Great Lakes Region. Temperatures then reach 85°F. to 90°F. or higher during the day, in air with such a heavy content of water vapour that the humidity condition reaches 100 p.c. as soon as the evening-cooling reduces the temperature below 75°F. Such conditions are usually of much shorter duration in the Atlantic Region than in southern Ontario. The maximum incidence of fog, June to August, coincides with the chilling of moist, southerly air by the cold, coastal waters.

The following statement gives typical temperatures and precipitation of this Region:

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
Station	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Charlottetown, P.E.I.	17·8	65·6	98	−27	3·76	2·98	39·47	119	52
Annapolis Royal, N.S.	24·4	64·4	89	−13	4·20	3·40	41·41	115	30
Fredericton, N.B.	13·5	66·1	101	−35	3·87	3·53	42·80	108	55

The Laurentian Plateau

General Description.—The area known as the Canadian Shield covers nearly 2,000,000 square miles extending from Lake Superior westward to Lake Winnipeg, northward to the shores of the Arctic Ocean, and includes the territory eastward to the Labrador Coast, except the Hudson Bay and James Bay Lowlands. The southern limit in the east runs close to the Ottawa River and the north shore of the St. Lawrence River and Gulf. Climatically, this Shield is too large to be consid-

ered as one region. In this article the southern limit of permanently frozen subsoil is regarded as the northern limit of the eastern position of the Laurentian Plateau Region.* While a sufficient number of actual borings to determine accurately the position of this boundary have not been made yet, such data as are available indicate that the subsoil is permanently frozen along the annual isotherm of 22°F. or 23°F. This line runs from the main fork of the Nelson River to near the mouth of the Severn River which empties into Hudson Bay. On the east coast of Hudson Bay it begins near the mouth of the Great Whale River and runs to the divide between the St. Lawrence and Ungava Bay drainages near latitude 55°, reaching the Labrador Coast at Hebron. Since the region so defined lies immediately north of the earliest and most populous settlements in Canada, it might be supposed that the pressure of population would have carried settlers north in great numbers onto the Laurentian Plateau. This is not so, since the land is naturally unsuited to agriculture, partly on account of the nature of the soil but largely because the short frost-free period involves too great a hazard of failure.

Temperature.—There are in this Region extensive areas of glacial clay and sediments suitable for successful agriculture if there were a satisfactory continuously frost-free period. Unfortunately, summer outflows of polar air pass southward over the cold waters of the inland sea with very little modification and, this dense air settles into the valleys and depressions where the arable soils lie. Night radiation from rocky hills and ridges to a clear sky and subsequent drainage of chilled air to the low levels further increase the danger of frost. The length of the period continuously free from frost, therefore, varies considerably with the topography: for instance, at White River, surrounded by low hills, the average is only 42 days — from June 26 to Aug. 8 — at Hornepayne, to the north of White River, the average frost-free period is even lower being only 34 days, that is from June 29 to Aug. 2 (frost has occurred in many years in July). Where agriculture has been reasonably successful there are lower levels to which the frosty air may drain; for instance, at Haileybury, on the shore of the comparatively large Lake Timiskaming, the frost-free period rises to 123 days, certainly a long enough period for ordinary agriculture, but at Heaslip, a short distance north of Haileybury, the period falls to 71 days.

The most successful attempts at agriculture have been in the region of Lake Timiskaming and the continuation of this valley northward to Cochrane. Along this stretch of territory the most suitable sites have an average of 85 days continuously frost-free. Even the fast drainage along long rivers appears to be favourable since Kapuskasing, on the Kapuskasing River, averages 79 days.

Along the north shore of Lake Superior fast drainage of cold air towards that Lake is favourable for the lengthening of the frost-free period. At Port Arthur, there are 117 frost-free days and at Kakabeka Falls, 95 days. Similar effects occur near Lake Nipigon where at Cameron Falls the average is 106 days. The effect of proximity to large lakes is also shown by the splendid record of 127 frost-free days for Kenora, in the Lake of the Woods area. By contrast, Savanne, about 75 miles to the northwest of Port Arthur, averages only 32 days and Longlac, about 100 miles further on, only 46 days.

* From the point of view of possible agriculture this Climatic Region is considered to include the whole of the territory around James Bay even if it is not everywhere geologically similar to the Laurentian Plateau. The maximum effect of the water of James Bay in lengthening the frost-free period is indicated by the record at Moose Factory which is on an island of the Moose River. This place averages 87 days free from frost from June 15 to September 10. By contrast the station at Great Whale River on the opposite shore of James Bay averages only 54 days and at Fort George only 72 days.

It seems, therefore, that the choice of land for agricultural settlement must be very carefully made to avoid disaster. In the section of the Laurentian Plateau Region which lies in the Province of Quebec, similar very large variations are found in the frost-free period according to locality. An eighteen year record at Doucet, along the Canadian National Railway, 356 miles northwest of Quebec city, showed an average of 28 frost-free days from July 3 to July 31. On the other hand, near large lake-surfaces or close to swiftly running streams there have been points of observation where the frost-free period has averaged 75 to 125 days.

In the central and western districts of this Climatic Region, January averages 5 to 10°F. below zero, while the warmest month of the year averages 57 to 65°F. Occasionally, really warm days may be expected in any year in June, July, and August when the temperature may exceed 85°F.: there have, moreover, been rare occasions during the period of record when a few points have recorded temperatures between 100 and 110°F.

Precipitation.—There is sufficient precipitation over the Laurentian Plateau; this averages 30 to 40 inches annually over the greater portion of the Quebec sections and 22 to 30 inches in the districts which lie in the Province of Ontario. Coincident with the boundary on the north of this Climatic Region, that is, the annual isotherm of 23°F., there is a sharp fall in the quantity of the annual precipitation. At or near this line, the annual amount falls below 16 inches. The peak of annual precipitation occurs in July, generally exceeding three inches but in some localities five inches. The increase in the rate of precipitation is noticeable in most years early in May, while the diminishing rate at the close of summer becomes quite noticeable in October. The exception is found along the north shore of the Gulf of St. Lawrence where there is another maximum of precipitation in the winter. This arises from the drift of saturated or near-saturated air across the Gulf of the St. Lawrence against the steep slopes of the north shore. A somewhat similar peculiarity is limited to the steep slopes leading down to Lake Superior north of Sault Ste. Marie. Here there is heavy snowfall in the winter months. This is indicated by an annual total snowfall at Steep Hill Falls of 174 inches. In general, over the whole Region the annual snowfall contributes 5 to 10 inches of water towards the total annual precipitation.

While this Climatic Region is not eminently suitable for agriculture, it is valuable because of mineral and forest wealth and its potential and developed water power. The resulting industries have created populous towns and villages and the climate is not regarded as unduly severe by the inhabitants.

The following statement gives typical temperatures and precipitation of this Region:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
Station	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Mistassini Post, Que.	−3·2	62·2	95	−56	2·01	4·05	33·22	92	57
Haileybury, Ont.	6·6	66·3	102	−48	2·01	3·79	31·58	102	78
Kapuskasing, Ont.	−1·7	62·4	101	−53	2·00	3·43	27·59	95	93

The Lower Great Lakes

Temperature.—The winters in the Climatic Region of the Lower Great Lakes are mildest around Lake St. Clair, on the north shore of Lake Erie, in the Niagara Peninsula, and along the western shores of Lake Ontario. The coldest winters occur on the ridges between Lakes Huron and Ontario and east of Georgian Bay into the highlands between the Ottawa and St. Lawrence Rivers. The incidence of late and early frosts during the agricultural season conforms fairly well to the same pattern of distribution. In the Lake St. Clair and western Lake Erie area the average length of the frost-free period is 160 to 195 days; in the Niagara Peninsula 165 to 170 days; and on the western shore of Lake Ontario 165 days, but the period diminishes rapidly upslope to the west, and within a distance of less than twenty miles is reduced to 150 days. In poor situations, on the ridge between Lakes Huron and Ontario, particularly near marshes or along the now dry bed of glacial streams, the average continuously frost-free period is 130 days or less. The highlands in northern counties consist of narrow plateaux 1,200 to more than 1,700 feet above sea-level which can drain cooling nocturnal air into the intervening bottoms. Only where these lower lands have a good slope towards the Great Lakes, as is shown by swiftly-flowing streams, is the average frost-free period not greatly reduced.

Precipitation.—The Region of the Lower Great Lakes differs considerably from the Pacific Coast and the Prairies in having no marked wet season or dry season. There is in most years sufficient precipitation for successful agriculture. In occasional years portions of this Region have suffered mild droughts but generally there is dependability. Rain and snow may be expected in winter months with snowfall contributing a considerably larger proportion of the moisture than rainfall on the highlands in that season.

That part of this Climatic Region which lies east of the confluence of the Ottawa and St. Lawrence Rivers but mainly south of the St. Lawrence toward Quebec city, has slightly higher annual precipitation. In about one-half the years of record, there has been a noticeable seasonal maximum of precipitation in one of the months from June to September. On the other hand, between Lake Huron and the Ottawa River any slight annual peak of precipitation is as likely to be found in midwinter as in midsummer. This is an indication that the eastern districts of this Climatic Region at times form an extension of the Laurentian Plateau Region. This change of type is also indicated by the shorter length of the continuously frost-free period. This period falls off from about 150 days near the Ottawa-St. Lawrence confluence to 110 to 130 days in the townships south of the St. Lawrence River. The dependability of these townships for the cultivation of tender crops is, therefore, about the same as that of the northern portion of the Huron-Ontario ridges. It is, however, distinctly better than that of the interior of the eastern area of Ontario lying between the Ottawa and St. Lawrence Rivers. Here a spur of the Canadian Shield crosses southward to the St. Lawrence River to reappear again in upper New York State, and in the vicinity of this spur some points average less than 100 days continuously frost-free.

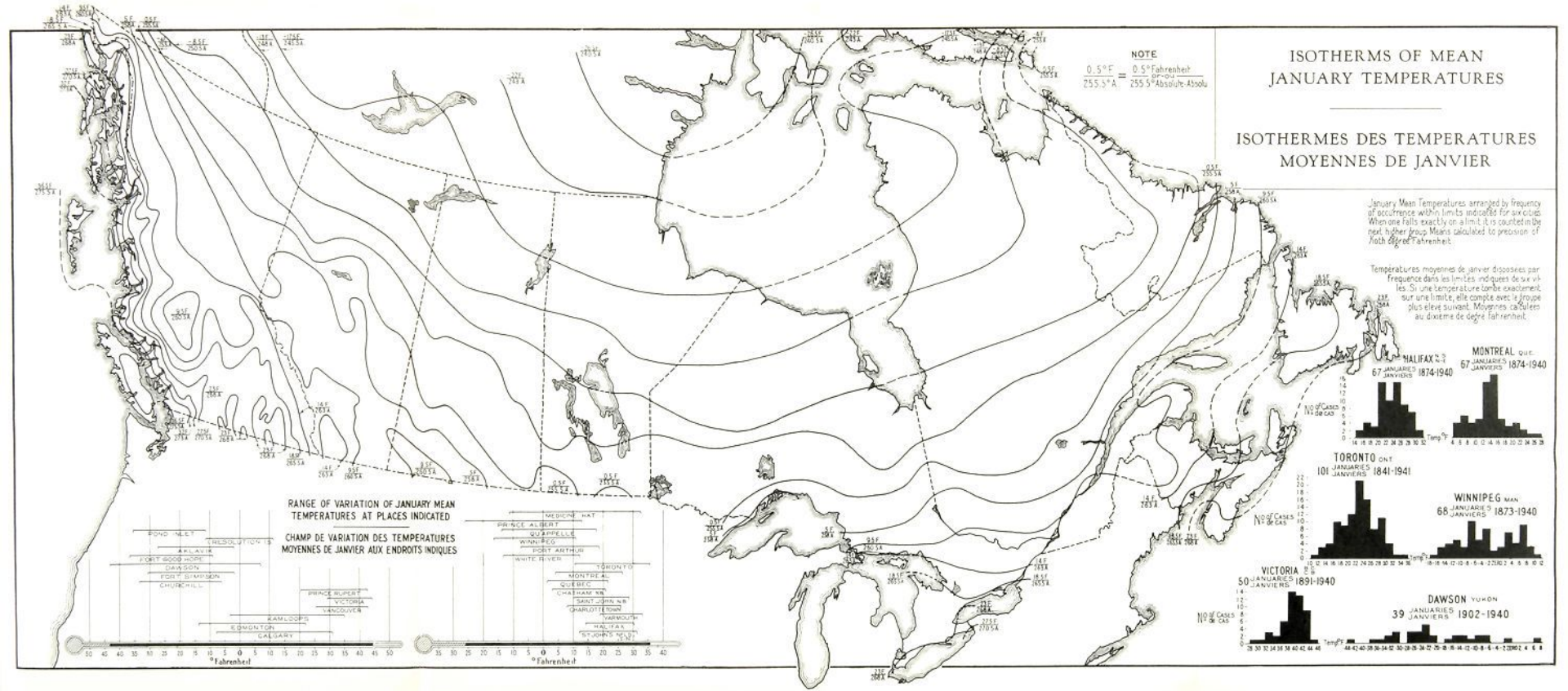
On the interior plateaux snowfall accumulates steadily in some winters during January and February and absorbs occasional light rainfalls with regelation in the intervals. Should a very heavy rainfall then occur in March or early April with rapidly rising temperatures, there will be almost total run-off of the rain from the icy highlands, followed by run-off of the disintegrating mixture of snow and ice.

ISOTHERMS OF MEAN JANUARY TEMPERATURES

ISOTHERMES DES TEMPERATURES MOYENNES DE JANVIER

NOTE

$\frac{0.5°F}{255.5°A} = \frac{0.5°\text{Fahrenheit}}{255.5°\text{Absolute Absolu}}$



January Mean Temperatures arranged by frequency of occurrence within limits indicated for six cities. When one falls exactly on a limit, it is counted in the next higher group. Means calculated to precision of tenth degree Fahrenheit.

Températures moyennes de janvier disposées par fréquence dans les limites indiquées de six villes. Si une température tombe exactement sur une limite, elle compte avec le groupe plus élevé suivant. Moyennes calculées au dixième de degré Fahrenheit.

Spring floods thus occur in occasional years but in Ontario, along the Grand River Valley, remedial works have been undertaken to contain the flow over a sufficiently long period to minimize flood damage to the lowlands.

The Lower Lakes Region is traversed alternately by: (a) Cool, dry polar air from the north; (b) Pacific polar air that has become warmed and somewhat moister on the western portion of the continent; (c) Continental polar air returning quickly from the south and generally intermediate in character to (a) and (b); (d) Subtropical air, carrying by far the most water vapour and generally warm for the season. Alternations may be expected to occur about every three days with precipitation occurring at the margins of the moving airmasses, and measurable rain on 10 to 14 days per month from May to October. In the winter months rain may be expected on 4 to 10 days per month, the smaller number of occurrences being in January and February. Additional days with snowfall bring the number of days with precipitation in the winter months to 14 on the lowlands but to 18 or 20 on highlands facing Lake Huron, since cold air crossing an open lake surface is quickly saturated with moisture and will precipitate a portion of this vapour when it cools (below the higher dew-point which it acquired over water) by impinging on and climbing a cold highland. This process takes place most readily on the slopes facing Lake Huron and Georgian Bay. Rain in winter on the other hand requires incursions of subtropical moist air (generally aloft over colder air). The chance of this occurrence diminishes northward and at North Bay near the northern boundary of this Climatic Region the most likely numbers of days with rain are only 2 in January or February and 3 in March, but 6 in December or April. The character of the winter depends very much on the relative frequency of incursion by the types (a) to (c). Thus, Toronto in 105 years, has had a January which averaged more than 35°F. and also a January which averaged little more than 10°F. For the same reason in this Climatic Region, the accumulation of snow on the ground during and at the end of winter varies widely from year to year, but is generally more dependable on the higher ridges. Variation in the frequency of types (a) to (c) in a summer month can produce one of uncomfortably humid heat, one of mostly dry heat with relieving sharp drops of temperature at night or an unseasonably cool month with too much cloud and rain and disappointingly slow growth of those crops which demand high temperatures for maturity. The variations which have the greatest agricultural importance on the highlands of this Region are those of spring. A wet, cool spring which delays planting, endangers the harvest because only a portion of the normally short frost-free period is then available for growth. Prudence will then dictate such changes in agricultural plans as may seriously reduce possible income. The whole Lower Great Lakes Region is generally good for dairying. The Niagara District is best suited for fruit; the Lake Erie slopes are best for tobacco and field-vegetables for canning, but even tobacco may be grown near Lake Simcoe on suitable southern slopes, and hardy fruit almost anywhere if soils are favourable. Peaches, apricots, and sweet cherries, demanding a long frost-free period, are limited, commercially, to the Niagara District and a portion of the area to the west along the Lake Erie shore. Tobacco may also be grown in the Quebec extension of this Region.

The following statement gives typical temperatures and precipitation of this Region:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
Station	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Lennoxville, Que.	12·8	66·2	99	−48	3·46	4·12	39·56	104	60
St. Catharines, Ont.	26·0	71·1	104	−12	2·30	2·39	27·03	99	37
Ottawa, Ont.	11·9	69·6	102	−35	2·93	3·39	34·23	98	47

The Southern Prairies

There appears to be a widespread impression that the Canadian Prairies are a nearly level plain and that, therefore, the climate must vary little over its whole extent. Actually, this Region might better be described as a very wide slope deeply cut by rivers and marked by escarpments and plateaux and merging in the west with the foothills of the Rocky Mountains.

Temperature.—On the Prairies in winter, while all cold spells are caused by an outbreak of polar air, the cold wave may pass quickly southeastward to be replaced by a flow of much milder air from the west or southwest. On the other hand, with a steady flow of very cold air crossing the polar seas into Canada, the cold spell may last several weeks with little relief. In some winters a month may elapse with polar air mostly moving southward by way of the north Pacific Ocean and entering the Prairies after considerable warming during long travel. There have been cases where such a month has averaged more than 25°F. warmer than a normal winter month over a large area in Alberta, and 10°F., or more, warmer over the remainder of the Prairies. These cases do not exhaust all the possibilities, for polar air has in some winter months followed mostly a path across the Arctic Archipelago to Hudson Bay and northern Quebec. In such cases, while Manitoba and Eastern Canada experience very cold weather, Saskatchewan and Alberta are mainly fed by warmed returning polar air from the southeast or Pacific polar air from the west. The character of the prairie winter is, therefore, very variable from year to year, and dependent upon the path and direction of air flowing through the polar regions and the amount of precooling which it has undergone before reaching the Prairies. The great variations in summer temperatures are indicated in the remarks upon the lack of dependability in rainfall on p. 52. Great daytime heat is generally the accompaniment of drought. Contrariwise, although the advent of cool waves may bring welcome rainfall, they may also bring at least scattered frosts. These will follow the rain after the warm, moist air has been lifted off the land and replaced by the cool dense air of the cool wave. During the clear following night the coolest air gravitates to all places which are relatively lower than the surrounding land. If there is no further drainage possible and there is no wind to mix the bottom air with the warmer air above, the continued loss of heat by radiation from the land to the transparent sky may bring frost to the depressed places before sunrise. Only a limited portion of the Southern Prairies has an average continuously frost-free period of 100 days or more. This period diminishes northward to less than 70 days immediately north of the North Saskatchewan River. There are, of course, some places in an otherwise rather frosty region which have an unusually long frost-free period. In these places the lower land is occupied by a water-area, such as a lake

or a widening in a river. The cooling, dense air can flow out upon the water-surface, thus draining continuously the surrounding terrain. The warmer air raised off the water-surface, if there is no wind, will move slowly backward towards the nearby slopes. The effect is limited, of course, by the extent of the water-surface. Crops planted upon the depressed soil formerly occupied by an ancient lake or river-widening which is now dry land, suffer the full effect of the cold-air-drainage to this portion of land. There are, therefore, many local anomalies both above and below the general average length of the frost-free period in each district. The general effect is to limit seriously the character of plants which may be successfully grown on the Prairies. Wheat and coarse grains which can withstand light frosts at the beginning of the season and suffer only a lowering of quality by light frosts just prior to harvesting, are the principal crops of the Prairies. Except in Alberta, the menace of frosts even to these crops becomes very serious north of the North Saskatchewan River, elsewhere than along lakes or rivers. In Alberta, districts with frost-free periods averaging 90 to 100 days may be found as far north as the Peace River Valley if attention is paid to the local air-drainage.

The Chinook.—One of the most striking features of the weather of this Region occurs in winter. This is that spectacular change from bitter cold to comparative warmth, generally called the 'chinook'. It is most pronounced in southern Alberta from which area have come occasional news pictures of the inhabitants playing tennis in midwinter in a district where not many hours before the temperature had been severely cold. Not all 'chinooks' bring temperatures quite so high but the contrast between the temperatures of one day and the next may be very striking. The greatest contrast occurs when a severe prairie cold wave has occupied western Alberta and eastern Saskatchewan for one to three days with temperatures well below zero and the whole mass of very cold air accelerates suddenly towards the southeast. In this case, air from the Pacific Ocean which has been lying over the coast and filling the intermontane valleys of British Columbia moves eastward, crossing the Rocky Mountains. While the denser low levels of the Pacific air can reach the plains of Alberta only with great difficulty, usually moving northward through the intermontane valleys, yet the dry upper levels of the Pacific air cross readily enough, descending into eastern Alberta. The temperatures produced at Lethbridge and Medicine Hat will depend upon the characteristics of the particular body of Pacific air which moves east from British Columbia. If the temperature at sea-level on the Pacific Coast had been in the neighbourhood of 40°F., the temperature of levels around 5,000 feet will, after descent to 3,000 feet among the Rocky Mountain foothills, reach a temperature of approximately the freezing point. This may represent a sudden gain of 50 degrees and, since the air is usually very dry, the sun shines brightly, the temperatures rise in the afternoon, while the snow lying on the ground is rapidly lost to the warmer, drier air by sublimation. On the second day, if the ground is bare, it will again be heated to a considerable extent by the brilliant sunshine so that the afternoon temperature on this day may reach 50°F. in February, for at least an hour or two at Lethbridge. If the body of Pacific air has been lying over the State of Washington, northern Oregon, and southern Idaho, U.S.A., for some days with bright sunshine, before moving northeastward into western Montana State and southern Alberta, the temperature of the air coming through the passes of the Rocky Mountains and the Bitterroot Mountains may be much higher than the 50°F. quoted for Lethbridge, in fact, 66°F. in February and 65°F. in January have been recorded for that city. The effect of the 'chinooks' is

not usually so spectacular at Edmonton but if the Pacific air spreads over the whole of the Prairies, a general mild spell is produced which is a welcome relief from the cold wave which preceded it.

The lower layers of the Pacific airmass are gradually cooled as they move eastward across the Prairies, particularly when in contact with snowy ground, while at the same time the air will have picked up as much moisture as it can carry at the temperature which it acquires during travel. Its power of licking up snow from the ground therefore rapidly diminishes. In the Western Provinces there is a general tendency to measure the extent of the 'chinook' by the area which is wholly or partly denuded of snow and from this point of view the eastern margin of a 'chinook' will rarely be distinguishable beyond the Saskatoon-Swift Current line.

Precipitation.—The Southern Prairies in direct contrast with the Pacific Coast, have a rainy season from late May to early September and a dry season during the late autumn, the winter and early spring. The rainfall is moreover not dependable from year to year. It is principally caused by the action of summer cool waves from the Arctic regions. Moving southward these lift warm, moist air which has accumulated on the Prairies. The cooling due to the lifting, may produce general rains or local thundershowers. General rains, the more unusual phenomenon, come from the lifting of extensive moist airmasses moving northward from the Mississippi Valley and adjoining regions. Local showers, more common, arise from local ascent into a dry, cold upper airmass. Failure of frequent excursions of cool northern air into the Southern Prairie Region during the summer produces droughts. The districts most subject to drought extend from southeastern Alberta into southwestern Saskatchewan. By contrast, the Red River Valley of Manitoba and the Edmonton district of Alberta have the most dependable precipitation. In the Southern Prairies the highest annual precipitation occurs on the Manitoba lowlands and in the foothills of the Rockies where it ranges from 20 to 25 inches. The peaks of thunderstorm-frequency occur in these two regions, more than 20 days of thunderstorms annually in southeastern Manitoba and more than 25 days in western Alberta. Planting of wheat sometimes begins in southern Alberta in late March and generally proceeds at successively later dates eastward and northward: the average date at which wheat appears above ground in southeastern Manitoba is about April 25. These dates are subject, sometimes, to considerable delays because of short periods of wintry weather with precipitation in spring. Planting may, therefore, not be completed till the first week in May or, in some sections the planting of spring wheat may be abandoned in favour of the planting of coarse grains because of the lateness of the season. If, however, sowing is accomplished in good time, early commencement of spring rains is generally imperative if a good yield of grain is to be expected. When the rains are delayed, the topsoil dries out rapidly leaving the seedlings subject to being blown out by the strong winds of late spring. Blown-out soil may often be replanted with success if good rainfalls occur in late May. It is not unusual, however, for spring rains to be disappointingly light or spotty and June may commence with little rain. Crops then depend upon July rains and if these are again poor and spotty, the results are disastrous—only less so are those years when the early summer rains cause rapid growth and high hopes which are dashed by heat and drought in July. Drought or years of little rain appear on the average to be associated with the time of sunspot maximum, while good rains appear to be associated with years at or near minimum of sunspots. There is, however, no regular or dependable correlation with the course of the sunspot period, and, therefore, no seasonal predictions of rainfall can

be made to assist the western farmer in planning his annual operations. Statistically, there appears no proof that sunspots cause weather anomalies but perhaps some common cause produces loosely correlated changes in both sunspots and climatic factors.

The following statement gives typical temperatures and precipitation of this Region:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
Station	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Winnipeg, Man.	−3·1	66·9	108	−54	0·92	3·08	21·19	67	53
Regina, Sask.	−0·7	64·8	107	−56	0·51	2·38	14·70	59	54
Medicine Hat, Alta.	12·0	69·3	108	−51	0·63	1·68	12·81	56	45

The Southern Interior Valleys of British Columbia

Temperature.—In the Okanagan Valley the average daily lowest temperature is above the freezing point by March 20 in most of the southern portion and by April 1 at the northern end of Okanagan Lake. It is generally possible to fight occasional frosts by the use of oil-fired or coal-fired heaters spaced through the orchards. As an aid to the fruit-growers, a special frost warning service has been maintained in these valleys so that a prediction may be broadcast by radio stations early in the evening. The most severe frosts, fortunately comparatively rare, accompany the arrival of arctic air by land-route through Yukon and adjoining regions into northern British Columbia and thence into the southern interior valleys. Cases have been noted where about 3 a.m a drop of six degrees has occurred in an orchard within half-an-hour. In such cases, if more heaters are quickly brought into operation, enough air turbulence may be created to mix this very cold air with the warmer air at treetop level.

The Nicola Valley experiences daily minimum temperatures 3° or 4°F. lower than those of the Okanagan Valley in midsummer and 4° to 7°F. in the winter and early spring. The generally higher elevation of the Nicola Valley is partly responsible for the difference and the valley is best noted for cattle-ranches of very large extent.

In the Kettle Valley, arable lands are 1,750 to 2,500 feet above sea level, and the average length of the period continuously frost-free is too short in most places to encourage the growth of fruit. At Greenwood the average is 76 days, at Rock Creek 96 days, but at Grand Forks it is 134 days. Around Grand Forks there is a district where considerable fruit is grown but Kettle Valley is more subject than the Okanagan Valley to severe cold during short periods in the winter. This has some effect in limiting the varieties of fruit which may be successfully grown. Although the West Kootenay District does not attain quite as high an average temperature during the daytime of midsummer as the Kettle Valley, yet night temperatures in March are 2° to 6°F. higher than in the Kettle Valley and the nights of late September and early October are not so cool.

In the East Kootenay District average daily lowest temperature does not rise above the freezing-point until April 15, or later. At Cranbrook there are only, on the average, 79 days continuously frost-free. Farther north in the vicinity of Lake Windermere the frost-free period averages from 94 to 114 days.

In winter, the general trend of the valleys from north to south frequently allows quite cold air from northern British Columbia to flow southward. In the most eastern valleys, there are occasions when extremely cold air may enter from the Prairies either by passage directly through the passes of the Rockies or subsidence of the higher levels of the western face of a cold wave from the Prairies.

Precipitation.—The Southern Interior Valleys of British Columbia suffer from scanty rainfall so that there is no marked seasonal variation except that of temperature. In general, the Coast Range prevents the moist lowest layers of air off the Pacific Ocean from reaching the interior, except in a much modified condition. Principally, the drier high levels of Pacific air cross the coastal mountains and descend by a complex and very variable process into these Interior Valleys. Much of the comparatively small amount of water-vapour available for precipitation is as snow, deposited on the interior mountain ridges during the rainy season of the coast. By conservation of the run-off in summer from melting snow of the mountains, in storage-lakes and reservoirs, irrigation by gravity-systems is widely practised in the valleys. Where gravity-systems are not feasible, electric power may be developed from the fall of streams issuing from storage-lakes and this power can be used to pump water from lakes on the valley-floor to agricultural lands on fertile benches along the mountain slopes. On the whole, with ingenious use of the orographical features of the mountainous interior, the scarcity of rainfall may be overcome and even made advantageous. In this Region, summer heat may reach scorching proportions in the daytime, especially when dry air has travelled northward through the interior valleys of the Pacific lands of the United States to enter southern British Columbia.

In the valleys of the interior of this Region the annual precipitation is subject to wide variations at different locations. It varies between an average of 8 inches in the Okanagan Valley to 17 inches in the West Kootenay District and 19 inches at Salmon Arm.

The following statement gives typical temperatures and precipitation of this Region:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
Station	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Kamloops, B.C.	21·9	69·9	107	−31	1·04	0·99	10·20	67	23
Nelson, B.C.	24·4	66·4	103	−17	3·47	1·62	27·77	102	32
Penticton, B.C.	26·8	68·3	105	−12	0·98	0·79	10·85	83	22

The Pacific Coast and Coastal Valleys

Temperatures.—In the Pacific Coast and Coastal Valleys Region the period continuously free of frost on the outer coast as far north as the most northern portion of Vancouver Island is generally 220 to 230 days. Northward along the coast the period shortens to 170 to 200 days. Where the inlet, however, runs far inland or where the observing point is in the lee of a low coastal ridge, the period varies considerably. Much depends upon the local air-drainage; for instance, in the Queen Charlotte Islands, Ikeda Bay has, on the average, 218 days continuously frost-free while Massett, which is inland a short distance, has an average of only

168 days. Again, Prince Rupert, which is on an island, averages 195 days but nearby Port Simpson only 169 days. An occasional year is entirely free from frost in some localities.

On the inner coast of Vancouver Island, on the islands of the Gulf of Georgia, at the mouth of the Fraser River, and in the inlets of the southern mainland, the frost-free period exhibits considerable local variation. Along the shores of the southeastern portion of Vancouver Island there are places which average 250 days continuously free from frost, while generally at moderate heights on the east face of the same slopes the length of the period falls to 175 days at an elevation of 500 feet. Such points, of course, are mostly on inner tablelands or at the low levels of valleys occupied by streams or lakes. Locally, pools of cool air may collect at these places with a possibility of the formation of frost in the early spring and late autumn.

Along the northern reaches of east Vancouver Island and among the northern islands the frost-free period varies locally from 154 to 231 days. Among the inlets of the southern mainland the continuously frost-free period varies locally from 183 to 250 days and along the lower Fraser Valley from 178 to 231 days.

The coldest month in this coastal Region is January when temperatures average 40°F. on the outer coast of Vancouver Island and 38°F. or 39°F. along the Strait of Juan de Fuca. Northward along the east coast of Vancouver Island and at the mouth of the Fraser River it is two or three degrees cooler. Near the head of the lower Fraser Valley the average temperature of this month falls to the freezing point while along the northern stretch of the coast north of Vancouver Island the mean temperature varies very much as one penetrates an inlet. It is generally about 35°F. at the mouths of the inlets and as low as 25°F. at the heads of very long inlets. The warmest month is either July or August, averaging only 58°F. on the outer coast but up to 65°F. at the head of the lower Fraser Valley. It is difficult for the temperature to rise very high along or near the coast since the sea-breeze cuts in and lifts the heated air high above the coastal valleys in the early afternoon of the summer. With distance from the coast along the lower Fraser River the energy of the sea-breeze is dissipated and, when conditions are favourable, temperatures may well exceed 90°F. On an average of about once in fifteen years a cold wave similar to those experienced on the Prairies moves into far northern British Columbia and, following the general north-south trend of the valleys in the interior, may reach the coast, bringing temperatures to zero or lower for at least a day in the southern coastal region. Along the north coast and on the Queen Charlotte Islands such an event may occur somewhat oftener, say once in ten years, although there is no regular periodicity of occurrence.

Precipitation.—The Pacific Coast and Coastal Valleys have a wet season which begins approximately in the last week in September and ends about the middle of March. By contrast, there is a marked dry season in June, July, and August. The winter is mild because cold waves from the polar regions almost always traverse a broad expanse of the Pacific Ocean before impinging on the coast. The summers are generally cool because the general movement of air from the west is prevented from attaining great heat during its passage eastward over the ocean.

The heaviest precipitation occurs on the outer coast of Vancouver Island, the stretch of the mainland coast northward from Vancouver Island to the Alaskan Panhandle, as well as on the western coast of the Queen Charlotte Islands. Precipitation from October to March averages 10 to 15 inches per month. Less than

5 p.c. of this winter precipitation occurs as snowfall, except at the heads of very deep inlets on the northern stretch of the coast where it may reach 10 p.c. There are no figures available of the actual precipitation on the precipitous west coast of the Queen Charlotte Islands since there are no winter inhabitants to make the measurements but it is reported to be very heavy. The most extraordinary precipitation so far observed for a period of years has occurred at Henderson Lake which is situated at the end of an arm of Barkley Sound on the outer coast of Vancouver Island. The annual average precipitation is 262 inches and the wettest month is December which averages 47 inches. It does, however, have the characteristic dry period of the summer since June, July, and August average only 6 inches each. On the inner coast of Vancouver Island and on the islands of the Gulf of Georgia precipitation is considerably less. At higher elevations on the eastern slopes the annual precipitation is fairly high. Thus, at Cowichan Bay the annual precipitation is 34 inches but at Lake Cowichan, 550 feet higher, at the head of the Cowichan River, precipitation rises to 64 inches but averages only one inch and one-quarter per month in June, July, and August. Vancouver Island is largely mountainous and there is, therefore, a sort of 'chinook' effect on the eastern face of this mountain range. On the southeast coast of Vancouver Island the annual precipitation falls to as little as 25 inches with less than an inch in each of the months from May to August. Northward along the east coast of Vancouver Island the precipitation rises to 37 inches in the vicinity of Nanaimo and to 35 inches or slightly more on some of the islands of the Gulf of Georgia.

On the southwestern coast line the annual total is 36 inches on the outer islands of the delta of the Fraser River but the precipitation rises with small increases in elevation. The 'chinook' effect is largely lost with air currents from the west since the moist air must now ascend the Coast Mountains. Along the lower Fraser the precipitation rises to 55 or 65 inches on the comparatively flat lands alongside the River. At very moderate elevations on the mountainous slopes to the north of the Fraser the annual figure rises to the neighbourhood of 80 inches. Among the lakes north of North Vancouver, from which water for Greater Vancouver is obtained, the annual precipitation averages 100 to 150 inches and this at elevations not greatly exceeding 400 feet. The summer dry season is, however, maintained with 10 p.c. or less of the total falling in the months of June, July, and August combined. Snowfall accounts for 5 p.c. or less among these storage reservoirs but there is evidence that on considerably higher slopes which drain towards these lakes the annual percentage of snowfall may rise to 20 p.c. so that there is actually some winter storage in the form of snow to feed the reservoirs in early summer.

The following statement gives typical temperatures and precipitation of this Region:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		*Highest*	*Lowest*	*Average in Inches*			*Average Number Days*	
Station	*Jan.*	*July*	*on Record*		*Jan.*	*July*	*Annual*	*Rain*	*Snow*
Prince Rupert, B.C.	34·9	55·9	88	−6	9·76	4·76	95·16	215	11
Vancouver, B.C.	36·2	63·7	92	2	8·57	1·22	57·38	168	12

ISOTHERMS OF MEAN JULY TEMPERATURES

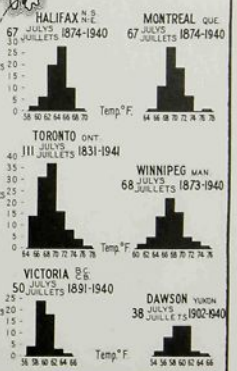
ISOTHERMES DES TEMPERATURES MOYENNES DE JUILLET

NOTE

45.5°F. / 280.5°A. = 45.5°Fahrenheit − 0°= 0° / 280.5°Absolute-Absolu

July Mean Temperatures arranged by frequency of occurrence within limits indicated for six cities. When one falls exactly on a limit, it is counted in the next higher group. Means calculated to precision of 1/10th degree Fahrenheit.

Températures moyennes de juillet disposées par fréquence dans les limites indiquées de six villes. Si une température tombe exactement sur une limite, elle compte avec le groupe plus élevé suivant. Moyennes calculées au dixième de degré Fahrenheit.



RANGE OF VARIATION OF JULY MEAN TEMPERATURES AT PLACES INDICATED

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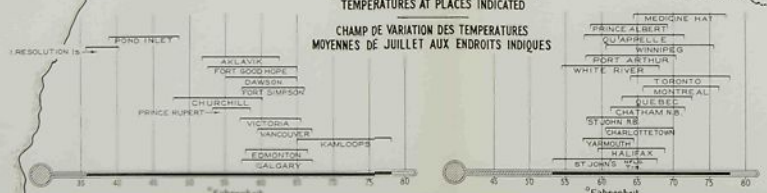

The Northern Lands Region

The northernmost portion of the Northern Lands Region consists of islands in the polar sea. The smaller islands vary in size from mere dots on the map of the North American Continent to islands 100 to 150 miles in width. The largest island, Baffin Island, stretches from northwest to southeast more than 900 miles. Its width varies from 150 to 400 miles.

The southern portion of this Region includes the northern portion of Quebec which borders on Hudson Strait and that portion of the District of Keewatin which is bounded on the north by Queen Maud Gulf and the Gulf of Boothia. It includes also Melville Peninsula, Southampton Island, and the other islands of Hudson Strait and the northern portion of Hudson Bay. The southwestern boundary is formed by the sharp temperature-gradient of July which separates this Region from the Northwestern Lands. The mean temperature of 55°F. in July fairly well defines this boundary and orographically it is also roughly defined by the low height of land which separates the drainage of the Mackenzie Valley from that of Hudson Bay. If Koeppen's definition of 'tundra' as lands having their southern boundary along the line of 50°F. in July is accepted, those shores of Hudson Bay which lie south of the parallel of 60°N. will be omitted.

Temperature.—In these polar regions there is, of course, no regular diurnal range of temperature, from a minimum at sunrise to a maximum shortly after noon. Changes in temperature arise only from changes of airmass, the occurrence or disappearance of cloud, or fog, or the local effect of falling precipitation, deposit of rime, or circulation of moving ice. The remnants of a diurnal swing of temperature are encountered only south of the Arctic Circle. With change of airmass accompanying a south wind, at least one or two days are expected each year when the temperature rises above 65°F. in the Archipelago and 75°F. to 80°F. on the south shore of the Arctic Ocean in the west, at Coppermine. In the southern districts of Victoria Island, also, 75°F. is occasionally experienced. In winter there will be occasional calendar days with a temperature as high as 10°F. or 15°F. while not more than 5 p.c. of the time in the polar night will the temperature descend lower than 50°F. below zero.

At Chesterfield Inlet, in the most southerly portion of this Region, the average continuously frost-free period is 67 days from June 29 to September 5 but frost has occurred in July. On the southern shore of Baffin Island the frost-free period is 48 days from June 30 to August 18 but years occur in which there is frost every month of the year. On the northern shore of Baffin Island at Pond Inlet the frost-free period averages 29 days and at Resolution Island, which lies off the southeastern tip of Baffin Island, there are only 7 days, on the average, continuously free of frost. On the south shore of Hudson Strait, Cape Hope's Advance averages 21 days and in Hudson Strait, Nottingham Island averages 18 days. Towards the most northerly point of the Region, the observations at Bache Peninsula in 1931 and 1932 showed only 6 days free from frost and during the period from the late summer of 1909 to the late summer of 1910 the records at Winter Harbour, in the Parry Islands, showed only 13 days frost-free. A record made over a period of nine years at Pangnirtung at the head of an inlet on Baffin Island gives an average of 56 days frost-free.

Precipitation.—A drift of polar air of widespread extent across this area, although subject to some heating in midsummer by contact with the islands, gains temperature slowly because of contact with the ubiquitous polar waters. On

the other hand, a drift of warm air from the lands to the south across this Region may produce fog over the polar waters by rapid condensation of the water-vapour which has been transported from the south, or produce low clouds, or actual precipitation from the lifting of the warmer air over the cold wedge of polar air. The development of summer weather of the type experienced in temperate latitudes cannot, therefore, by expected.

Because of the light and fluffy nature of the snowfall, which renders measurement difficult, the total annual precipitation is not accurately known. Rainfall averages about 2 or 3 inches in the southern portion of the Archipelago, while the water-content of snow and rime may be nearly 4 inches. This total of 6 or 7 inches increases sharply near the Arctic Circle to 10 or 12 inches and to nearly 15 inches in Hudson Strait. Special snow-gauges are necessary for accurate measurement.

Flora and Fauna.—Obviously this Northern Region from the point of view of agriculture is another world where the lessons of experience in the populous regions of Canada are of no avail. It is not a land surrounded by moving ice and devoid of life and vegetation. Life abounds on land and in the water but it is a life with its own peculiar pattern. Technical information regarding the flora and fauna is limited to the reports of a few specialists who have explored this Region. Observers of the Meteorological Division of the Department of Transport have gathered notes, in addition to purely meteorological data, over a period of years which throw valuable light on a fascinating story of existence of a specialized character.

Although much of Baffin Island and of Ellesmere Island was heavily glaciated and there are glaciers still upon the mountains of northern Ellesmere Island, it is not a land of granite. Muskox and caribou can be found in all the interior valleys of Ellesmere and on the many smaller islands which suffered comparatively less from glaciation. Great flocks of birds abound in this area in summer and some types remain in the winter. Crowberries, ground-willow, sedges, and mosses grow on numerous marshes and muskegs. Muskoxen, caribou, and birds can live on these plants. The crowberries bloom and bear fruit very quickly after the Arctic night is over, despite the fact that the root-system is in very cold soil at a temperature of about 43°F. in midsummer. The roots of the sedges and prostrate willows also survive the great cold of the winter and flourish anew early in the period of perpetual sunshine. Lichens on which the muskox feeds, grow in profusion over immense areas which at first sight appear to be stretches of only broken, greyish rock but which, in effect, are pastures of vast extent in summer. In winter, these pastures are covered by light powdery snow which is easily dislodged by high winds to lay bare abundant food. To this sort of flora ordinary rules of agricultural climatology cannot be applied. In the winter the caribou and muskox will paw out the still living roots of such plants when other fodder temporarily fails.

One factor which may account for the flourishing plant and animal life in an atmosphere which averages only 42° or 43°F. in the warmest month of the year, is the comparative dryness of the atmosphere, coupled with continuous sunshine. Absorption of solar energy can raise the temperature of the superstructure of plants, lichens, and mosses much higher than that of the air. In the case of willow and crowberries, this superstructure which exhibits new growth during the polar day appears small in mass compared with the root-system below but presents a large

surface to insolation. The absorbed energy during the polar day appears sufficient to rejuvenate the root-structure to the degree necessary for its survival during the polar night. Similarly during the long period of insolation the animals build up very noticeable accumulation of fat which protects them during the winter when they live either almost constantly in water near the freezing point or alternately in the extremely cold air and the much less cold water. During the winter the fat of birds, animals, and fish noticeably diminishes. Therefore, although there is no summer comparable to that of temperate latitudes, the polar day, months-long, of the Arctic summer is a biological necessity for the continuance of polar life.

The following statement gives typical temperatures and precipitation of this Region:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		*Highest Lowest*		*Average in Inches*			*Average Number Days*	
Station	*Jan.*	*July*	*on Record*		*Jan.*	*July*	*Annual*	*Rain*	*Snow*
Arctic Bay, N.W.T.....	−19·6	43·3	75	−57	0·39	0·65	6·81	21	58
Craig Harbour, N.W.T.....	−22·0	41·0	61	−49	0·38	0·93	9·05	17	40

The Northwestern Lands

Temperature.—The Northwestern Lands Region presents one striking feature which distinguishes it sharply from the far Northern Lands Region and the Arctic Archipelago. This is the course of the mean July temperature of 60°F. or, perhaps more correctly, of a July temperature of 57°F. or 14°C. This isotherm runs northwestward from the middle of the James Bay area north to the shore of the Arctic Ocean at the mouth of the Mackenzie River. It runs thence into central Alaska, U.S.A., returning into Yukon north of the Mount St. Elias range and down to the crest of the Rocky Mountains in Alberta.

The eastern boundary of the Northwestern Lands Region north of the 60th parallel, follows the divide between the rivers flowing eastward towards Hudson Bay and northward to the interior waters of the Arctic Archipelago. To the east of this line the temperature drops off sharply while to the west there is a very flat gradient of temperature except, of course, along the mountainous territory known as the Mackenzie Mountains with elevations of 4,000 to about 8,000 feet above sea level. Here and there in this territory, outside the mountains, spring wheat has been planted at missionary posts or posts of the Hudson's Bay Company and in some years grain of fairly good quality has matured.

The chief distinction between this Region and lands of similar latitude in Eastern Canada may be attributed to the fact that the very long hours of sunlight in the summer half-year readily warm the ground which, in turn, by conduction transfers heat to the lower layers of the atmosphere. On the other hand, in the same latitudes of the northeast the cold waters of the Arctic inlets and their extension into Hudson Bay provide a very large surface which absorbs solar radiation without much change in temperature. Outflows of polar air in summertime are, therefore, quickly warmed in the northwest but only very slowly in the northeast. The Northwestern Lands, therefore, have a distinct season of summer warmth and thus much greater agricultural possibilities than can be foreseen for the Northern Lands.

The winters are bitterly cold along the Mackenzie River, averaging 16° below to 25° below zero in January, while in Yukon Territory the winters are surprisingly mild, varying from 2° below zero in southern Yukon to 21° below zero at Dawson. In Yukon Territory a winter month may be under the influence of air modified by north Pacific waters before passing overland or, on the other hand, the invasion may be by intensely cold air of north Siberian quality, from the Beaufort Sea. The character of winter months in Yukon probably exhibits greater swings from mild to intensely cold than any other section of Canada, unless perhaps southwestern Alberta.

In summers when there has been drought on the southern Prairies the considerable load of water-vapour which has passed over the Prairies without precipitation has caused rather heavy rainfalls on these northern plains. These same wet summers show a distinct tendency to be warmer than usual with undoubtedly good growth of grains and grasses. Such years have led to considerable argument about the northern limit of wheat-growing. In favour of this argument the average length of the continuously frost-free period can be quoted but it should be kept in mind that practically all observing stations have been situated at trading posts located on waterways—the only means of access from one region to another from the earliest days. This suggests that the frost-free period would be materially shorter had the stations been situated on tablelands away from the north-flowing rivers. The deltalands of the Mackenzie River are represented by Fort McPherson and Aklavik which have average frost-free periods of 70 and 65 days, respectively: up the Mackenzie Valley there is considerable variation—Fort Norman 45 days, Fort Good Hope 52 days. Fort Resolution, on one of the great lakes of the Mackenzie, has an exceptionally long frost-free period of 93 days, Hay River, somewhat similarly situated, has 87 days, Fort Simpson 84 days but Fort Smith well down in southern territory has only 56 frost-free days. These periods represent the average interval between occurrences of the temperature of freezing point. If specially early-maturing varieties of spring wheat, which can stand a temperature three degrees below freezing without serious injury, were planted, these periods could be increased by approximately 10 p.c., and crops could be grown with more success at places along the waterways where the soil is suitable. More will be known about these possibilities in the near future since an agricultural experimental station has been established at Pine Creek in southern Yukon. Information may be obtained from the Federal Department of Agriculture on the success of trial plantings of various varieties of spring wheat at missionary stations along the Mackenzie Valley during the latest ten or fifteen years.

Precipitation.—The annual precipitation is 10 or 11 inches from the mouth of the Mackenzie to Fort Norman and rises to 13 inches at Fort Simpson and Fort Smith. Along the Athabaska River at Fort McMurray the average exceeds 17 inches but on the lower Peace River at Fort Vermilion the annual amount is about 12 inches. Of this amount about 5 inches is provided by the water-content of freshly-fallen snow. Generally, there is more than one inch of precipitation per month only from May to the end of October. The precipitation peak occurs normally in August at the northern stations and in July upriver beyond the Arctic Circle. These northern plains, therefore, have the same over-all precipitation picture as the Prairies but the summer peak is very much lower than the average of the latter. It is a peculiarity of the Great Plains of the continent that the first sharp increase of monthly precipitation begins in March in the Panhandle of Texas, U.S.A., and moves northward through the following months to reach the annual

peak in May or June in southern Alberta and June or July in southern Saskatchewan and Manitoba. Therefore, the peak recorded in August in the most northern portion of the Interior Plains appears a natural consequence of this summer monsoon effect. In Yukon the forty-year average of the annual precipitation is 12½ inches at Dawson city, while the shorter records at Whitehorse, Aishihik, Teslin, and Snag airports do not show much variation from this figure. The average of these four airports from 1939-45, was 13 inches. Watson Lake, at the headwaters of the Liard River in the extreme southeastern portion of Yukon, shows for a ten-year record an average of nearly 16 inches. On the other hand, a thirty-one-year record at Carcross on Lake Bennett, shows slightly less than 9 inches, the reduction being common to every month of the year. Atlin, which is also on a somewhat similar lake not far distant, averages more than 11 inches; 4 to 6 inches of the annual amount being from the water-content of freshly-fallen snow. The number of days with precipitation of any sort is 4 to 7 per month from December to the following April, rising to 10 or 12 in June in Yukon and in July along the Mackenzie. The average in August is 10 to 15 days after which there is a slight drop but precipitation holds up rather well even in November.

The following statement gives typical temperatures and precipitation of this Region:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
Station	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Dawson, Y.T.	−21·0	59·6	95	−68	0·87	1·53	12·61	63	53
Fort Smith, N.W.T.	−16·0	60·4	103	−71	0·54	2·17	13·01	51	49

The Northern Interior Valleys of British Columbia.—With the Northwestern Lands Region the Northern Interior Valleys of British Columbia might be included. Because of the comparatively high elevation of these northern valleys and their higher latitude, they have a comparatively short frost-free period which gives them a character intermediate between that of southern Yukon and the southern interior valleys of British Columbia. Meteorological observations have been made at comparatively few places in the Northern Interior Valleys but these indicate that agriculture might prove hazardous, except for cattle-ranching. The annual average temperature at Fort St. James on Stuart Lake is 35°F. and, therefore, the subsoil is not permanently frozen. The coldest month of the year averages 8°F. and the warmest month, July or August, 55° or 56°F. Taken into conjunction with an annual precipitation of approximately 15 inches, there is an indication that pastures and fodder for cattle can be maintained when settlement of the area warrants. The meteorological observations at Babine Lake and Finlay Forks support this view.

The following statement gives typical temperatures and precipitation of this area:—

	TEMPERATURES (Fahrenheit)				TOTAL PRECIPITATION				
	Mean		Highest	Lowest	Average in Inches			Average Number Days	
Station	Jan.	July	on Record		Jan.	July	Annual	Rain	Snow
Finlay Forks, B.C.	7·8	56·0	89	−68	2·46	2·62	15·26	78	57
Stuart Lake, B.C.	8·0	56·0	96	−57	1·41	1·61	15·36	48	36

0.—Long-Term Temperature and Precipitation Data for 35 Representative Stations in Canada

Station	Height Above Sea	Length of Record	TEMPERATURES (Fahrenheit)					Annual	Killing Frost Average Dates		PRECIPITATION (inches)							
			Annual	Jan.	July	Highest On Record	Lowest On Record	Day-Degrees[1]	Last in Spring	First in Autumn	Annual Total	Annual Snow	Jan.	Apr.	July	Oct.	Number Days Rain	Number Days Total
	ft.	yrs.																
Charlottetown, P.E.I.	186	65	41·7	17·8	65·6	98	−27	8,263	May 13	Oct. 22	39·47	113·0	3·76	2·78	2·98	4·07	119	162
Annapolis Royal, N.S.	10	25	44·4	24·4	64·4	89	−13	7,665	May 20	Oct. 6	41·41	74·8	4·20	2·77	3·40	4·19	115	140
Halifax, N.S.	83	75	44·0	23·6	64·7	99	−21	7,380	May 11	Oct. 14	55·74	70·8	5·40	4·54	3·79	5·42	130	156
Sydney, N.S.	197	69	42·3	22·1	63 6	98	−25	7,896	May 29	Oct. 13	50·24	97·9	5·16	4·03	3·37	4·70	127	165
Chatham, N.B.	112	50	40·2	12·2	66·6	102	−43	8,887	May 19	Sept. 29	40·74	107·3	3·38	3·02	3·91	3·97	107	151
Fredericton, N.B.	164	67	40·7	13·5	66·1	101	−35	8,663	May 20	Sept. 24	42·80	95·5	3·87	2·94	3·53	4·11	108	149
Saint John, N.B.	119	56	41·4	19·3	61·0	93	−21	8,081	May 4	Oct. 16	42·26	71·1	4·28	3·22	3·03	4·01	134	168
Arvida, Que.	335	10	36·4	3·6	65·0	95	−42	10,585	May 19	Sept. 19	38·93	116·1	2·90	2·53	4·81	3·53	112	176
Fort McKenzie, Que.	250	9	22·4	−12·5	54·2	91	−60	15,695	July 8	July 26	22·04	82·4	1·24	1·02	3·67	1·77	77	167
Lennoxville, Que.	498	24	40·3	12·8	66·2	99	−48	8,996	May 28	Sept. 9	39·56	89·4	3·46	2·60	4·12	3·63	104	150
Montreal, Que.	187	55	42·8	13·8	69·8	97	−29	8,284	Apr. 28	Oct. 17	40·80	112·3	3·76	2·60	3·74	3·42	112	164
Haileybury, Ont.	707	36	37·7	6·6	66·3	102	−48	9,855	May 23	Sept. 23	31·58	91·9	2·01	2·04	3·79	3·08	102	170
Kapuskasing, Ont.	752	19	32·4	−1·7	62·4	101	−53	11,374	June 14	Sept. 1	27·59	91·0	2·00	1·82	3·43	2·50	95	182
Ottawa, Ont.	260	65	41·5	11·9	69·6	102	−35	8,674	May 7	Oct. 2	34·23	82·0	2·93	2·70	3·39	2·93	98	139
Port Arthur, Ont.	644	62	36·2	6·7	63·0	104	−40	10,045	May 26	Sept. 20	23·66	42·9	0·91	1·49	3·56	2·45	78	129
St. Catharines, Ont.	347	21	47·8	26·0	71·1	104	−12	6,607	May 7	Oct. 20	27·03	37·7	2·30	2·39	2·39	2·18	99	132
Toronto, Ont.	379	105	45·1	22·6	68·9	105	−26	7,236	May 2	Oct. 14	32·18	61·9	2·71	2·48	2·95	2·43	109	145
Churchill, Man.	115	30	17·8	−19·0	53·7	96	−57	15,735	June 28	Aug. 26	15·96	56·9	0·48	0·89	2·19	1·43	52	101
The Pas, Man.	890	27	30·6	−8·7	64·6	100	−54	12,160	May 30	Sept. 7	15·44	44·9	0·61	0·81	2·22	1·16	59	102
Winnipeg, Man.	790	66	35·0	−3·1	66·9	108	−54	10,841	May 27	Sept. 14	21·19	53·6	0·92	1·37	3·08	1·49	67	118
Prince Albert, Sask.	1,414	54	32·9	−4·3	63·4	103	−70	11,337	May 30	Sept. 10	16·11	51·5	0·74	0·93	2·18	0·84	62	116
Regina, Sask.	1,884	55	34·5	−0·7	64·8	107	−56	10,891	June 6	Sept. 10	14·70	28·8	0·51	0·74	2·38	0·86	59	109
Saskatoon, Sask.	1,600	38	34·2	−1·2	64·6	104	−55	10,478	May 26	Sept. 9	14·55	37·2	0·87	0·72	2·41	0·88	58	103
Beaverlodge, Alta.	2,484	31	35·3	5·6	59·8	98	−54	10,950	June 4	Sept. 4	17·19	70·1	1·27	0·78	2·21	1·11	76	127
Calgary, Alta.	3,540	55	38·4	13·1	61·5	97	−49	9,111	June 1	Sept. 6	16·65	50·0	0·51	0·99	2·51	0·69	57	101
Edmonton, Alta.	2,219	56	36·6	5·9	61·6	99	−57	9,826	May 30	Sept. 6	17·38	46·4	0·88	0·88	3·32	0·75	73	133
Medicine Hat, Alta.	2,365	55	41·9	12·0	69·3	108	−51	8,495	May 12	Sept. 19	12·81	35·6	0·63	0·77	1·68	0·62	56	100
Cranbrook, B.C.	3,014	35	40·7	16·7	63·2	102	−41	8,760	June 10	Aug. 28	14·41	56·7	1·80	0·68	1·14	0·89	69	106
Nelson, B.C.	2,235	39	45·2	24·4	66·4	103	−17	7,278	May 13	Sept. 30	27·77	89·3	3·47	1·57	1·62	2·35	102	131
Penticton, B.C.	1,121	32	47·8	26·8	68·3	105	−12	6,346	May 7	Oct. 3	10·85	24·0	0·98	0·68	0·79	0·83	83	102
Prince George, B.C.	2,218	27	38·5	12·9	59·6	102	−57	8,996	June 18	Aug. 22	19·98	62·7	1·81	0·84	1·63	1·99	123	162
Victoria, B.C.	228	54	49·5	38·7	60·0	95	−2	4,935	Mar. 18	Nov. 27	27·13	13·4	4·49	1·18	0·44	2·81	141	144
Dawson, Y.T.	1,062	41	22·8	−21·0	59·6	95	−68	14,620	June 6	Aug. 19	12·61	56·2	0·87	0·51	1·53	1·17	63	117
Coppermine, N.W.T.	13	13	11·3	−18·9	50·1	87	−54	19,710	June 25	Aug. 22	10·72	57·0	0·57	0·84	1·33	1·16	40	103
Fort Good Hope, N.W.T.	214	31	17·0	−23·6	59·3	95	−79	17,520	June 15	Aug. 6	10·63	50·0	0·53	0·49	1·55	1·09	46	106

[1] Day-degrees represent the difference in temperature between the mean temperature of the air and the temperature of 65°F. multiplied by the number of days during which the outside temperature was lower than that figure. Fuel consumption for heating purposes will be proportional to these totals.

Section 2.—Meteorology

See list at the front of this edition, under the heading "Climate and Meteorology", for special material published in previous editions of the Year Book.

Section 3.—Standard Time and Time Zones

See list at the front of this edition for special material under this heading published in previous editions of the Year Book.

PART VII.—ASTROPHYSICS

Major astronomical work is carried on by three Canadian institutions; the Dominion Observatory, Ottawa, Ont., the Dominion Astrophysical Observatory, Victoria, B.C. (operated by the Mines, Forests and Scientific Services Branch, Department of Mines and Resources), and the David Dunlap Observatory, which is associated with the University of Toronto. Of the two Government institutions the Dominion Observatory at Ottawa has specialized mainly in the astronomy of position in solar physics, and in various branches of geophysical work, while the major effort in astrophysics has been concentrated at the Dominion Astrophysical Observatory at Victoria, B.C. The David Dunlap Observatory is a newer institution founded in 1935 with very fine astrophysical equipment of a kind similar to that in use at Victoria. It not only performs the function of a privately financed and administrated research institution but is also the nucleus of a University department of astronomy. The following article deals specifically with the work of the Dominion Astrophysical Observatory at Victoria, B.C.

THE CONTRIBUTION TO SCIENCE MADE BY THE DOMINION ASTROPHYSICAL OBSERVATORY*

The Dominion Observatory at Ottawa, Ont., was established in 1905. Its primary purpose was to provide a sound astronomical basis for the correlation of surveys, local, provincial and international boundaries, and help to solve problems of navigation and time. Western Canada was being rapidly settled at this period and the accurate determination of boundaries was a first essential.

At the turn of the twentieth century, Canada was a new and rapidly developing country. The population grew from something over 5,000,000 to nearly 9,000,000 between 1901 and 1921. Nevertheless, the Dominion sprawled over half a continent and her population was meagre indeed for the tasks ahead. The carving out of a new domain from the vast Northwest was demanding all her energies and, during the second decade of the century, the First World War called for sacrifices of manpower that could ill be spared.

Research in the realms of pure science under these circumstances had the appearance of an indulgence and a luxury, the enjoyment of which might have been postponed until the more immediate and pressing tasks were accomplished. It is the more remarkable, therefore, that the Canadian Government in those days should have shown such foresight and initiative as to support the installation of what was then the world's largest telescope and thus enable Canada to actually take the leadership in certain branches of astronomical research.

* Prepared by Dr. J. A. Pearce, Dominion Astrophysical Observatory, Victoria, B.C.

It was in 1913, just prior to the outbreak of War, that plans were drawn up for the establishment of the Dominion Astrophysical Observatory at Victoria, B.C. At first, it had been decided to establish the Astrophysical Observatory at Ottawa, but careful tests at several selected stations across Canada indicated unmistakably that Victoria had a clear advantage over all other sites in the essential conditions for the successful operation of a large reflector telescope. The magnificent 73″ reflector telescope was installed in 1918, and, although it does not now hold the record for size, it is a matter of national pride that in design, construction and operating convenience, as well as accuracy, the telescope in the Dominion Astrophysical Observatory is not, even to-day, excelled by any instrument in the world.

Dr. J. S. Plaskett was the founder of the Astrophysical Observatory and its first Director from 1917 to 1934. It was he who gave special attention to the design of the special spectrograph at the Observatory. This instrument complemented the work of the telescope and was among the best and most powerful in operation anywhere.

It is particularly in the field of stellar motions and the researches connected with them that a large reflector telescope is essential, for the only method of obtaining measurable spectra of faint stars is to use the fastest photographic plates, the largest possible telescope to make the stellar images more intense, and to make possible shorter exposures. Other smaller instruments are capable of carrying out some other important astronomical work quite as efficiently as a large telescope. It is for this reason that, from its installation, the 73″ reflector in the Victoria Observatory has been used almost exclusively for spectrographic work and during the past twenty-nine years, a total of 38,000 spectra has been secured.

Since the establishment of the Observatory three decades ago, the number of known stellar radial velocities has increased from a few hundred to approximately 12,000. Of this total, the Victoria Observatory has contributed about 25 p.c., a very creditable contribution considering the small size of the staff.

Under the enthusiastic direction of Dr. Plaskett and his successors, the Dominion Astrophysical Observatory has taken its full share in formulating a policy of co-operation with other countries and in carrying out broad programs of research and co-ordinating results on a world basis. Each observatory while working according to a general plan carries out individual researches that, instead of overlapping, are tied in with those of other observatories to the general benefit of science as a whole.

It is difficult for the ordinary citizen to realize just how an abstract science like astronomy links in with the practical problems of day-to-day existence. But astronomy, as well as being the oldest science, is in some respects the most fundamental. As a branch of astronomy, astrophysics is concerned with the determination of the structure of the universe—the constitution and mode of evolution of the stars. The scientist follows the quest for truth for its own sake, but it must be remembered that the pure science of to-day is the applied science of to-morrow. Technicians and industrial scientists eagerly seize upon the discoveries achieved by pure science and lose no time in turning them to practical account, with results that are often of immense economic value. For instance, the apparently useless investigations of Faraday into the effects of magnets and electric currents on one another led to the generation and universal use of cheap electricity. Nothing in the realm of pure science is unimportant or unworthy of the scientist's attention: radio, radar, television, atomic energy and all the amazing sequence of discoveries

that have marked the past quarter century have resulted from the curiosity of scientists whose conscientious labours were directed to nothing more than opening up to exploration new paths into the unknown. The two Canadian Government Observatories were among the earliest national scientific institutions in the Dominion. They established Canada's name in the scientific world and have added greatly to her laurels as the years have passed. Under the following headings, the main avenues of research developed in the Dominion Astrophysical Observatory are summarized. In the space available here, however, it is possible to do no more than touch upon their scope.

Stellar Motions.—The first large piece of work undertaken by the Dominion Astrophysical Observatory was the study of the motions of the stars. In the first three and a half years of its existence the Observatory at Victoria measured the speed towards the earth (technically called the radial velocity) of 600 stars as compared with about 2,000 determined previously at all other observatories. Since then, the proportion calculated by the Dominion Astrophysical Observatory has increased owing to the facilities and skills developed for this type of work at Victoria.

A solid reputation was built up by this institution which was evidenced among other ways by the award to the first Director, Dr. Plaskett, of a Fellowship in the Royal Society in 1924. The study of stellar motions is undertaken in order to understand the construction of the sidereal universe and the forces which govern the movements of the stars. Observations of the accurate positions of the stars in the sky have been carried on for over a century and are still being assiduously determined. These observations of position when repeated twenty, fifty or more years later serve to determine the transverse components of the stellar motion, expressed by the small angular displacement across the sky in a year or a century. Because of the great distances of the stars these angles are excessively minute varying from immeasurably small quantities, one or two thousandths of a second of arc for the distant stars to about five seconds of arc for a few of the nearby stars. To-day, these angular speeds (technically called "the proper motions") for about 35,000 stars are known but they have to be supplemented by the radial or line-of-sight components before the actual translational motion of the stars can be determined. Unless the radial components and the distances of the stars, as well as the transverse components, are known, neither the space velocities nor the actual directions in space of the stellar motions can be determined, and our knowledge is too incomplete to give a true picture of the structure of the stellar universe.

The Rotation of the Galaxy.—The most stupendous of all celestial masses is the Galaxy—more commonly known as the Milky Way. Its appearance as a dim white band across the heavens marks only the plane of greatest extension—the direction in which the stars appear congested due to distance. The hidden mysteries of the Galaxy are the key to "the riddle of the universe".

Through the studies of stellar motions, explained under the previous heading, scientific thinking has been influenced and knowledge of the dynamics and dimensions of the stellar universe increased.

An extensive survey of the relatively rare and distant high temperature stars was completed by J. S. Plaskett and J. A. Pearce in 1930; approximately six years of observing being required to secure more than 3,000 spectrograms of these stars. A critical analysis of the spatial distribution and motions of 850 stars for which

reliable proper motions and accurate radial velocities existed gave the first conclusive evidence from observational data that the great stellar system was in rotation as postulated by Lindblad and Oort. This important research convincingly demonstrated that the sun and the local cluster of stars were describing Keplerian ellipses in the plane of the Galaxy, about a dynamical centre, 30,000 light years distant in galactic longitude 324°, in the direction of the constellation Sagittarius. The diameter of the stellar system was found to be 100,000 light years; the orbital velocity of the sun 275 kilometres per second; and the period for one complete revolution 224,000,000 light years. The observed stellar velocities gave a value of $1 \cdot 6$ by 10^{11} suns (160,000,000,000 suns) as the mass of the Galaxy approximately one-half being due to the 100,000,000,000 lucid stars of the system and one-half attributed to the extensive cloud of dark interstellar matter highly condensed in the galactic plane.

This interesting and highly important investigation provided an accurate and independent determination of the form, dimensions and dynamical constants of the Galaxy, and stimulated many studies of galactic structure in subsequent years. A systematic survey of some 700 fainter and more distant high temperature stars is currently being conducted by J. A. Pearce and R. M. Petrie, to study in greater detail stellar movements in various parts of the Galaxy. At the same time, regions nearer the sun are being investigated in order that an understanding of the dynamics of the Galaxy may, ultimately, be attained. In addition, dynamical studies are being made of special groups of stars, such as the Taurus Cluster, the Pleiades, and the Ursa Major Cluster. Fundamental work goes on in the study of wave-length standards and control stars in order that the highest possible accuracy be achieved in velocity results. With highly developed facilities for radial velocity work, the Observatory is making permanent and important contributions in the field of stellar dynamics.

Binary Stars.—The observation and study of binary stars is an important branch of modern astronomy, for such systems present an opportunity of studying the operation of gravitational forces outside the solar system. Moreover, these binary systems provide the only sure knowledge (except for the sun) about the masses, diameters, and densities of stellar bodies. Many of them have components so close together that they can never be resolved telescopically but are discovered by spectroscopic observations. Their binary character is revealed by a periodic variation in radial velocity as the stars revolve in their orbits. Such close systems, called spectroscopic binaries, are of great interest because, from an analysis of the orbital motion, the masses, radii, and other dimensions, of the component stars may frequently be determined.

The spectroscopic work at Victoria has resulted in the discovery of many spectroscopic binaries. At present, a total of more than 1,500 systems of this class is known and about one-third of these were discovered at the Dominion Astrophysical Observatory. Moreover, the Observatory has taken a prominent part in the detailed observation and calculation required to deduce orbital elements. The most recent catalogue (1936) lists determined orbits for 375 spectroscopic binaries and names this Observatory as the authority in 116 cases. The late Dr. William E. Harper devoted over 30 years to orbit work and computed the orbital elements of nearly 100 systems, twice as many as any other astronomer.

Emphasis has been placed upon the binaries composed of high temperature stars with the result that 70 p.c. of the most massive stars known to science were discovered and studied here. Outstanding contributions in this important field have

been made by W. E. Harper, J. S. Plaskett, J. A. Pearce, R. M. Petrie, and R. K. Young. The study of spectroscopic binaries continues with new discoveries being added in the prosecution of radial-velocity programs. Attention now is directed to detailed studies of particularly interesting systems. Thus, the only reliable data on the radii and masses of a strange class of sub-luminous stars are provided by orbital studies made at Victoria. Recently, a method has been devised and applied by R. M. Petrie whereby the relative brightness and dimensions can be found entirely from spectrophotometric investigations of double stars.

Determination of Stellar Distances.—The most exacting observational task in astronomy is to determine the distances to the stars. This knowledge is required to describe and understand the universe. For all but the nearest stars direct trigonometric methods are quite inadequate, although adaptations of such methods are used. Naturally, the base line must be of enormous length where astronomic distances are concerned. The one that best serves the purpose is the diameter of the earth's orbit about the sun (186,000,000 miles). Close co-operation of observatories in Europe, America, and other parts of the world are required for the determination and checking of such distances. Fortunately, spectroscopic studies have allowed estimates of the intrinsic brightness of stars and so find their distances from Earth. An extensive study at this Observatory, by W. E. Harper and R. K. Young, of the spectra of stars resembling our sun culminated in 1922, in the publication of the distances and true brightnesses of over 1,100 stars, an important contribution to the subject. At the present time efforts are being made to apply the principle to the high temperature stars and to discover spectroscopic criteria of luminosity. There is good reason to believe that, in the near future, reliable values may be obtained of the distances of the high temperature stars in remote parts of the Galaxy.

Studies of Interstellar Matter.—The contribution of the Dominion Astrophysical Observatory to the scientific study of the nature of the material universe and the structure of matter has been of far greater importance than is often realized.

A number of important researches at Victoria have added greatly to knowledge of the tenuous matter in the vast spaces between the stars. It had long been known from the pioneer surveys of the Milky Way by the Herschels, by Barnard, Seeliger and other astronomers of the last century that an extensive cosmic cloud pervaded the Galaxy. The diffuse galactic nebulae are visual evidences of this cloud, while the large irregular dark patches in the Milky Way unquestionably indicate the presence of extensive clouds of dust particles which redden and frequently occult the light of the more distant stars.

The nature of this interstellar matter was literally a dark mystery until two decades ago when spectrographic studies, principally at Victoria, revealed its true character. It was clearly shown by Dr. J. S. Plaskett, in 1924, that the strong and unusually narrow absorption lines of sodium and ionized calcium which he observed in the spectra of 50 distant O-type stars originated in a diffuse gaseous medium relatively at rest with respect to the stellar system. This investigation undoubtedly was the foundation for Eddington's theoretical discussion of diffuse matter in space. This theory was fully confirmed by a later research of Plaskett and Pearce on the motions and distributions of interstellar matter in the direction of over 260 high temperature stars. The interstellar calcium atoms were found to share in the general galactic rotation, and statistically, at least, were fairly uniformly distributed throughout the stellar system. A further result gave a direct relation

between the estimated intensities of the interstellar lines and the distance of the star, thus providing a new method of obtaining the individual parallaxes of these distant stars. A single-prism spectrograph giving moderate dispersion was employed in the above mentioned investigations as, with few exceptions, these distant stars are quite invisible to the unaided eye.

A few years later, Dr. C. S. Beals, now Dominion Astronomer, using a three-prism spectrograph found that the interstellar calcium and sodium lines in some stars had multiple structure. The results were extremely interesting and important as they showed that the interstellar matter, instead of being uniformly distributed was actually organized into a number of discrete clouds with individual motions in the line-of-sight. His work has been recently confirmed by Dr. W. S. Adams at the Mount Wilson Observatory, California, U.S.A., using the most powerful astronomical spectrograph in existence.

Whereas formerly, the strengths of the interstellar lines were estimated in a relative scale of intensities, quantitative measurements of the intensities of the interstellar lines have recently been made by Dr. Beals using a registering microphotometer, designed by him and constructed by the instrument maker of the Observatory. These have been used in studies correlating the intensities of interstellar lines and the distances of the stars in whose spectra they appear.

An important contribution to our knowledge of interstellar matter was recently made by Dr. McKellar who showed that certain unidentified interstellar lines were due to the molecular compounds CN and CH, thereby establishing the existence of diatomic molecules in space. This discovery followed from an exhaustive analysis of the band spectra of 30 diatomic molecules. The data permitted the computation of the effective temperature of interstellar space as 1° absolute, and established the interesting fact that because of the extremely low temperature and pressure in space all the electrons in the molecules were concentrated in the lowest energy states. Thus, the spectrum of an interstellar molecule consists solely of a single resonance line, in striking contrast to the complex banded spectrum observed under laboratory conditions.

Studies of the Physical Characteristics of the Stars, Nebulae and Comets.—In the earlier years of the Observatory's history nearly all the researches undertaken were in the field of dynamical astronomy, but in recent years problems relating to the physical conditions in stellar atmospheres, the nebulae and comets have received steadily increasing attention. At the present time at least one-half of the total research deals with subjects in this general field. In this short article it is not possible, nor desirable, to outline the theories behind the interpretation of stellar spectra. It is sufficient to state that the positions, intensities and characteristics of the emission features and absorption lines appearing in the stellar spectra, when analysed by a microphotometer give definite information on the physical conditions in the heavenly bodies.

A new method of determining stellar temperatures was developed by H. H. Plaskett with interesting applications. Using carefully controlled lamps and carbon arcs as standard sources and a neutral-tint wedge before the spectrograph to vary the amount of light transmitted, he was able to determine the distribution of energy in different parts of the spectra of various astronomical sources including the sun, several stars and nebulae. This research is regarded as one of the pioneer investigations of stellar spectrophotometry, a field which has recently become increasingly important.

Classification of the O- and B-type Stars.—By a careful analysis of the spectra of three high temperature O-type stars, H. H. Plaskett demonstrated that the atomic constants in these very hot stars were identical with those determined in terrestrial laboratories. This observation and identification of faint spectral lines of ionized helium, two angstroms to the violet of the hydrogen lines, predicted from theory but not previously identified in the stars was a splendid verification of Bohr's theory of the atom.

The O-type stars were shown to have temperatures ranging from 22,000°K for 05 to 15,000°K for 09 stars and new spectral criteria for the classification of the O-type stars were proposed and adopted by the International Astronomical Union.

A careful reclassification of over 1,000 O- and B-type stars was subsequently carried out by J. S. Plaskett and J. A. Pearce who estimated the relative intensities of the spectral lines by means of a standard scale. This revision arranged these stars whose temperatures vary from 30,000°K to 10,000°K in a better linear sequence than the previously published Harvard Classification. Recently, Dr. R. M. Petrie has measured the intensities of many spectral lines in a number of these stars, with the microphotometer, thus providing quantitative impersonal measures in place of the visual estimates previously adopted. From theoretical considerations he finds excitation temperatures of 36,300°K to 28,600°K for the 05 and BO stars.

Investigations of the Emission Line Stars: The Wolf-Rayet Stars.—Dr. C. S. Beals joined the Observatory staff in 1927 and undertook as a special research the investigation of the Wolf-Rayet stars, north of declination −24, all that could be observed from Victoria. These stars are extremely hot, and their spectra showing strange broad emission bands of unknown origin were, at that time, quite unexplained. A satisfactory classification of the Wolf-Rayet stars into two main sequences, (a) the Nitrogen and (b) the Carbon sequence, was proposed and adopted by the International Astronomical Union. Stars of the nitrogen sequence are characterized by emission bands due to nitrogen to the exclusion of carbon while the carbon sequence shows bands due to carbon and oxygen to the exclusion of nitrogen.

Spectrophotometric studies of the contours of the emission bands, in both the visual and photographic regions led Dr. Beals to advance the hypothesis that these wide bands were produced by atoms being constantly ejected with velocities as high as 3,000 kilometres per second from the stellar surfaces. This theory satisfactorily explains the observed features and has been universally accepted. Thus, the major mysteries of these strange stars have been solved. Accurate information on the absolute magnitudes, masses, diameters, and parallaxes of these stars is much to be desired.

The P-Cygni Stars.—In the 17th century a new star appeared in the constellation of Cygnus which, unlike other novæ is still visible to the unaided eye as a star of the fourth magnitude, and which has been designated P-Cygni. This star is the prototype of a small group of early type stars whose spectra are characterized by complex features consisting of emission lines bordered on their violet edges by absorption components. Following a detailed spectrographic study of P-Cygni, Dr. Beals secured observations of all P-Cygni-like objects that could be observed at Victoria and has made extensive studies of the profiles of the strange spectral features. This work has led to important conclusions concerning the motions and stratification within the atmospheres of these stars. A comprehensive catalogue describing in detail the classification, spectra, light variations and physical characteristics of these stars is almost ready for the press.

Studies of Solar Type Stars.—Dr. K. O. Wright recently completed an important research which added greatly to knowledge of stellar atmospheres. Using the most powerful spectrograph at Victoria he observed a number of giant and dwarf stars similar in spectral type to our sun. Detailed measurements of the positions and intensities of over 600 lines in the spectrum of each star were made, from which data, curves-of-growth relating the intensities of the absorption lines to the number of atoms active in forming them were constructed. Values of the excitation temperatures, electron pressures, chemical composition and other properties of the stellar atmospheres were deduced. Important results on the thermal equilibrium, or lack of it, in these stars were obtained. These accurate stellar observations indicate the great need for more laboratory measurements of spectral lines since the theory of line intensities is still incomplete.

Studies of the R- and N-type Stars.—In recent years, a systematic survey of approximately 50 of the red giant stars of spectral R- and N-types has been carried out by Dr. Andrew McKellar with interesting results. These stars are among the coolest stars known and their spectra show progressions of bands due to molecular compounds of carbon. Detailed spectrophotometric measurements of the complex bands have enabled Dr. McKellar to distinguish the two different isotopes of carbon C^{12} having atomic weight 12, and C^{13} having atomic weight 13. On Earth, the abundance ratio of C^{12} to C^{13} is 90 to 1, and it is very important to determine this ratio in stellar sources. A few of the 21 R-type stars investigated have the ratio C^{12} to C^{13} of over 50 to 1, but the majority give the surprising value of this ratio of 3 to 1. The results indicate that these stars may be subdivided into two "age" groups a discovery having an important bearing upon theories of stellar evolution and the energy production in stars. A similar study is in progress for 25 red giant N-type stars.

The highly important result of the above survey was the identification of the resonance line of lithium, λ6707 in the faint red star WZ Cassiopeiae. Lithium is a common element on the earth, and its presence in the sun is shown by a faint line in the solar spectrum: previous to this discovery it was not known in stellar sources. Dr. McKellar's subsequent observations showed that only a few of the coolest of these rare red giants have small amounts of lithium in their atmospheres, so presumably, the cosmic abundance of this element is very low.

Investigations of Cometary Spectra.—Only three comets have been bright enough to be observed spectrographically from Victoria, during the past ten years. Using a spectrograph of moderate dispersion, spectra of the highest spectral purity were secured of comet Whipple II, 1942g, which for the first time, resolved the cyanogen band λ3883 into lines. From a study of the structure of this band Dr. McKellar was able to show that the mechanism giving rise to the emission bands characteristic of cometary spectra is that of resonance–fluorescence by the primary solar radiation. Thus, a fifty-year mystery was satisfactorily explained. It is of interest to state that the same explanation was independently advanced in the same week by McKellar of Victoria, Minkowski of Mount Wilson, and Swings of Chicago. Subsequently, a joint paper on this subject was published by these astronomers, an example of the spirit of co-operation, and competition, that exists in astrophysical research.

Assistance of Observatory Personnel to the War Effort.—During the war years, 1939-45, all members of the staff made valuable contributions to the national war effort. Dr. A. McKellar, M.B.E., and Dr. R. M. Petrie, M.B.E.,

served for two years with the Royal Canadian Navy on Operational Research associated with the anti-submarine warfare in the Atlantic. Dr. C. S. Beals, as Provincial Gas Officer, devoted approximately three years to a study of Civilian Defence against poison gas. Mr. W. H. Stilwell assisted the Geodetic Service in an important war project, in the survey of new air fields in the Hudson's Bay area. The Director, Dr. J. A. Pearce, served for two years as an instructor in the Royal Canadian Artillery. Accurate time was furnished daily to the Air Force, and many technical instruments for all branches of the Armed Forces were repaired in the Observatory workshop. Notwithstanding their various war effort activities, the reduced staff maintained the photographic work with the seventy-three-inch telescope at normal efficiency, and a total of 8,000 spectra was secured during these years.

The outstanding development of science in the 20th century has been the increase in knowledge about atoms, especially the discovery of the secret of atomic fission. Many years ago, at the Dominion Astrophysical Observatory, examination into the mass of the electron was made from studies of the spectrum of certain very hot stars and the homogeneity of matter throughout the universe was proved. By close collaboration between physicists and astronomers this present comprehensive knowledge of the structure of matter has been slowly built up. It is this knowledge that has provided the basis of many modern inventions—radio, the electrical reproduction of the human voice, radar, the use of infra-red and other rays, etc. Thanks largely to purely astrophysical investigations, the world is now entering upon a new era with vastly increased resources at its command.

CHAPTER II.—HISTORY AND CHRONOLOGY

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PART I.—HISTORY

Section 1.—Outlines of Canadian History

See list at front of this edition for material under this heading published in previous editions of the Year Book.

Section 2.—A Bibliography of Canadian History

See list at front of this edition for material under this heading published in previous editions of the Year Book.

Section 3.—Historical Records

See list at front of this edition for material under this heading published in previous editions of the Year Book.

PART II.—CHRONOLOGY

NOTE.—*Events in the General Chronology from 1497 to 1866 are given at pp. 46-50 of the 1947 Year Book. The Ministries and the dates of elections and lengths of sessions of Dominion Parliaments are given in Tables* **2** *and* **5**, *respectively, of Chapter III. Changes in Provincial Legislatures and Ministries from Confederation to 1923 are given at pp. 75-84 of the 1924 Year Book, from 1924 to 1937 at pp. 110-118 of the 1938 Year Book and from 1934-48 in Tables* **13-21**, *pp. 104-115 of this edition. References regarding these matters are not given in this Chronology.*

1867. Mar. 29, Royal Assent given to the British North America Act. July 1, The Act came into force; Union of the Province of Canada, Nova Scotia and New Brunswick as the Dominion of Canada; Upper and Lower Canada made separate provinces named Ontario and Quebec; Viscount Monck, first Governor General; Sir John A. Macdonald, Prime Minister. Nov. 6, Meeting of the first Dominion Parliament.

1868. Apr. 7, Murder of D'Arcy McGee at Ottawa. July 31, The Rupert's Land Act authorizing the acquisition by the Dominion of the Northwest Territories.

1869. June 22, Act providing for the government of the Northwest Territories. Nov. 19, Deed of surrender to the Crown of the Hudson's Bay Company's territorial rights in the Northwest. Outbreak of the Red River Rebellion under Riel.

1870. May 12, Act to establish the Province of Manitoba. July 15, Northwest Territories transferred to the Dominion and Manitoba admitted into Confederation. Aug. 24 ,End of Red River Rebellion.

1871. Apr. 2, First Dominion Census (population 3,689,257). Apr. 14, Act establishing uniform currency in the Dominion. May 8, Treaty of Washington signed. July 20, British Columbia entered Confederation. Dominion undertook to begin construction of a transcontinental railway within two years and to complete it within ten years.

1872. Canadian Pacific Railway general charter passed by the Dominion Parliament authorizing construction of a transcontinental line by a private company.

1873. May 23, Act establishing the North West Mounted Police. July 1, Prince Edward Island entered Confederation. Nov. 8, Incorporation of Winnipeg.

1874. May 26, The Dominion Elections Act. May, Ontario Agricultural College, Guelph, opened.

1875. Apr. 8, The Northwest Territories Act establishing a Lieutenant-Governor and a Northwest Territories Council. April-May, Work on the Canadian Pacific railway as a Government line begun at Fort William. June 15, Formation of the Presbyterian Church in Canada.

1876. June 1, Opening of the Royal Military College, Kingston. June 5, First sitting of the Supreme Court of Canada. July 3, Opening of the Intercolonial Railway from Quebec to Halifax.

1877. October, First wheat exported from Manitoba to the United Kingdom. Founding of the University of Manitoba.

1878. July 1, Canada joined the International Postal Union.

1879. May 15, Adoption of a protective tariff ("The National Policy").

1880. Royal Canadian Academy of Arts founded; first meeting and exhibition, Mar. 6. May 11, Sir A. T. Galt appointed first Canadian High Commissioner in London. Sept. 1, All British possessions in North America and adjacent islands (except Newfoundland and its dependencies) annexed to Canada by Imperial Order in Council of July 31. Oct. 21, Signing of contract with the present Canadian Pacific Railway Co. for the completion of the Canadian Pacific railway.

1881. Apr. 4, Second Dominion Census (population 4,324,810). May 2, First sod turned for Canadian Pacific railway as a company line.

1882. May 8, Provisional District of Assiniboia, Saskatchewan, Athabaska and Alberta formed. May 25, First meeting of the Royal Society of Canada. Aug. 23, Regina established as seat of government of the Northwest Territories.

1883. Sept. 5, Formation of the Methodist Church in Canada.

1884. Aug. 11, Order in Council settling the boundary of Ontario and Manitoba.

1885. Mar. 26-May 16, Riel's second rebellion in the Northwest. Apr. 24, Engagement at Fish Creek. May 2, Engagement at Cut Knife. May 12, Taking of Batoche. May 16, Surrender of Riel. July 20, The Electoral Franchise Act. Nov. 7, Last spike of Canadian Pacific Railway main line driven at Craigellachie. Nov. 16, Execution of Riel.

1886. Apr. 6, Incorporation of Vancouver. June 7, Archbishop Taschereau of Quebec made first Canadian Cardinal. June 13, Vancouver destroyed by fire. June 28, First through train of the Canadian Pacific Railway left Montreal for Port Moody. July 31, First quinquennial census of Manitoba: population 108,640.

1887. Interprovincial Conference at Quebec. Apr. 4, First Colonial Conference at London.

1888. Feb. 15, Signing of Fishery Treaty between United Kingdom and United States at Washington. August, Rejection of Fishery Treaty by United States Senate.

1890. Mar. 31, The Manitoba School Act abolishing separate schools.

1891. Apr. 5, Third Dominion Census (population 4,833,239). June 6, Death of Sir John A. Macdonald.

1892. Feb. 29, Washington Treaty, providing for arbitration of the Bering Sea Seal Fisheries question. July 22, Boundary Convention between Canada and United States.

1893. Apr. 4, First sitting of the Bering Sea Arbitration Court. Dec. 18, Archbishop Machray, of Rupert's Land, elected first Anglican Primate of all Canada.

1894. June 28, Second Colonial Conference at Ottawa.

1895. Sept. 10, Opening of new Sault Ste. Marie Canal.

1896. August, Gold discovered in the Klondyke.

1897. June 22, Celebration throughout the Empire of the Diamond Jubilee of Queen Victoria. July, Third Colonial Conference at London. Dec. 17, Award of the Bering Sea Arbitration Court.

1898. June 13, The Yukon District established as a separate Territory. Aug. 1, British Preferential Tariff went into force. Aug. 23, Meeting at Quebec of the Joint High Commission between Canada and the United States. Dec. 25, British Imperial penny (2-cent) postage introduced.

1899. Oct. 1, Mgr. Diomède Falconio arrived at Quebec as first permanent Apostolic Delegate to Canada. Oct. 11, Beginning of the South African War. Oct. 29, First Canadian Contingent left Quebec for South Africa.

1900. Feb. 27, Battle of Paardeberg. Apr. 26, Great fire at Ottawa and Hull.

1901. Jan. 22, Death of Queen Victoria and accession of King Edward VII. Apr. 1, Fourth Dominion Census (population 5,371,315). Sept. 16 - Oct. 21, Visit to Canada of the Duke and Duchess of Cornwall and York (King George V and Queen Mary).

1902. May 31, End of South African War; peace signed at Vereeniging. June 30, Fourth Colonial Conference at London. Aug. 9, Coronation of King Edward VII. December, First message sent by wireless from Canada to the United Kingdom via Cape Breton, N.S.

1903. Jan. 24, Signing of the Alaskan Boundary Convention. June 19, Incorporation of Regina. Oct. 20, Award of the Alaskan Boundary Commission.

1904. Feb. 1, Dominion Railway Commission established. Apr. 19, Great fire at Toronto. Oct. 8, Incorporation of Edmonton.

1905. Sept. 1, Creation of the Provinces of Alberta and Saskatchewan.

1906. Roald Amundsen, in the schooner *Gjoa*, arrived at Nome, Alaska, on completion of the first traverse of the North-West Passage. University of Alberta founded. Hydro-Electric Power Commission of Ontario formed. June 24, First quinquennial census of the three Prairie Provinces. Oct. 8, Interprovincial Conference at Ottawa.

1907. Apr. 15-May 14, Fifth Colonial Conference at London. Oct. 17, Transatlantic wireless open for limited public service. University of Saskatchewan founded. Dec. 6, First recorded flight in Canada of a heavier-than-air machine carrying a passenger (Dr. Graham Bell's tetrahedral kite, *Cygnet*).

1908. University of British Columbia founded. Jan. 2, Establishment at Ottawa of Branch of the Royal Mint. June 21-23, Bicentenary of Bishop Laval celebrated at Quebec. July 20-31, Quebec tercentenary celebrations. Visit of Prince of Wales to Quebec. Aug. 2, Great fire in Kootenay Valley, B.C.

1909. Jan. 11, Signing of International Boundary Waters Convention between Canada and United States. Feb. 23, First flight in British Empire of a heavier-than-air machine under its own power piloted by a British subject (McCurdy's *Silver Dart* at Braddock's Bay, N.S.).

1910. May 6, Death of King Edward VII and accession of King George V. Sept. 7, North Atlantic Coast Fisheries Arbitration Award of The Hague Tribunal. Trade agreements made with Germany, Belgium, Holland and Italy. Oct. 11, Inauguration at Berlin (now Kitchener) of Ontario Hydro-Electric Power Commission's transmission system.

1911. May 23-June 20, Imperial Conference at London. June 1, Fifth Dominion Census (population 7,206,643). June 22, Coronation of King George V. July 11, Disastrous fires in Porcupine District of Ontario.

1912. Mar. 29-Apr. 9, First Canada-West Indies Trade Conference held at Ottawa. Apr. 15, Loss of S.S. *Titanic*. Appointment of Dominions Royal Commission. May 15, Extension of the boundaries of Quebec, Ontario and Manitoba.

1914. May 20, Loss of S.S. *Empress of Ireland*. Aug. 4, War with Germany; Aug. 12, with Austria-Hungary; Nov. 5, with Turkey. Aug. 18-22, Special war session of Canadian Parliament. Oct. 16, First Canadian Contingent of over 33,000 troops landed at Plymouth, England.

1915. February, First Canadian Contingent landed in France and proceeded to Flanders. Apr. 22, Second Battle of Ypres. Apr. 24, Battle of St. Julien. May 20-26, Battle of Festubert. June 15, Battle of Givenchy.

1916. Jan. 12, Order in Council authorizing increase in number of Canadian troops to 500,000. Feb. 3, Destruction by fire of the Houses of Parliament at Ottawa. Apr. 3-20, Battle of St. Eloi. June 1, Census of Prairie Provinces. June 1-3, Battle of Sanctuary Wood. July 1-Nov. 30, Battle of the Somme. Sept. 1, Corner-stone of new Houses of Parliament laid by Duke of Connaught.

1917. Feb. 12 - May 15, Imperial Conference. Mar. 20-May 2, Meetings at London of Imperial War Cabinet. Mar. 21-Apr. 27, Imperial War Conference. Apr. 6, United States declared war on Germany. Apr. 9, Capture of Vimy Ridge. Aug. 15, Battle of Loos, capture of Hill 70. Aug. 29, Passing of Military Service Act. Sept. 20, Completion of Quebec Bridge. Parliamentary franchise extended to women. Oct. 26-Nov. 10, Battle of Paschendaele. Dec. 6, Serious explosion at Halifax, N.S.

1918. Mar. 21, Germans launched critical offensive on Western Front. March-April, Second Battle of the Somme. June-July, Prime Minister and colleagues attended Imperial War Conference at London. July 18, Allies assumed successful offensive on Western Front. Aug. 12, Battle of Amiens. Aug. 26-28, Capture of Monchy-le-Preux. Sept. 2-4, Breaking of Drocourt-Quéant line. Sept. 16, Austrian peace note. Sept. 27-29, Capture of Bourlon Wood. Sept. 30, Bulgaria surrendered and signed armistice. Oct. 1-9, Capture of Cambrai. Oct. 6, First German peace note. Oct. 20, Capture of Denain. Oct. 25-Nov. 2, Capture of Valenciennes. Oct. 31, Turkey surrendered and signed armistice. Nov. 4, Austria-Hungary surrendered and signed armistice. Nov. 11, Capture of Mons. Germany surrendered and signed armistice.

1919. Feb. 17, Death of Sir Wilfrid Laurier. June 28, Signing at Versailles of Peace Treaty and Protocol. Aug. 15, Arrival of the Prince of Wales for official tour in Canada. Aug. 22, Formal opening of Quebec Bridge by the Prince of Wales. Sept. 1, The Prince of Wales laid foundation stone of Peace Tower, Parliament Buildings, Ottawa. Sept. 1-Nov. 10, Special peace session, thirteenth Parliament of Canada. Dec. 20, Organization of "Canadian National Railways" by Order in Council.

1920. Jan. 10, Ratification of the Treaty of Versailles. Feb. 19, Shareholders ratified agreement for sale of the Grand Trunk Railway to the Dominion Government. May 31-June 18, Trade Conference at Ottawa between Dominion and West Indian Governments. July 16, Ratification of the Treaty of St. Germain-en-Laye. Aug. 9, Ratification of the Treaty of Neuilly-sur-Seine. Nov. 15, First meeting of League of Nations Assembly began at Geneva, Switzerland.

1921. May 10, Preferential tariff arrangement with British West Indies became effective. June 1, Sixth Dominion Census (population 8,787,949). June 20-Aug. 5, Imperial Conference. Nov. 11, Opening of Conference on Limitation of Armament at Washington.

1922. Feb. 1, Arms Conference at Washington approved five-power treaty limiting capital ships and disapproving unrestricted submarine warfare and use of poison gas. Apr. 10, General Economic Conference at Genoa, Italy. July 13, Conference between Canada and the United States *re* perpetuating the Rush-Bagot Treaty regarding armament on the Great Lakes. Aug. 7, Allied Conference on war debts and reparations opened at London. Dec. 9, Reparations Conference opened at London.

1923. Apr. 1, Removal of British embargo on Canadian cattle effective. Oct. 1, Imperial Conference and Economic Conference at London.

1924. Apr. 23, British Empire Exhibition opened by King George V at Wembley, England. Aug. 6-16, Meeting of the British Association for the Advancement of Science at Toronto. Aug. 11-16, Meeting of International Mathematical Congress at Toronto.

1925. June 10, Inauguration of the United Church of Canada. Nov. 20, Death of Queen Alexandra.

1926. June 1, Census of Prairie Provinces. Oct. 19-Nov. 23, Imperial Conference at London. Nov. 26, Hon. C. Vincent Massey appointed first Envoy Extraordinary and Minister Plenipotentiary to the United States.

1927. Mar. 1, Labrador Boundary Award by the Privy Council defining the Newfoundland boundary in the Labrador Peninsula. June 1, Hon. Wm. Phillips, first U.S. Minister to Canada, reached Ottawa. July 1-3, Diamond Jubilee of Confederation celebrated throughout the Dominion. July 30, The Prince of Wales, Prince George, the Rt. Hon. Stanley Baldwin and party, arrived at Quebec on a visit to Canada. September, Canada elected as a non-permanent member of the Council of the League of Nations at Geneva. November, Dominion - Provincial Conference at Ottawa.

1928. Apr. 25, Sir Wm. H. Clark appointed first British High Commissioner to Canada. May 31, Legislative Council of Nova Scotia ceased to exist, leaving Quebec the only province with a bi-cameral legislature.

1929. Oct. 15-25, The Rt. Hon. J. Ramsay MacDonald, Prime Minister of the United Kingdom, visited Canada. Dec. 14, Transfer of natural resources by Dominion Government to Manitoba and Alberta.

1930. Jan. 21, Five-power Naval Arms Conference opened at London. Feb. 20, Transfer of natural resources to British Columbia. Mar. 20, Transfer of natural resources to Saskatchewan. Aug. 1, H. M. Airship *R-100* arrived at Montreal being the first transatlantic lighter-than-air craft to reach Canada. Oct. 1, Imperial Conference at London.

1931. June 1, Seventh Dominion Census (population 10,376,786). Sept. 21, United Kingdom suspended specie payments, following which Canada restricted the export of gold. Nov. 21, Abnormal Importations Act, extending preference to Empire products, assented to in the United Kingdom. Dec. 12, Statute of Westminster establishing complete legislative equality of the Parliament of Canada with that of the United Kingdom and exempting the Dominion and the provinces from the operation of the Colonial Laws Validity Act and the Merchant Shipping Act became effective.

1932. July 21-Aug. 20, Imperial Economic Conference at Ottawa. Aug. 6, Official opening of the Welland Ship Canal.

1933. Jan. 17-19, Dominion-Provincial Conference. May 18, Celebration of the 150th anniversary of the landing of the Loyalists at Saint John, N.B.

1934. August, Celebration at Gaspe of the 400th anniversary of the first landing of Jacques Cartier.

1935. Mar. 11, Bank of Canada commenced business. May 6, Celebrations throughout the Empire of the 25th anniversary of the accession of King George V to the Throne. Dec. 9, Dominion-Provincial Conference at Ottawa; Naval Limitation Conference at London.

1936. Jan. 20, Death of King George V and accession of King Edward VIII. Mar. 8, German forces reoccupied the Rhineland in violation of the Treaty of Versailles. June 1, Census of Prairie Provinces. July 1-Sept. 7, Celebration in Vancouver of the Golden Jubilee of that city and of the C.P.R. July 26, Unveiling of Vimy Memorial in France by King Edward VIII. Dec. 11, Abdication of King Edward VIII and accession of H. M. King George VI.

1937. May 12, Coronation of H. M. King George VI. July 8, Imperial Airways flying boat *Caledonia* arrived at Montreal from Southampton, inaugurating the experimental phase of the Transatlantic Airways. Nov. 29, Royal Commission on Dominion-Provincial Relations met at Winnipeg.

1938. Mar. 4, Unanimous judgments of the Supreme Court of Canada in favour of the Dominion Government on the Alberta constitutional references. (See 1941 Year Book, p. 19, for further references to this subject.) Mar. 13, Seizure of Austria by Germany. Sept. 12, Hitler's speech at Nuremberg, followed by clashes on the Czechoslovak border, and international crisis. Sept. 15, Meeting of Rt. Hon. Neville Chamberlain and Herr Hitler at Berchtesgaden. Sept. 22-23, Meeting of Mr. Chamberlain and Herr Hitler at Godesberg. Sept. 28, Mobilization of British fleet. Sept. 30, Crisis terminated following four-power conference at Munich. Oct. 1, Occupation of Sudeten areas of Czechoslovakia by Germany. Nov. 17, Trade Agreement between Canada and United States signed at Washington.

1939. Mar. 1, Opening of trans-Canada air-mail service. Mar. 14, Invasion of Czechoslovakia by Germany. Apr. 28, Denunciation of German-Polish non-aggression agreement by Germany. May 17-June 15, Visit of Their Majesties King George VI and Queen Elizabeth to Canada and United States. May 19, For the first time in Canadian history Royal Assent was given in person to a Special Bill. Aug. 6, Imperial Airways flying boat *Caribou* arrived at Montreal and officially opened British air-mail service. Aug. 24, Germany and Soviet Russia signed a mutual non-aggression treaty. Sept. 1, Poland invaded by Germany. Sept. 3, War with Germany declared by the United Kingdom and France. Sept. 10, Canada declared war upon Germany. Oct. 2, United States refused to recognize German-Russian partition of Poland. Oct. 4, Disallowance of Alberta Limitations of Actions Act, re-enacted after a previous disallowance. Nov. 1, Commencement of daily flights from the Atlantic to the Pacific Coasts by Trans-Canada Air Lines. Dec. 14, Russia expelled from the League of Nations. Dec. 17, First Canadian troops landed in United Kingdom. British Commonwealth Air Training Plan signed at Ottawa by United Kingdom, Canada, Australia and New Zealand.

1940. Jan. 1, First municipal government in the Northwest Territories inaugurated at Yellowknife. Mar. 13, Finland and Russia signed peace treaty, following conclusion of Russo-Finnish War. Apr. 9, Germany invaded Denmark and Norway. Apr. 25, Quebec women allowed to vote in provincial elections and to qualify as candidates for the Legislature. May 10, Rt. Hon. Winston Churchill became Prime Minister of the United Kingdom. May 16, Report of Royal Commission on Dominion-Provincial Relations presented to the House of Commons. May 22, Canadian Department of National Defence for Air set up. June 9, Henry Larsen in R.C.M.P. schooner *St. Roch* left Esquimalt, B.C., on first voyage made from Pacific to Atlantic Ocean via Northwest Passage. June 11, Establishment of Canadian consular service announced. June 22, Armistice signed between France and Germany. July 8, Department of National Defence for Naval Affairs instituted. July 10, B.N.A. Act amended to empower Dominion to enact unemployment insurance legislation. July 29, Unemployment Insurance Bill passed by House of Commons. Aug. 17-18, Conference on defences of the northern half of the Western Hemisphere held at Ogdensburg, N.Y.; Permanent Joint Board on Defence created. Aug. 19-21, National Registration in Canada.

1941. Jan. 14-15, Dominion-Provincial Conference, called to consider findings of Royal Commission on Dominion-Provincial Relations, terminated owing to opposition of three provinces. Apr. 29, Sinking of S.S. *Nerissa* caused first Canadian military casualties at sea. June 11, Eighth Dominion Census (population, 11,506,655). June 22, Germany attacked Russia. July 13, Canada approved Anglo-Soviet treaty. Aug. 14, Roosevelt-Churchill joint declaration setting forth

8 points covering war aims. Dec. 7, Japanese attack on Pearl Harbour. Canada declared state of war with Roumania, Hungary, Finland and Japan. Dec. 8, Britain and United States declared war on Japan. Dec. 11, Germany, Italy and United States formally declared war. Dec. 29-31, Prime Minister Churchill visited Ottawa.

1942. Jan. 2, Signing at Washington of joint declaration by 26 United Nations, binding each to employ its full resources against the Axis Powers. Jan. 27, Dominions accorded representation in Empire War Cabinet. July 3, Formation of Canadian joint naval, military and air staff at Washington. Aug. 19, Large-scale combined raid on Dieppe by Canadian troops supported by British, United States and Fighting French troops; Canadian casualties 3,350 out of 5,000 engaged. Nov. 9, Canada broke off relations with Vichy, France.

1943. Jan. 14-24, Prime Minister Churchill and President Roosevelt met at Casablanca to draft United Nations' war plans for 1943. May 12, Fighting ended in North Africa. July 10, British, Canadian and United States forces invaded Sicily. July 23, Trans-Canada Air Lines inaugurated transatlantic service. Aug. 10-24, Sixth Anglo-American War Conference at Quebec city, attended by Prime Minister Churchill, President Roosevelt and Prime Minister King. Aug. 15, Canadian and United States troops occupied Kiska Island in the Aleutians. Aug. 25, Franklin D. Roosevelt visited Ottawa, the first visit by a United States President to Canada's Capital while holding office. Sept. 8, Unconditional surrender of Italy. Oct. 10-13, Three-day Empire Air Conference held at London, England. Oct. 19-Nov. 1, Tripartite conference held at Moscow. Nov. 9, Canada signed UNRRA Agreement. Dec. 24, Gen. Dwight D. Eisenhower named Commander-in-Chief of Allied Forces for invasion of Europe. Gen. Sir Harold Alexander named Commander-in-Chief of Allied Armies in Italy.

1944. Jan. 5, Gen. Bernard Montgomery made Commander of the British Armies in France under Gen. Dwight D. Eisenhower. Feb. 17, Compulsory collective bargaining and arbitration of disputes in war industries made effective by a new Dominion labour code. Mar. 16, Establishment of the Wartime Labour Relations Board. Mar. 17, International air transport authority created to regulate air traffic among nations. Mar. 20, Lt.-Gen. H. D. G. Crerar appointed to command the First Canadian Army, replacing Lt.-Gen. A. G. L. McNaughton. Apr. 14, Quebec Province set up a Hydro-Electric Commission. May 1-16, Conference of British Commonwealth countries at London, England. June 4, Rome captured by Allied troops; June 6, Allied invasion of western Europe commenced. July 4-24, United Nations monetary and financial conference held at Bretton Woods, N.H., U.S.A. July 23, First Canadian Army commenced operations in Normandy as a separate army. Aug. 1, Family Allowances Act approved. Sept. 11-16, Second Quebec Conference attended by Prime Minister Churchill and President Roosevelt. Sept. 16, Siegfried Line broken by Allied troops. Sept. 16-25, Second Official Conference of UNRRA held at Montreal; establishment of an international security organization announced. The Dominion Government recognized the Provisional Government of the French Republic. Oct. 16, Completion by Henry Larsen in R.C.M.P. schooner *St. Roch* of first return voyage via Northwest Passage, Esquimalt, B.C., to Sydney, N.S., and from Dartmouth, N.S., to Vancouver, sailing north of Victoria Island. Nov. 23, Prime Minister King tabled in the House an Order in Council making 16,000 draftees available for service overseas.

1945. Jan. 5, Field Marshal Sir Bernard Montgomery appointed to command all Allied Forces on northern flank of the Ardennes salient in Belgium. Mar. 28, House of Commons approved Canada joining the World Security Conference at San Francisco. Apr. 12, Franklin Delano Roosevelt died suddenly at Warm Springs, Georgia. Apr. 25-June 26, United Nations World Security Conference met at San Francisco to prepare a charter for a general international organization. May 2, The war in Italy and part of Austria ended. Moscow announced the fall of Berlin. May 7, Unconditional surrender to Gen. Eisenhower of the German Armed Forces signed at Reims, France, by Col.-Gen. Gustav Jodl, Chief of Staff for Germany. July 4, Canadian military troops entered Berlin as part of the British garrison force. July 26, The Potsdam Declaration issued by the Allied Powers. Aug. 6, First atomic bomb dropped at Hiroshima, Japan. Canada's part in development of atomic bomb revealed. Aug. 6-10, Dominion - Provincial Conference at Ottawa. Aug. 8, Russia declared war against Japan. Aug. 9, Second atomic bomb dropped on the naval base of Nagasaki. Sept. 1, The Japanese officially laid down their arms. Sept. 17-Nov. 17, The Belsen war crimes trials, Lüneberg, Germany. Oct. 16-Nov. 1, United Nations Food and Agriculture Organization Conference held at Quebec city, Dec. 17-28, U.K., U.S., and U.S.S.R. announced agreements on the United Nations control of atomic power. Dec. 27, The Bretton-Woods Monetary Agreements signed at Washington by Canada and 27 other United Nations.

1946. Jan. 10 - Feb. 15, First General Assembly of the United Nations held at London, England. Jan. 23, the Economic and Security Council of United Nations met at London, England. Feb. 15-July 15, Royal Commission appointed to inquire into activities of espionage ring in Canada: several persons mentioned brought before the Courts. Mar. 8-18, The International Monetary Conference met at Savannah, Ga., U.S.A. Mar. 25, The United Nations Security Council opened its First Session at New York. Apr. 12, The new Governor General, the Viscount Alexander of Tunis, and Viscountess Alexander arrived at Ottawa. Apr. 29, The Dominion-Provincial Conference (adjourned Aug. 10, 1945) resumed its sittings, and adjourned five days later without having reached agreement. May 21-28, First General Assembly of the Provisional International Civil Aviation Organization met at Montreal. June 1, Census of Prairie Provinces. June 9, The Right Honourable W. L. Mackenzie King established a record for the length of time as Prime Minister of Canada. June 14, The United Nations Atomic Energy Commission held its first meeting at New York. July 5,

Canadian dollar adjusted to parity with the United States dollar. July 24, Wheat agreement arranged between Great Britain and Canada for a four-year period. July 29-Oct. 15, Peace Conference at Luxembourg Palace, Paris, France, to study texts of treaty agreements drafted by Allied Foreign Ministers Council. Sept. 11-Oct. 3, United Nations Economic and Security Council met at Lake Success, N.Y. Oct. 1, The International Military Tribunal announced its verdict against 22 leaders of Nazi Germany on war crimes charges. Oct. 23-Dec. 16, Second General Assembly of the United Nations held at New York. Nov. 19-Dec. 10, First general session of the United Nations Educational, Scientific and Cultural Organization met at Paris, France.

1947. Jan. 1, Canadian Citizenship Act came into force. Jan. 14, Canada elected to Economic and Social Council of United Nations. April, Canadian delegation sent to International Trade Organization meeting at Geneva. May 6-27, First General Assembly of International Civil Aviation Organization (I.C.A.O.) held at Montreal, Que., 39 nations participating. May 16, Canada represented on United Nations Fact-Finding Commission on Palestine. June 3-15, Plan to create Dominions of Hindustan and Pakistan offered to India and accepted. June 10, Rt. Hon. W. L. Mackenzie King completed 20 years of service as Prime Minister of Canada. June 10-12, President Truman visited Ottawa. June 27, Death of Viscount Bennett. July 9, Engagement of Princess Elizabeth to Lieutenant Philip Mountbatten announced in House of Commons by Prime Minister King. July 17, Royal Assent given to Canadian Maritime Commission Act, authorizing appointment of a Commission to promote the development of Canada's marine industries. July 19, Canadian delegation sent to Fifth Session of United Nations Economic and Social Council held at Lake Success, N.Y. July 22, Wreck of Arctic supply ship *Nascopie*. July 31, Canada represented at Imperial Privy Council meeting at London, England, for approval of marriage of Princess Elizabeth. Aug. 25-Sept. 11, Third Session of FAO Conference at Geneva. Sept. 16-Nov. 29, Second Session of the Second General Assembly of the United Nations at New York. Sept. 30, Canada elected to United Nations Security Council for two-year term. Oct. 13, New TCA *North Star* flew from Vancouver to Montreal in 6 hrs. 52 min., record non-stop flight. Oct. 30, Twenty-three countries, including Canada, signed multilateral trade agreements at Geneva Trade Conference. Nov. 17, Order of Merit conferred on the Rt. Hon. W. L. Mackenzie King by King George VI, Mr. King being the first Canadian to receive this honour. Import restrictions (effective at midnight) to conserve United States dollars announced by the Minister of Finance. Nov. 20, Marriage of H.R.H. the Princess Elizabeth, Duchess of Edinburgh, and H.R.H. Prince Philip, Duke of Edinburgh, at Westminster Abbey. Nov. 29, Partition of Palestine into independent Jewish and Arab States approved by United Nations. Dec. 18, Anglo-Canadian trade agreement announced.

1948. Jan. 4, Union of Burma came into existence as an independent republic. Jan. 8, Gen. the Hon. A. G. L. McNaughton, Canadian representative on Atomic Energy Commission, appointed Permanent Delegate of Canada to United Nations and Representative of Canada on Security Council of the United Nations. Jan. 27, Adoption of official provincial flag by Province of Quebec. Feb. 4, Ceylon an independent country in the British Commonwealth of Nations. Feb. 10, Appointment of Select Committee of House of Commons to inquire into rise in cost of living. Feb. 25, Installations of new Cabinet under Klement Gottwald in Czechoslovakia. Mar. 16, Constitutional precedent set by appearance in Senate of Hon. Lionel Chevrier, Minister of Transport, to discuss proposed legislation. Mar. 19, United States proposed to United Nations Security Council that a temporary trusteeship be established over Palestine and the enforcement of partition recommended on Nov. 29, 1947, be abandoned. Apr. 3, President Truman signed Foreign Aid Bill—a U.S. Government measure to finance the European Recovery Program. Apr. 5, Federal Government Interdepartmental Committee established to co-ordinate Canadian economic effort to aid Europe with the United States European Recovery Program. Apr. 20, Appointment of Industrial Defence Board composed of representatives of the Government, industry and the Armed Services. The Rt. Hon. W. L. Mackenzie King established length-of-service record for any Prime Minister of the British Commonwealth. Apr. 26, Twenty-fifth wedding anniversary of H.M. King George and H.M. Queen Elizabeth. May 14, Announcement of $30,000,000 program by Federal Government to assist provinces in expansion of public health services. Termination of British Mandate in Palestine. May 20, Count Folke Bernadotte of Sweden appointed United Nations mediator in Palestine dispute. May 29-June 12, Canadian International Trade Fair, the first trade fair in North America, held at Toronto. May - June, Great forest fires in Ontario, Quebec, Manitoba and the Northwest Territories. Losses in Ontario and Quebec estimated at $34,000,000. Floods in the Prairie Provinces and British Columbia; state of emergency declared in British Columbia May 31. June 9, Announcement of joint financial arrangement between Federal Government and British Columbia for relief and rehabilitation of flood-stricken area. June 11, Four-week truce arranged in Palestine.

(Continued in Appendix I of this Volume)

CHAPTER III.—CONSTITUTION AND GOVERNMENT

CONSPECTUS

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The government of Canada is provided for by the British North America Act of 1867.* This Statute of the Imperial Parliament, as from time to time amended, forms the written basis of the constitution of Canada. Subsequent sections of this Chapter describe the processes by which the constitution has developed and the institutions, as at present constituted, by which Canada is governed.

The several stages in the development of the status of the Dominion have been authoritatively described in the reports of successive Imperial Conferences including that held at London in 1926, which defined the group of self-governing communities consisting of the United Kingdom and the Dominions as "autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or foreign affairs, though united by a common allegiance to the Crown and freely associated as members of the British Commonwealth of Nations". That Conference also recognized that, as a consequence of this equality of status, the Governor General of a Dominion "is the representative of the Crown, holding in all essential respects the same position in relation to the administration of public affairs in the Dominion as is held by His Majesty the King in Great Britain", and that "it is the right of the Government of each Dominion to advise the Crown in all matters relating to its own affairs". Simultaneously, with this change in the constitutional relationship between the several parts of the British Commonwealth of Nations, there developed, as a complementary aspect of nationhood, the assumption by the several Dominions of further responsibilities and rights of sovereign States in their relations with other members of the community of nations. Membership in the League of Nations and, more recently in the United Nations, the exercise of treaty-making powers and the establishment of separate diplomatic representation in a number of foreign countries have characterized this phase in the growth of Canada. More explicit recognition of the implications of the

* See pp. 40–60 of the 1942 Year Book for text of the original B.N.A. Act and notes regarding amendments and modifications thereto.

principles of equality of status was accorded in the Statute of Westminster of 1931, which provided for the removal of the remaining limitations on the legislative autonomy of the Dominions.

Thus, Canada has, under the Crown, equality in status with Great Britain and the other Dominions in both domestic and foreign affairs; its government advises the Crown in the person of the Governor General on all matters relating to Canada; it has membership in the United Nations Organization; makes its own treaties; appoints its own ambassadors and other representatives abroad; levies its own taxes; makes its own laws which are executed by a government dependent on the will of a majority of the Canadian people; and maintains its own military, naval and air forces. In short, Canada has achieved the full status of democratic nationhood within the British Commonwealth of Nations.

PART I.—THE CONSTITUTION AND GENERAL GOVERNMENT OF CANADA

The two basic characteristics of the Canadian constitution are that it is federal and that, apart from the federal aspect, it is modelled closely on the British Parliamentary System.

Federation occurred in 1867 with the union of three colonies, Nova Scotia, New Brunswick, and Canada, which was divided into two provinces, Ontario and Quebec. The colony of British Columbia joined in 1871 and Prince Edward Island in 1873. Three other provinces were created out of Hudson's Bay Company lands acquired in 1868: Manitoba in 1870, Saskatchewan and Alberta in 1905.

The federal aspect of the constitution is defined by the British North America Act, 1867, and amendments. This Act divides the field of legislative and executive power between national and provincial authorities. It provides also the legal framework for national and provincial political institutions, but leaves the provinces full discretion to amend their own constitutions except with respect to the office of Lieutenant-Governor, the formal head of provincial government, and except that no provincial legislative authority may invade the field allotted by the Act to the Parliament of Canada.

The British North America Act must, however, be understood in the light of law, custom and the British constitution. Representative institutions were deeply rooted in the colonies before federation, and responsible (or cabinet) government had become the accepted practice in the maritime colonies and Canada. The British North America Act omits all reference to the cabinet system or the conventions under which it operates; the Act simply assumes that the cabinet system will obtain in both the national and provincial field. This has been the case, although modifications of British practice have been introduced to meet local conditions.

Section 1.—The Evolution of the Constitution Down to Confederation

The process of the development of free government in the Dominion of Canada down to Confederation is given in an article appearing at pp. 34-40 of the 1942 Year Book. Also in an Appendix to that article, pp. 40-60, the text of the British North America Act is presented.

Section 2.—The Development of the Constitution Since Confederation

A specially prepared article bringing the developments since Confederation up to date is published at pp. 41-47 of the 1943-44 Year Book. See also list of Special Articles under "Constitution and Government" at the beginning of this volume.

PART II.—ORGANIZATION

Section 1.—Federal Government

The Dominion Parliament is composed of the King (represented by the Governor General), the Senate and the House of Commons. As a result of the working out of the democratic principle, the part played by the King's representative and the Upper Chamber of Parliament in the country's legislation has been, in Canada as in the United Kingdom, a steadily decreasing one, the chief responsibilities involved in legislation being assumed by the House of Commons.

Subsection 1.—The Executive

The Governor General.—The Governor General is appointed by the King as his representative in Canada, usually for a term of five years. He is bound by the terms of his commission and instructions and can exercise only such authority as is expressly entrusted to him. He acts under the advice of his Ministry, which is responsible to Parliament, and, as the acting head of the Executive, summons, prorogues and dissolves Parliament, and assents to or reserves bills. New Letters Patent came into force on Oct. 1, 1947, whereby it is legally possible for the Governor General, on the advice of Canadian Ministers, to exercise any of the powers and authorities of the Crown in respect of Canada, without the necessity of a submission being made to the King.

Salary and Allowances.—The Governor General receives a salary of £10,000 per annum, which is a charge against the consolidated revenue of the country. He also receives $50,000 annually as an allowance for travelling.

1.—Governors General of Canada, 1867-1948

Name	Date of Appointment	Date of Assumption of Office
Viscount Monck, G.C.M.G.	June 1, 1867	July 1, 1867
Lord Lisgar, G.C.M.G.	Dec. 29, 1868	Feb. 2, 1869
The Earl of Dufferin, K.P., K.C.B., G.C.M.G.	May 22, 1872	June 25, 1872
The Marquis of Lorne, K.T., G.C.M.G.	Oct. 5, 1878	Nov. 25, 1878
The Marquis of Lansdowne, G.C.M.G.	Aug. 18, 1883	Oct. 23, 1883
Lord Stanley of Preston, G.C.B.	May 1, 1888	June 11, 1888
The Earl of Aberdeen, K.T., G.C.M.G.	May 22, 1893	Sept. 18, 1893
The Earl of Minto, G.C.M.G.	July 30, 1898	Nov. 12, 1898
Earl Grey, G.C.M.G.	Sept. 26, 1904	Dec. 10, 1904
Field Marshal H.R.H. The Duke of Connaught, K.G.	Mar. 21, 1911	Oct. 13, 1911
The Duke of Devonshire, K.G., G.C.M.G., G.C.V.O.	Aug. 19, 1916	Nov. 11, 1916
General The Lord Byng of Vimy, G.C.B., G.C.M.G., M.V.O.	Aug. 2, 1921	Aug. 11, 1921
Viscount Willingdon of Ratton, G.C.S.I., G.C.I.E., G.B.E.	Aug. 5, 1926	Oct. 2, 1926
The Earl of Bessborough, G.C.M.G.	Feb. 9, 1931	Apr. 4, 1931
Lord Tweedsmuir of Elsfield, G.C.M.G., G.C.V.O., C.H.	Aug. 10, 1935	Nov. 2, 1935
Major-General The Earl of Athlone, K.G., P.C., G.C.B., G.C.M.G., G.C.V.O., D.S.O.	Apr. 3, 1940	June 21, 1940
Field Marshal The Right Honourable Viscount Alexander of Tunis, K.G., G.C.B., G.C.M.G., C.S.I., D.S.O., M.C., LL.D., A.D.C.	Aug. 1, 1945	Apr. 12, 1946

The Ministry.—Canada's system of government is based upon that of the British, by which a Cabinet or Ministry (composed of members of the House of Commons or the Senate) is responsible to Parliament. The Cabinet is actually a committee of the King's Privy Council for Canada. Without enlarging upon the features of the system, it may be sufficient to note that the Cabinet is responsible to the House of Commons and, following established precedent, resigns office when it becomes evident that it no longer holds the confidence of the people's representatives. Members of the Cabinet are chosen by the Prime Minister; each generally assumes charge of one of the various Departments of Government, although a Minister may hold more than one portfolio at the same time, or may be without portfolio.

2.—Prime Ministers Since Confederation

Ministry	Prime Minister	Length of Administration
1	Rt. Hon. Sir JOHN ALEXANDER MACDONALD	July 1, 1867 - Nov. 5, 1873
2	Hon. ALEXANDER MACKENZIE	Nov. 7, 1873 - Oct. 16, 1878
3	Rt. Hon. Sir JOHN ALEXANDER MACDONALD	Oct. 17, 1878 - June 6, 1891
4	Hon. Sir JOHN JOSEPH CALDWELL ABBOTT	June 16, 1891 - Nov. 24, 1892
5	Hon. Sir JOHN SPARROW DAVID THOMPSON	Dec. 5, 1892 - Dec. 12, 1894
6	Hon. Sir MACKENZIE BOWELL	Dec. 21, 1894 - Apr. 27, 1896
7	Rt. Hon. Sir CHARLES TUPPER	May 1, 1896 - July 8, 1896
8	Rt. Hon. Sir WILFRID LAURIER	July 11, 1896 - Oct. 6, 1911
9	Rt. Hon. Sir ROBERT LAIRD BORDEN	Oct. 10, 1911 - Oct. 12, 1917 (Conservative Administration)
10	Rt. Hon. SIR ROBERT LAIRD BORDEN	Oct. 12, 1917 - July 10, 1920 (Unionist Administration)
11	Rt. Hon. ARTHUR MEIGHEN	July 10, 1920 - Dec. 29, 1921 (Unionist—"National Liberal and Conservative Party")
12	Rt. Hon. WILLIAM LYON MACKENZIE KING	Dec. 29, 1921 - June 28, 1926
13	Rt. Hon. ARTHUR MEIGHEN	June 29, 1926 - Sept. 25, 1926
14	Rt. Hon. WILLIAM LYON MACKENZIE KING	Sept. 25, 1926 - Aug. 6, 1930
15	Rt. Hon. RICHARD BEDFORD BENNETT	Aug. 7, 1930 - Oct. 23, 1935
16	Rt. Hon. WILLIAM LYON MACKENZIE KING	Oct. 23, 1935 - Nov. 15, 1948
17	Rt. Hon. LOUIS STEPHEN ST. LAURENT, K.C.	Nov. 15, 1948 - —

3.—Members of the Seventeenth Dominion Ministry as at Nov. 15, 1948

(According to precedence of Ministers)

NOTE.—A complete list of the members of Dominion Ministries from Confederation to 1913 appears in the 1912 Year Book, pp. 422-429. Later Ministries will be found in the corresponding tables of subsequent editions of the Year Book. Parliamentary Assistants to the Cabinet Ministers are indicated by footnotes to Table 9.

Office	Occupant	Date of Appointment[1]
Prime Minister and President of the Privy Council	Rt. Hon. LOUIS STEPHEN ST. LAURENT, K.C.	Dec. 10, 1941 Nov. 15, 1948
Minister of Trade and Commerce	Rt. Hon. CLARENCE DECATUR HOWE	Oct. 23, 1935 Jan. 19, 1948
Minister of Agriculture	Rt. Hon. JAMES GARFIELD GARDINER	Oct. 28, 1935
Minister of Mines and Resources	Hon. JAMES ANGUS MACKINNON	Jan. 23, 1939 June 11, 1948
Secretary of State	Hon. COLIN WILLIAM GEORGE GIBSON, M.C., K.C., V.D.	July 8, 1940 Dec. 12, 1946
Minister of Labour	Hon. HUMPHREY MITCHELL	Dec. 15, 1941
Minister of Public Works	Hon. ALPHONSE FOURNIER, K.C.	Oct. 6, 1942
Postmaster General	Hon. ERNEST BERTRAND, K.C.	Oct. 7, 1942 Aug. 29, 1945
Minister of National Defence	Hon. BROOKE CLAXTON, K.C.	Oct. 13, 1944 Dec. 12, 1946
Solicitor General	Hon. JOSEPH ARTHUR JEAN, K.C.	Apr. 18, 1945
Minister of Transport	Hon. LIONEL CHEVRIER, K.C.	Apr. 18, 1945

For footnote, see end of table, p. 82.

3.—Members of the Seventeenth Dominion Ministry as at Nov. 15, 1948—concluded

Office	Occupant	Date of Appointment[1]
Minister of National Health and Welfare	Hon. Paul Joseph James Martin, K.C.	Apr. 18, 1945 Dec. 12, 1946
Minister of Finance	Hon. Douglas Charles Abbott, K.C.	Apr. 18, 1945 Dec. 10, 1946
Minister of National Revenue	Hon. James Joseph McCann, M.D.	Apr. 18, 1945
Member of the Administration and Minister without Portfolio	Hon. Wishart McLea Robertson	Aug. 29, 1945
Minister of Veterans Affairs	Hon. Milton Fowler Gregg, V.C.	Sept. 2, 1947 Jan. 19, 1948
Minister of Fisheries	Hon. Robert Wellington Mayhew	June 11, 1948
Secretary of State for External Affairs	Hon. Lester Bowles Pearson	Sept.10, 1948
Minister of Justice and Attorney General	Hon. Stuart Sinclair Garson	Nov.15, 1948
Minister of Reconstruction and Supply	Hon. Robert Henry Winters	Nov.15, 1948

[1] Where two dates are shown, the first indicates the date of first appointment as a Minister of the Crown and the second the date of appointment to the portfolio held at present.

4.—Members of the King's Privy Council for Canada, According to Seniority Therein,[1] as at Nov. 15, 1948

Note.—In this list the prefix Rt. Hon. indicates membership in the Imperial Privy Council. Besides those mentioned in this list, the Rt. Hon. Sir Lyman P. Duff, G.C.M.G., retired Chief Justice of Canada, is a Canadian member of the Imperial Privy Council.

Name	Date When Sworn In	Name	Date When Sworn In
The Hon. Sir Allen Bristol Aylesworth	Oct. 16, 1905	The Hon. Charles Avery Dunning	Mar. 1, 1926
The Rt. Hon. William Lyon Mackenzie King	June 2, 1909	The Hon. George Burpee Jones	July 13, 1926
The Rt. Hon. Sir Thomas White	Oct. 10, 1911	The Hon. Donald Sutherland	July 13, 1926
The Rt. Hon. Arthur Meighen	Oct. 2, 1915	The Hon. Raymond Ducharme Morand	July 13, 1926
The Hon. Esioff Leon Patenaude	Oct. 6, 1915	The Hon. Eugene Paquet	Aug. 23, 1926
The Rt. Hon. William Morris Hughes	Feb. 18, 1916	The Hon. Lucien Cannon	Sept. 25, 1926
The Hon. Albert Sevigny	Jan. 8, 1917	The Hon. William Daum Euler	Sept. 25, 1926
The Hon. Charles Colquhoun Ballantyne	Oct. 3, 1917	H.R.H. The Duke of Windsor	Aug. 2, 1927
The Hon. James Alexander Calder	Oct. 12, 1917	The Hon. Cyrus Macmillan	June 17, 1930
The Hon. Sydney Chilton Mewburn	Oct. 12, 1917	The Rt. Hon. Ian Alistair Mackenzie	June 27, 1930
The Hon. Thomas Alexander Crerar	Oct. 12, 1917	The Hon. Arthur Charles Hardy	July 31, 1930
The Hon. Sir Henry Lumley Drayton	Aug. 2, 1919	The Hon. Hugh Alexander Stewart	Aug. 7, 1930
The Hon. Fleming Blanchard McCurdy	July 13, 1920	The Hon. Donald Matheson Sutherland	Aug. 7, 1930
The Hon. Henry Herbert Stevens	Sept. 21, 1921	The Hon. Alfred Duranleau	Aug. 7, 1930
The Hon. Arthur Bliss Copp	Dec. 29, 1921	The Hon. Thomas Gerow Murphy	Aug. 7, 1930
The Hon. James Murdock	Dec. 29, 1921	The Hon. William Duncan Herridge	June 17, 1931
The Hon. John Ewan Sinclair	Dec. 30, 1921	The Hon. Robert Charles Matthews	Dec. 6, 1933
The Hon. James Horace King	Feb. 3, 1922	The Hon. Grote Stirling	Nov. 17, 1934
The Hon. Edward James McMurray	Nov. 14, 1923	The Hon. George Reginald Geary	Aug. 14, 1935
The Hon. George Newcombe Gordon	Sept. 7, 1925	The Hon. James Earl Lawson	Aug. 14, 1935
The Rt. Hon. Charles Vincent Massey	Sept. 16, 1925	The Hon. Samuel Gobeil	Aug. 14, 1935
The Hon. Philippe Roy	Feb. 9, 1926	The Hon. Lucien Henri Gendron	Aug. 30, 1935
		The Hon. William Earl Rowe	Aug. 30, 1935
		The Hon. Onesime Gagnon	Aug. 30, 1935
		The Hon. Charles Gavan Power	Oct. 23, 1935

For footnotes, see end of table, p. 83.

4.—Members of the King's Privy Council for Canada, According to Seniority Therein,[1] as at Nov. 15, 1948—concluded

Name	Date When Sworn In	Name	Date When Sworn In
The Rt. Hon. James Lorimer Ilsley	Oct. 23, 1935	The Hon. Alphonse Fournier[3]	Oct. 7, 1942
The Hon. Joseph Enoil Michaud	Oct. 23, 1935	The Hon. Ernest Bertrand[3]	Oct. 7, 1942
The Rt. Hon. Clarence Decatur Howe[3]	Oct. 23, 1935	The Hon. Leo Richer LaFleche	Oct. 7, 1942
The Rt. Hon. James Garfield Gardiner[3]	Nov. 4, 1935	The Hon. Brooke Claxton[3]	Oct. 13, 1944
The Hon. James Angus MacKinnon[3]	Jan. 23, 1939	The Hon. Andrew George Latta McNaughton	Nov. 2, 1944
The Hon. Pierre Francois Casgrain	May 10, 1940	The Hon. James Allison Glen	Apr. 18, 1945
The Hon. Colin William George Gibson[3]	July 8, 1940	The Hon. Joseph Arthur Jean[3]	Apr. 18, 1945
The Hon. William Pate Mulock	July 8, 1940	The Hon. Lionel Chevrier[3]	Apr. 18, 1945
The Hon. Angus Lewis Macdonald	July 12, 1940	The Hon. Paul Joseph James Martin[3]	Apr. 18, 1945
The Hon. Leighton Goldie McCarthy	Mar. 4, 1941	The Hon. Douglas Charles Abbott[3]	Apr. 18, 1945
The Hon. Joseph Thorarinn Thorson	June 11, 1941	The Hon. James Joseph McCann[3]	Apr. 18, 1945
The Hon. William Ferdinand Alphonse Turgeon	Oct. 8, 1941	The Hon. David Laurence MacLaren	Apr. 18, 1945
The Rt. Hon. Louis Stephen St. Laurent[2]	Dec. 10, 1941	The Hon. Thomas Vien	July 19, 1945
The Hon. Humphrey Mitchell[3]	Dec. 15, 1941	The Hon. Wishart McLea Robertson[3]	Sept. 4, 1945
The Rt. Hon. Winston Leonard Spencer Churchill	Dec. 29, 1941	The Hon. Milton Fowler Gregg[3]	Sept. 2, 1947
		The Hon. Robert Wellington Mayhew[3]	June 11, 1948
		The Hon. Lester Bowles Pearson[3]	Sept. 10, 1948
		The Hon. Stuart Sinclair Garson[3]	Nov. 15, 1948
		The Hon. Robert Henry Winters[3]	Nov. 15, 1948

[1] As in the case of Privy Councillors of the United Kingdom, members of His Majesty's Privy Council for Canada take rank *inter se* according to the dates of their being sworn in. [2] Ranks as the Prime Minister of Canada. [3] Ranks as a member of the Cabinet.

5.—Duration and Sessions of Dominion Parliaments, 1935-48

NOTE.—Similar information for the 1st to the 12th Parliaments, covering the period from Confederation to 1917, will be found at p. 46 of the 1940 Year Book; and that for the 13th to 17th Parliaments at p. 53 of the 1945 edition.

Order of Parliament	Session	Date of Opening	Date of Prorogation	Days of Session	Sitting Days of House of Commons	Date of Election, Writs Returnable, Dissolution, and Length of Parliament[1,2]
18th Parliament.	1st	Feb. 6, 1936	June 23, 1936	139	91	Oct. 14, 1935[3]
	2nd	Jan. 14, 1937	Apr. 10, 1937	87	62	Nov. 9, 1935[4]
	3rd	Jan. 27, 1938	July 1, 1938	156	102	Jan. 25, 1940[5]
	4th	Jan. 12, 1939	June 3, 1939	143	103	4 y., 2 m., 16 d.
	5th	Sept. 7, 1939	Sept. 13, 1939	7	6	
	6th	Jan. 25, 1940	Jan. 25, 1940	1	1	
19th Parliament[6]	1st	May 16, 1940	Nov. 5, 1940	174	61	Mar. 26, 1940[3]
	2nd	Nov. 7, 1940	Jan. 21, 1942	441	105	Apr. 17, 1940[4]
	3rd	Jan. 22, 1942	Jan. 27, 1943	371	124	Apr. 16, 1945[5]
	4th	Jan. 28, 1943	Jan. 26, 1944	364	120	5 y.
	5th	Jan. 27, 1944	Jan. 31, 1945	371	136	
	6th	Mar. 19, 1945	Apr. 16, 1945	29	19	
20th Parliament.	1st	Sept. 6, 1945	Dec. 18, 1945	104	76	June 11, 1945[3]
	2nd	Mar. 14, 1946	Aug. 31, 1946	171	118	Aug. 9, 1945[4]
	3rd	Jan. 30, 1947	July 17, 1947	169	115	
	4th	Dec. 5, 1947	June 30, 1948	209	119	

[1] The ordinary legal limit of duration for each Parliament is five years. [2] Duration of Parliament in years, months and days. The life of a Parliament is counted from the date of return of election writs to the date of dissolution, both days inclusive (B.N.A. Act, Sect. 50). [3] Date of general election. [4] Writs returnable. [5] Dissolution of Parliament. [6] During the war years Parliament was kept in almost continuous session. When prorogation took place it was followed immediately by a new session. During long adjournments provision was made whereby the Speaker could reconvene Parliament before the date previously set for reassembly.

Subsection 2.—The Legislature

The Senate.—From an original membership of 72 at Confederation, the Senate, through the addition of new provinces and the general growth of the Dominion, now has 96 members, the latest change in representation having been made in 1915. The growth of representation in the Senate is traced at pp. 47-49 of the 1940 edition of the Year Book and is summarized, by provinces, in Table 6.

6.—Growth of Representation in the Senate, 1867-1948

Province	1867	1870	1871	1873	1882	1887	1892	1903	1905	1915-1948
Ontario	24	24	24	24	24	24	24	24	24	24
Quebec	24	24	24	24	24	24	24	24	24	24
Maritime Provinces	24	24	24	24	24	24	24	24	24	24
Nova Scotia	*12*	*12*	*12*	*10*	*10*	*10*	*10*	*10*	*10*	*10*
New Brunswick	*12*	*12*	*12*	*10*	*10*	*10*	*10*	*10*	*10*	*10*
Prince Edward Island	–	–	–	*4*	*4*	*4*	*4*	*4*	*4*	*4*
Western Provinces	–	2	5	5	6	8	9	11	15	24
Manitoba	–	*2*	*2*	*2*	*3*	*3*	*4*	*4*	*4*	*6*
British Columbia	–	–	*3*	*3*	*3*	*3*	*3*	*3*	*3*	*6*
Saskatchewan	–	–	–	–	–	*2*	*2*	*4*	*4*	*6*
Alberta									*4*	*6*
Totals	**72**	**74**	**77**	**77**	**78**	**80**	**81**	**83**	**87**	**96**

7.—Representation in the Senate, by Provinces, as at Nov. 15, 1948

Speaker.....The Hon. JAMES HORACE KING, P.C.
Clerk of the Senate and Clerk of Parliaments.....LESLIE CLARE MOYER, D.S.O., K.C., B.A.
Leader of the Government.....The Hon. WISHART MCLEA ROBERTSON, P.C.
Leader of the Opposition.....The Hon. JOHN THOMAS HAIG

(Ranked according to seniority, by provinces. All Senators are entitled to the designation "The Honourable".)

Province and Name of Senator	P.O. Address
Prince Edward Island— (4 Senators—1 vacancy)	
SINCLAIR, JOHN EWEN, P.C..	Emerald
MCINTYRE, JAMES PETER.....	Mount Stewart
ROBINSON, BREWER WAUGH..	Summerside
Nova Scotia—(10 Senators—3 vacancies)	
DENNIS, WILLIAM HENRY....	Halifax
QUINN, FELIX PATRICK.....	Bedford
DUFF, WILLIAM.....	Lunenburg
MACLENNAN, DONALD.....	Margaree Forks
ROBERTSON, WISHART MCLEA, P.C.....	Bedford
KINLEY, JOHN JAMES.....	Lunenburg
MCDONALD, JOHN ALEXANDER	Halifax
New Brunswick— (10 Senators—1 vacancy)	
BOURQUE, THOMAS JEAN.....	Richibucto
MCDONALD, JOHN ANTHONY.	Shediac
COPP, ARTHUR BLISS, P.C...	Sackville
JONES, GEORGE BURPEE, P.C..	Apohaqui
LEGER, ANTOINE JOSEPH.....	Moncton
VENIOT, CLARENCE JOSEPH....	Bathurst
MCLEAN, ALEXANDER NEIL...	Saint John
PIRIE, FREDERICK WILLIAM...	Grand Falls
BURCHILL, GEORGE PERCIVAL.	South Nelson

Province and Name of Senator	P.O. Address
Quebec—(24 Senators)	
BEAUBIEN, CHARLES PHILIPPE	Montreal
RAYMOND, DONAT.....	Montreal
BALLANTYNE, CHARLES COLQUHOUN, P.C.....	Montreal
MORAUD, LUCIEN.....	Quebec
PAQUET, EUGENE, P.C.....	Rimouski
HUGESSEN, ADRIAN KNATCHBULL.....	Montreal
FAFARD, J. FERNAND.....	L'Islet
HOWARD, CHARLES BENJAMIN	Sherbrooke
BEAUREGARD, ELIE.....	Montreal
DAVID, ATHANASE.....	Montreal
ST. PERE, EDOUARD CHARLES	Montreal
HUSHION, WILLIAM JAMES....	Westmount
GOUIN, LEON MERCIER.....	Montreal
VIEN, THOMAS, P.C.....	Outremont
DUTREMBLAY, PAMPHILE REAL.....	Montreal
BOUCHARD, TELESPHORE DAMIEN.....	St. Hyacinthe
DAIGLE, ARMAND.....	Montreal
LESAGE, JOSEPH ARTHUR.....	Quebec
VAILLANCOURT, CYRILLE.....	Lévis
NICOL, JACOB.....	Sherbrooke
FERLAND, CHARLES EDOUARD	Joliette
DUPUIS, VINCENT.....	Longueuil
DESSUREAULT, JEAN MARIE...	Quebec
BOUFFARD, PAUL HENRI.....	Quebec

7.—Representation in the Senate, by Provinces, as at Nov. 15, 1948—concluded

Province and Name of Senator	P.O. Address
Ontario—(24 Senators—4 vacancies)	
HARDY, ARTHUR CHARLES, P.C.	Brockville
AYLESWORTH, Sir ALLEN BRISTOL, P.C., K.C.M.G.	Toronto
MCGUIRE, WILLIAM HENRY	Toronto
LACASSE, GUSTAVE	Tecumseh
WILSON, CAIRINE REAY	Ottawa
MURDOCK, JAMES, P.C.	Ottawa
SUTHERLAND, DONALD, P.C.	Ingersoll
FALLIS, IVA CAMPBELL	Peterborough
LAMBERT, NORMAN PLATT	Ottawa
HAYDEN, SALTER ADRIAN	Toronto
PATERSON, NORMAN MCLEOD	Fort William
DUFFUS, JOSEPH JAMES	Peterborough
EULER, WILLIAM DAUM, P.C.	Kitchener
DAVIES, WILLIAM RUPERT	Kingston
CAMPBELL, GORDON PETER	Toronto
TAYLOR, WILLIAM HORACE	Scotland
BISHOP, CHARLES LAWRENCE	Ottawa
ROEBUCK, ARTHUR WENTWORTH	Toronto
HURTUBISE, JOSEPH RAOUL	Sudbury
FARQUHAR, THOMAS	Little Current
Manitoba—(6 Senators—1 vacancy)	
MULLINS, HENRY ALFRED	Winnipeg
HAIG, JOHN THOMAS	Winnipeg
Manitoba—concluded	
BEAUBIEN, ARTHUR LUCIEN	St. Jean Baptiste
CRERAR, THOMAS ALEXANDER, P.C.	Winnipeg
HOWDEN, JOHN POWER	Norwood Grove
Saskatchewan—(6 Senators—1 vacancy)	
CALDER, JAMES ALEXANDER, P.C.	Regina
MARCOTTE, ARTHUR	Ponteix
HORNER, RALPH BYRON	Blaine Lake
ASELTINE, WALTER MORLEY	Rosetown
STEVENSON, JOHN JAMES	Regina
Alberta—(6 Senators—3 vacancies)	
BUCHANAN, WILLIAM ASHBURY	Lethbridge
BLAIS, ARISTIDE	Edmonton
GERSHAW, FRED WILLIAM	Medicine Hat
British Columbia—(6 Senators—1 vacancy)	
KING, JAMES HORACE, P.C. (Speaker)	Victoria
FARRIS, JOHN WALLACE DE BEQUE	Vancouver
TURGEON, JAMES GRAY	Vancouver
MCKEEN, STANLEY STEWART	Vancouver
MACKENZIE, IAN ALISTAIR, K.C.	Vancouver

The House of Commons.—In Section 37 of the British North America Act of 1867 (30 Vict., c. 3) it was provided that "The House of Commons shall, subject to the provisions of this Act, consist of one hundred and eighty-one members, of whom eighty-two shall be elected for Ontario, sixty-five for Quebec, nineteen for Nova Scotia, and fifteen for New Brunswick". Further, under Section 51, it was enacted that, after the completion of the Census of 1871 and of each subsequent decennial census, the representation of the four provinces should be readjusted by such authority, in such manner, and from such time, as the Parliament of Canada provided, subject to and according to certain rules set out in the original Act.

The representation of the provinces in the Dominion Parliament as at 1867 and the readjustments that took place with the admission of the newer provinces into Confederation and with each decennial census up to 1931, are outlined at pp. 57-59 of the 1946 Year Book. The number of representatives of each province elected at each of the 20 general elections since Confederation is given in Table **8.**

8.—Representation in the House of Commons as at Dominion General Elections 1867-1945

Province or Territory	1867	1872	1874 1878	1882	1887 1891	1896 1900	1904	1908 1911	1917 1921	1925 1926 1930	1935 1940 1945
Ontario	82	88	88	92	92	92	86	86	82	82	82
Quebec	65	65	65	65	65	65	65	65	65	65	65
Nova Scotia	19	21	21	21	21	20	18	18	16	14	12
New Brunswick	15	16	16	16	16	14	13	13	11	11	10
Manitoba	–	4	4	5	5	7	10	10	15	17	17
British Columbia	–	6	6	6	6	6	7	7	13	14	16
Prince Edward Island	–	–	6	6	6	5	4	4	4	4	4
Saskatchewan	–	–	–	–	4	4	10	10	16	21	21
Alberta	–	–	–	–				7	12	16	17
Yukon	–	–	–	–	–	–	1	1	1	1	1
Totals	**181**	**200**	**206**	**211**	**215**	**213**	**214**	**221**	**235**	**245**	**245**

Redistribution of Parliamentary Constituencies, 1947.—After the completion of the 1941 Census the redistribution required by the British North America Act following each decennial census was postponed. A resolution to that effect was presented to Parliament and forwarded to London in the form of an Address to His Majesty the King. His Majesty caused a Bill to be laid before the Parliament of the United Kingdom for the enactment of the provisions of the resolution; this was duly passed through all stages by July 22, 1943. The Bill provided that "notwithstanding anything in the British North America Acts, 1867 to 1940, it shall not be necessary that the representation of the provinces in the House of Commons be readjusted, in consequence of the completion of the decennial census taken in the year One Thousand Nine Hundred and Forty-One, until the first session of the Parliament of Canada commencing after the cessation of hostilities between Canada and the German Reich, the Kingdom of Italy and the Empire of Japan". During the first session of the Twentieth Parliament, the House of Commons and the Senate of Canada petitioned the Imperial Government, requesting an amendment to Section 51 of the British North America Act. As a result, that Section of the Act was repealed and the following substituted therefor:—

"(1) The number of members of the House of Commons shall be Two hundred and fifty-five and the representation of the provinces therein shall forthwith upon the coming into force of this section and thereafter on the completion of each decennial census be readjusted by such authority, in such manner, and from such time as the Parliament of Canada from time to time provides, subject and according to the following Rules:

(a) Subject as hereinafter provided, there shall be assigned to each of the provinces a number of members computed by dividing the total population of the provinces by Two hundred and fifty-four and by dividing the population of each province by the quotient so obtained, disregarding, except as hereinafter in this section provided, the remainder if any, after the said process of division.

(b) If the total number of members assigned to all the provinces pursuant to Rule One is less than Two hundred and fifty-four, additional members shall be assigned to the provinces (one to a province) having remainders in the computation under Rule One commencing with the province having the largest remainder and continuing with the other provinces in the order of the magnitude of their respective remainders until the total number of members assigned is Two hundred and fifty-four.

(c) Notwithstanding anything in this section, if upon completion of a computation under Rules One and Two, the number of members to be assigned to a province is less than the number of senators representing the said province, Rules One and Two shall cease to apply in respect of the said province, and there shall be assigned to the said province a number of members equal to the said number of senators.

(d) In the event that Rules One and Two cease to apply in respect of a province then, for the purpose of computing the number of members to be assigned to the provinces in respect of which Rules One and Two continue to apply, the total population of the provinces shall be reduced by the number of the population of the province in respect of which Rules One and Two have ceased to apply and the number Two hundred and fifty-four shall be reduced by the number of members assigned to such province pursuant to Rule Three.

(e) Such readjustment shall not take effect until the termination of the then existing parliament.

"(2) The Yukon Territory as constituted by c. 41 of the Statutes of Canada, 1901, together with any part of Canada not comprised within a province which may from time to time be included therein by the Parliament of Canada for the purposes of representation in parliament, shall be entitled to one member."

Accordingly, by the Representation Act, 1947 (c. 71, Statutes of 1947) the total membership in the House of Commons was increased from 245 to 255. The representation of Quebec was increased from 65 to 73, of Ontario from 82 to 83, of Nova Scotia from 12 to 13 and of British Columbia from 16 to 18. New Brunswick,

Prince Edward Island, Alberta and Yukon remained the same at 10, 4, 17 and 1, respectively, while Manitoba and Saskatchewan each lost one, having 16 and 20 members, respectively, by the new Act.

Indemnities and Allowances.—Members of the Senate receive a sessional indemnity of $4,000. In addition, they receive an annual expense allowance of $2,000, paid at the end of each calendar year. Members of the House of Commons are paid a sessional indemnity of $4,000. In addition, they receive $2,000 as an annual expense allowance, paid at the end of each calendar year. This allowance, except in the case of Ministers of the Crown and the Leader of the Opposition, is not subject to income tax. The remuneration of a Cabinet Minister is $10,000 a year, the Prime Minister receiving $15,000, in addition to the sessional indemnity each receives as a Member of Parliament. The Leader of the Opposition also receives $10,000 a year in addition to his sessional indemnity. Cabinet Ministers are also entitled to a motor-car allowance of $2,000. The Speakers of the Senate and of the House of Commons receive, besides their sessional indemnity, a salary of $6,000 and a motor-car allowance of $1,000 and are also entitled to $3,000 in lieu of residence. Parliamentary Assistants to the Ministers of the Crown, of whom there were 10 as at Nov. 15, 1948, receive $4,000 sessional indemnity as Members of Parliament, $4,000 a year as Parliamentary Assistants and the $2,000 allowed to all other Members of Parliament.

9.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Twentieth General Election, June 11, 1945.

Speaker.....The Hon. GASPARD FAUTEUX
Clerk of the House.....A. BEAUCHESNE, K.C., C.M.G., M.A.
Leader of the Opposition.....JOHN BRACKEN

NOTE.—This information, except the populations of constituencies, has been supplied by the Chief Electoral Officer, Ottawa. Party affiliations are unofficial. The vote is summarized by provinces for this general election in Table **11**, p. 94. By-elections taking place between the date of this election and Nov. 15, 1948, are indicated by footnotes and are summarized in Table **10**, pp. 92-93. The leaders of the political parties are indicated by asterisks (*) and Parliamentary Assistants by footnotes.

Province and Electoral District	Population, Census 1941	Voters on List	Total Votes Polled	Votes Polled by Member[1]	Name of Member	P.O. Address	Party Affiliation
P. E. Island— (4 members)	No.	No.	No.	No.			
Kings	19,415	11,415	9,328	4,655	T. V. GRANT	Montague	Lib.
Prince	34,490	18,839	15,667	7,346	J. W. MACNAUGHT[2]	Summerside	Lib.
Queens	41,142	24,540	38,812[3]	9,570	J. L. DOUGLAS	Charlottetown	Lib.
				9,253	W. C. S. MCLURE	Charlottetown	P.C.
Nova Scotia— (12 members)							
Antigonish-Guysborough	26,006	14,647	10,711	6,379	J. R. KIRK	Antigonish	Lib.
Cape Breton North-Victoria	34,232	19,402	14,362	5,895	M. MACLEAN	Sydney Mines	Lib.
Cape Breton South	81,061	44,025	35,567	16,575	C. GILLIS	Glace Bay	C.C.F.
Colchester-Hants	52,158	31,497	24,614	11,141	F. T. STANFIELD	Truro	P.C.
Cumberland	39,476	25,090	19,615	9,121	P. C. BLACK	Amherst	P.C.
Digby-Annapolis-Kings	57,604	36,360	26,188	14,445	Rt. Hon. J. L. ILSLEY[4]	Kentville	Lib.
Halifax	122,656	85,262	105,618[3]	26,407	G. B. ISNOR	Halifax	Lib.
				23,616	W. C. MACDONALD[5]	Halifax	Lib.
Inverness-Richmond	34,864	21,072	15,071	8,177	M. E. MCGARRY	Margaree Forks	Lib.
Pictou	40,789	29,097	22,298	9,774	H. B. MCCULLOCH	New Glasgow	Lib.
Queens-Lunenburg	44,970	28,959	19,756	9,693	Hon. R. H. WINTERS	Lunenburg	Lib.
Shelburne-Yarmouth-Clare	44,146	27,343	19,154	9,341	L. E. BAKER	Yarmouth	Lib.

[1] Successful candidate. [2] Parliamentary Assistant to the Minister of Fisheries. [3] Each voter could vote for two candidates. [4] The Rt. Hon. Mr. Ilsley resigned Oct. 27, 1948, and his seat remained vacant at Nov. 15, 1948. [5] Mr. MacDonald died Nov. 18, 1946, and Mr. J. Dickey (Lib.) was elected July 14, 1947.

9.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Twentieth General Election, June 11, 1945—continued.

Province and Electoral District	Population, Census 1941	Voters on List	Total Votes Polled	Votes Polled by Member[1]	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
New Brunswick— (10 members)							
Charlotte	22,728	14,419	11,113	5,486	A. W. STUART	St. Andrews	Lib.
Gloucester	49,913	23,414	18,963	11,683	C. T. RICHARD	Bathurst	Lib.
Kent	25,817	12,920	10,652	6,835	A. D. LEGER	Grandigue	Lib.
Northumberland	38,485	20,365	16,169	8,507	J. W. MALONEY	Newcastle	Lib.
Restigouche-Madawaska	61,251	29,336	22,416	12,200	B. MICHAUD	Campbellton	Lib.
Royal	34,348	20,937	16,974	8,915	A. J. BROOKS	Sussex	P.C.
St. John-Albert	77,248	51,513	35,175	16,205	D. K. HAZEN	Saint John	P.C.
Victoria-Carleton	38,382	21,215	17,324	9,365	H. H. HATFIELD	Hartland	P.C.
Westmorland	64,486	40,225	32,843	17,251	H. R. EMMERSON	Dorchester	Lib.
York-Sunbury	44,743	27,917	22,644	10,828	Hon. H. F. G. BRIDGES[2]	Fredericton	Lib.
Quebec— (65 members)							
Argenteuil	22,965	13,349	10,972	5,349	G. H. HEON	Lachute	Ind.-P.C.
Beauce	55,275	27,299	22,739	9,612	L. DIONNE	St. Georges de Beauce	Lib.
Beauharnois-Laprairie	48,270	28,802	23,017	10,716	M. RAYMOND	Outremont	B.P.C.
Bellechasse	29,909	15,451	10,599	6,928	L. P. PICARD	Quebec	Lib.
Berthier-Maskinongé	39,439	22,205	17,956	10,604	A. LAURENDEAU	St. Gabriel de Brandon	Lib.
Bonaventure	44,066	21,245	15,657	7,885	B. ARSENAULT	Quebec	Ind.
Brome-Missisquoi	33,927	20,019	15,566	7,860	M. HALLE	Sweetsburg	Lib.
Chambly-Rouville	47,720	33,259	25,598	12,723	R. PINARD	Montreal	Lib.
Champlain	42,037	22,329	15,833	8,332	H. E. BRUNELLE	Cap de la Madeleine	Lib.
Chapleau	43,416	20,877	14,596	6,230	D. GOURD	Amos	Lib.
Charlevoix-Saguenay	67,087	32,705	23,368	12,430	F. DORION	Quebec	Ind.
Châteauguay-Huntingdon	25,369	14,343	11,467	4,770	D. E. BLACK	St. Jean Chrysostome	Lib.
Chicoutimi	78,881	44,180	33,577	10,796	P. E. GAGNON	Bagotville	Ind.
Compton	34,552	18,179	14,787	8,007	J. A. BLANCHETTE	Chartierville	Lib.
Dorchester	28,771	14,187	11,394	5,149	L. D. TREMBLAY	St. Malachie	Lib.
Drummond-Arthabaska	66,722	36,464	30,040	14,805	A. CLOUTIER	Drummondville	Lib.
Gaspe	57,568	28,247	22,606	11,596	J. G. L. LANGLOIS	Ste. Anne des Monts	Lib.
Hull	53,149	32,121	25,559	15,012	Hon. A. FOURNIER	Hull	Lib.
Joliette-L'Assomption-Montcalm	63,874	37,331	28,534	14,810	G. E. LAPALME	Joliette	Lib.
Kamouraska	32,741	16,762	12,295	6,829	E. MARQUIS	Sillery	Lib.
Labelle	38,791	19,814	15,096	7,969	M. LALONDE	Mont Laurier	Lib.
Lake St. John-Roberval	64,306	29,853	24,569	9,744	J. A. DION	Roberval	Ind.-Lib.
Laval - Two Mountains	33,498	18,220	13,682	6,876	J. R. L. LACOMBE[3]	Ste. Scholastique	Ind.
Lévis	30,411	19,508	14,554	10,098	M. BOURGET	Lauzon	Ind.-Lib.
Lotbinière	43,738	21,633	16.087	10,122	H. LAPOINTE[4]	Quebec	Lib.
Matapedia-Matane	48,184	22,915	17,999	8,500	A. P. COTE	Ottawa	Ind.-Lib.
Mégantic-Frontenac	49,568	23,957	19,369	10,057	J. LAFONTAINE	Thetford Mines	Lib.
Montmagny-L'Islet	33,394	18,134	12,220	7,327	J. LESAGE	Quebec	Lib.
Nicolet-Yamaska	39,876	21,909	15,730	7,973	L. DUBOIS[5]	Gentilly	Ind.-Lib.
Pontiac	86,320	44,387	32,499	13,325	W. R. McDONALD[6]	Chapeau	Lib.
Portneuf	41,227	22,196	17,232	8,994	P. GAUTHIER	Deschambault	Lib.
Quebec East	67,559	41,902	30,428	17,965	Rt. Hon. L. S. ST. LAURENT*	Quebec	Lib.
Quebec South	39,511	29,297	20,284	14,091	Hon. C. G. POWER	Quebec	Lib.
Quebec West and South	49,577	29,028	20,336	10,541	C. PARENT	Quebec	Ind.-Lib.

[1] Successful candidate. [2] The Hon. Mr. Bridges died Aug. 10, 1947, and the Hon. M. F. Gregg (Lib.) was elected Oct. 20, 1947. [3] Mr. Lacombe resigned July 15, 1948, and his seat remained vacant at Nov. 15, 1948. [4] Parliamentary Assistant to Minister of National Defence. [5] Mr. Dubois died Nov. 8, 1948, and his seat remained vacant at Nov. 15, 1948. [6] Mr. McDonald died May 2, 1946, and Mr. R. Caouette (Union des Electeurs) was elected Sept. 16, 1946.

9.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Twentieth General Election, June 11, 1945—continued.

Province and Electoral District	Population, Census 1941	Voters on List	Total Votes Polled	Votes Polled by Member[1]	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Quebec—concluded							
Quebec-Montmorency	50,600	29,512	22,638	11,561	W. Lacroix	Quebec	Ind.-Lib.
Richelieu-Verchères	38,869	26,791	17,132	12,873	Hon. P. J. A. Cardin[2]	Ste. Anne de Sorel	Ind.
Richmond-Wolfe	39,545	21,083	16,064	8,459	J. P. Mullins	Bromptonville	Lib.
Rimouski	51,454	26,203	19,772	10,730	G. Belzile[3]	Rimouski	Lib.
St. Hyacinthe-Bagot	49,772	29,645	22,041	12,781	J. Fontaine	St. Hyacinthe	Lib.
St. Johns-Iberville-Napierville	36,383	21,646	16,926	10,866	A. Cote	St. Jean	Lib.
St. Maurice-Laflèche	52,587	30,692	24,309	9,779	J. I. Hamel	Shawinigan Falls	B.P.C.
Shefford	33,387	19,502	15,826	7,413	M. Boivin	Granby	Lib.
Sherbrooke	46,574	29,868	23,894	9,552	M. Gingues	Sherbrooke	Lib.
Stanstead	27,972	16,750	13,769	5,028	J. T. Hackett	Stanstead	P.C.
Témiscouata	49,871	23,963	13,410	10,325	J. F. Pouliot	Rivière-du-Loup	Ind.-Lib.
Terrebonne	47,454	30,723	23,311	15,383	L. Bertrand	Ste. Thérèse	Lib.
Three Rivers	52,061	28,849	20,917	6,610	W. Gariepy	Three Rivers	Ind.
Vaudreuil-Soulanges	22,498	13,060	10,026	6,267	L. R. Beaudoin	Hudson	Lib.
Wright	29,773	15,745	11,807	6,460	J. L. Raymond	Maniwaki	Lib.
Montreal Island—							
Cartier	66,086	37,581	26,830	10,413	F. Rose[4]	Montreal	L.P.P.
Hochelaga	88,199	54,729	36,762	22,444	R. Eudes	Montreal	Lib.
Jacques-Cartier	48,580	35,624	26,438	12,640	E. Marier	Pointe Claire	Lib.
Laurier	72,680	48,044	32,511	22,520	Hon. E. Bertrand	Montreal	Lib.
Maisonneuve-Rosemont	70,253	43,102	30,329	13,556	S. Fournier	Montreal	Lib.
Mercier	85,380	48,046	32,351	18,623	Hon. J. A. Jean	Montreal	Lib.
Mount Royal	84,295	58,858	45,498	20,925	F. P. Whitman	Montreal	Lib.
Outremont	57,011	39,098	27,020	14,836	E. G. Rinfret	Montreal	Lib.
St. Ann	38,756	23,569	16,168	11,007	T. P. Healy	Montreal	Lib.
St. Antoine-Westmount	53,295	41,256	30,026	13,648	Hon. D. C. Abbott	Westmount	Lib.
St. Denis	85,000	54,007	36,546	21,201	A. Denis	Montreal	Lib.
St. Henry	80,384	47,367	32,534	19,137	J. A. Bonnier	Montreal	Lib.
St. James	93,851	64,801	41,943	23,970	R. Beaudry	Montreal	Lib.
St. Lawrence-St. George	42,120	34,474	20,670	10,301	Hon. B. Claxton	Montreal	Lib.
St. Mary	83,444	52,207	34,207	18,237	G. Fauteux	Westmount	Lib.
Verdun	72,050	47,323	35,671	15,943	P. E. Cote[5]	Verdun	Lib.
Ontario— (82 members)							
Algoma East	27,182	13,264	10,019	4,855	T. Farquhar[6]	Little Current	Lib.
Algoma West	40,777	24,118	17,523	7,476	G. E. Nixon	Sault Ste. Marie	Lib.
Brant	22,511	14,728	11,121	5,005	J. A. Charlton	Paris	P.C.
Brantford City	34,184	23,608	18,240	8,670	W. R. MacDonald	Brantford	Lib.
Bruce	29,371	18,162	14,568	6,933	A. E. Robinson	Kincardine	P.C.
Carleton	35,410	24,486	18,152	10,916	G. R. Boucher[7]	Westboro	P.C.
Cochrane	81,086	37,404	25,605	13,285	J. A. Bradette	Cochrane	Lib.
Dufferin-Simcoe	28,940	17,871	13,509	8,539	Hon. W. E. Rowe	Newton Robinson	P.C.
Durham	25,215	16,695	13,485	6,479	C. E. Stephenson	Port Hope	P.C.
Elgin	46,150	30,031	21,656	11,652	C. D. Coyle	Strafford ville	P.C.
Essex East	57,395	37,480	29,031	16,165	Hon. P. J. J. Martin	South Windsor	Lib.
Essex South	33,815	19,980	16,083	7,875	S. M. Clark	Harrow	Lib.
Essex West	82,146	49,517	32,495	14,270	D. F. Brown	Windsor	Lib.
Fort William	40,578	25,595	18,906	7,209	D. McIvor	Westford	Lib.
Frontenac-Addington	27,541	17,299	13,803	7,707	W. R. Aylesworth	Cataraqui	P.C.

[1] Successful candidate. [2] The Hon. Mr. Cardin died Oct. 20, 1946, and Mr. G. Cournoyer (Lib.) was elected Dec. 23, 1946. [3] Parliamentary Assistant to the Minister of Finance. [4] Seat declared vacant Jan. 30, 1947, and Mr. M. Hartt (Lib.) was elected Mar. 31, 1947. [5] Parliamentary Assistant to the Minister of Labour. [6] Mr. Farquhar was appointed to the Senate Sept. 10, 1948, and the Hon. L. B. Pearson (Lib.) was elected Oct. 25, 1948. [7] Mr. Boucher resigned Nov. 1, 1948, and his seat remained vacant at Nov. 15, 1948.

9.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Twentieth General Election, June 11, 1945—continued.

Province and Electoral District	Population, Census 1941	Voters on List	Total Votes Polled	Votes Polled by Member[1]	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Ontario—continued							
Glengarry	18,732	10,649	8,270	4,934	W. B. MacDiarmid[2]	Maxville	Lib.
Grenville-Dundas	32,199	20,641	14,726	9,306	A. C. Casselman	Prescott	P.C.
Grey-Bruce	34,712	22,066	17,760	8,912	W. E. Harris[3]	Markdale	Lib.
Grey North	34,757	22,600	18,264	9,204	W. G. Case	Owen Sound	P.C.
Haldimand	21,854	14,075	10,867	5,844	M. C. Senn	Caledonia	P.C.
Halton	28,515	19,804	15,959	7,344	H. Cleaver	Burlington	Lib.
Hamilton East	68,779	44,539	35,417	13,176	T. H. Ross	Hamilton	Lib.
Hamilton West	59,358	37,403	28,886	11,439	Hon. C. W. G. Gibson	Hamilton	Lib.
Hastings-Peterborough	26,894	15,315	11,839	6,876	G. S. White	Madoc	P.C.
Hastings South	43,580	27,586	21,872	10,546	G. H. Stokes	Belleville	P.C.
Huron North	25,524	16,197	13,012	7,083	L. E. Cardiff	Brussels	P.C.
Huron-Perth	21,539	14,024	11,217	5,645	W. H. Golding	Seaforth	Lib.
Kenora-Rainy River	47,743	23,095	18,180	7,309	W. M. Benidickson	Kenora	Lib.
Kent	53,474	33,047	24,660	12,706	C. E. Desmond	Ridgetown	P.C.
Kingston City	33,261	22,519	18,164	9,175	T. A. Kidd	Kingston	P.C.
Lambton-Kent	34,909	21,027	16,498	7,829	R. J. Henderson	Petrolia	P.C.
Lambton West	35,762	25,423	18,988	8,450	J. W. Murphy	Camlachie	P.C.
Lanark	33,143	21,755	17,287	10,350	W. G. Blair	Perth	P.C.
Leeds	36,042	22,718	18,976	9,714	G. R. Webb	Gananoque	P.C.
Lincoln	65,066	42,608	33,183	15,911	N. J. Lockhart	St. Catharines	P.C.
London	64,833	47,353	35,615	16,766	P. A. Manross	London	P.C.
Middlesex East	39,511	24,551	18,842	8,808	H. O. White	Glanworth	P.C.
Middlesex West	22,822	14,087	11,506	6,690	R. McCubbin[4]	Strathroy	Lib.
Muskoka-Ontario	35,285	21,744	16,922	8,531	J. M. MacDonnell	Toronto	P.C.
Nipissing	113,902	62,123	46,120	17,416	L. Gauthier	Sudbury	Lib.
Norfolk	35,611	20,513	15,927	7,505	T. B. Barrett	Port Dover	P.C.
Northumberland	30,143	19,452	15,802	7,996	R. E. Drope	Harwood	P.C.
Ontario	52,268	35,256	26,351	12,079	W. E. N. Sinclair[5]	Oshawa	Lib.
Ottawa East	62,493	40,988	30,870	15,014	J. T. Richard	Ottawa	Lib.
Ottawa West	94,746	69,826	53,190	24,458	G. J. McIlraith[6]	Ottawa	Lib.
Oxford	50,974	32,539	24,508	11,916	K. R. Daniel	Ingersoll	P.C.
Parry Sound	30,409	16,577	12,254	5,301	B. McDonald	Sundridge	Lib.
Peel	31,539	23,039	17,713	10,357	G. Graydon	Brampton	P.C.
Perth	46,373	30,193	23,653	10,961	A. J. Bradshaw	St. Pauls	P.C.
Peterborough West	40,883	26,331	21,808	10,949	G. K. Fraser	Lakefield	P.C.
Port Arthur	50,833	26,762	20,229	10,055	Rt. Hon. C. D. Howe	Rockcliffe	Lib.
Prescott	25,261	13,323	10,351	6,623	E. O. Bertrand	L'Orignal	Lib.
Prince Edward-Lennox	28,134	18,031	13,631	7,907	G. J. Tustin	Napanee	P.C.
Renfrew North	29,876	18,280	14,354	6,828	R. M. Warren	Eganville	Lib.
Renfrew South	26,874	16,414	13,012	7,182	Hon. J. J. McCann	Renfrew	Lib.
Russell	27,319	15,977	12,542	5,519	J. O. Gour	Casselman	Lib.
Simcoe East	38,207	22,780	17,719	8,508	W. A. Robinson	Midland	Lib.
Simcoe North	31,392	20,848	15,708	8,251	J. H. Ferguson	Collingwood	P.C.
Stormont	40,905	23,624	18,830	11,702	Hon. L. Chevrier	Cornwall	Lib.
Timiskaming	51,554	24,109	19,235	7,818	W. Little	Kirkland Lake	Lib.
Victoria	32,629	19,984	16,287	8,207	C. W. Hodgson	Haliburton	P.C.
Waterloo North	60,039	40,852	28,580	15,791	L. O. Breithaupt	Kitchener	Lib.
Waterloo South	38,681	26,994	19,966	9,201	K. Homuth	Preston	P.C.
Welland	93,836	61,257	45,311	19,522	Hon. H. Mitchell	Ottawa	Lib.
Wellington North	23,605	14,926	12,050	5,779	L. Menary	Grand Valley	P.C.
Wellington South	38,441	24,156	18,893	8,484	R. W. Gladstone	Guelph	Lib.
Wentworth	78,584	55,096	41,536	15,458	F. E. Lennard	Dundas	P.C.
York East	89,158	65,938	43,791	19,908	R. H. McGregor	Toronto	P.C.
York North	47,678	33,698	25,623	11,428	J. E. Smith	Richmond Hill	Lib.
York South	78,167	58,189	40,806	16,666	A. Cockeram	Forest Hill	P.C.
York West	69,089	49,042	36,054	14,703	R. Adamson	Port Credit	P.C.
City of Toronto—							
Broadview	59,454	41,299	25,735	13,011	T. L. Church	Toronto	P.C.
Danforth	44,212	31,547	22,499	11,401	J. H. Harris	Toronto	P.C.
Davenport	58,685	41,051	27,266	13,110	J. R. MacNicol	Toronto	P.C.

[1] Successful candidate. [2] Dr. MacDiarmid having accepted an office of emolument under the Crown, his seat became vacant July 30, 1945, and Rt. Hon. W. L. Mackenzie King (Lib.) was elected Aug. 6, 1945. [3] Parliamentary Assistant to the Prime Minister. [4] Parliamentary Assistant to the Minister of Agriculture. [5] Mr. Sinclair died Nov. 26, 1947, and Mr. A. Williams (C.C.F.) was elected June 8, 1948. [6] Parliamentary Assistant to the Minister of Trade and Commerce.

9.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Twentieth General Election, June 11, 1945—continued.

Province and Electoral District	Population, Census 1941	Voters on List	Total Votes Polled	Votes Polled by Member[1]	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Ontario—concluded							
City of Toronto—concluded							
Eglinton	72,953	53,036	40,591	21,476	D. M. Fleming	Toronto	P.C.
Greenwood	58,346	41,680	27,836	13,475	D. Massey	Toronto	P.C.
High Park	55,656	41,785	30,287	12,992	W. A. MacMaster	Toronto	P.C.
Parkdale	54,123	39,380	27,076	11,588	H. A. Bruce[2]	Toronto	P.C.
Rosedale	53,404	37,763	24,432	11,784	H. R. Jackman	Toronto	P.C.
St. Paul's	62,050	48,969	30,875	12,390	D. G. Ross	Toronto	P.C.
Spadina	86,431	58,732	42,293	17,978	D. A. Croll	Toronto	Lib.
Trinity	62,143	40,514	29,106	8,908	L. Skey	Toronto	P.C.
Manitoba—(17 members)							
Brandon	38,505	23,629	18,447	6,870	J. E. Matthews	Brandon	Lib.
Churchill	39,042	16,905	13,655	5,226	R. Moore	Dauphin	C.C.F.
Dauphin	40,446	21,179	16,534	6,226	F. S. Zaplitny	Valley River	C.C.F.
Lisgar	30,375	15,330	10,395	4,552	H. W. Winkler	Morden	Lib.
Macdonald	36,033	18,366	14,713	6,147	W. G. Weir	Carman	Lib.
Marquette	35,711	19,641	16,649	6,367	Hon. J. A. Glen[3]	Russell	Lib.
Neepawa	30,035	17,015	14,062	6,497	J. Bracken	Ottawa	P.C.
Portage la Prairie	29,069	15,633	12,330	5,457	H. Leader[4]	Portage la Prairie	Lib.
Provencher	38,169	17,105	11,551	4,541	R. N. Jutras	Letellier	Lib.
St. Boniface	36,305	22,562	16,622	6,055	F. Viau	Winnipeg	Lib.
Selkirk	56,366	29,394	20,887	7,556	W. Bryce	Selkirk	C.C.F.
Souris	22,048	12,625	10,725	6,177	J. A. Ross	Melita	P.C.
Springfield	44,882	22,680	17,080	5,376	J. S. Sinnott	Beauséjour	Lib.
Winnipeg North	70,815	47,968	35,377	13,055	A. McL. Stewart	West Kildonan	C.C.F.
Winnipeg North Centre	60,354	43,789	29,539	15,971	S. H. Knowles	Winnipeg	C.C.F.
Winnipeg South	54,734	39,791	31,183	11,921	L. A. Mutch[5]	Winnipeg	Lib.
Winnipeg South Centre	66,855	50,309	38,045	16,389	R. Maybank[6]	Fort Garry	Lib.
Saskatchewan—(21 members)							
Assiniboia	33,421	17,758	15,914	6,952	E. G. McCullough	Manor	C.C.F.
Humboldt	43,292	19,658	15,409	7,843	J. W. Burton	Humboldt	C.C.F.
Kindersley	32,578	15,805	14,011	5,499	F. E. Jaenicke	Luseland	C.C.F.
Lake Centre	34,434	18,341	16,639	6,884	J. G. Diefenbaker	Prince Albert	P.C.
Mackenzie	57,395	25,193	18,221	9,037	A. M. Nicholson	Canora	C.C.F.
Maple Creek	34,229	17,486	14,928	6,483	D. J. McCuaig	Eastend	C.C.F.
Melfort	53,075	24,638	21,162	9,849	P. E. Wright	Tisdale	C.C.F.
Melville	47,111	22,376	20,320	10,095	Rt. Hon. J. G. Gardiner	Lemberg	Lib.
Moose Jaw	39,106	23,829	20,145	9,831	W. R. Thatcher	Moose Jaw	C.C.F.
North Battleford	52,329	21,307	16,203	5,049	F. W. Townley-Smith	Lashburn	C.C.F.
Prince Albert	47,370	21,856	19,473	7,928	E. L. Bowerman	Shellbrook	C.C.F.
Qu'Appelle	35,276	17,795	16,526	6,146	G. Strum (Mrs.)	Windthorst	C.C.F.
Regina City	58,245	34,726	32,194	13,799	J. O. Probe	Regina	C.C.F.
Rosetown-Biggar	32,570	17,410	15,297	8,484	M. J. Coldwell*	Ottawa	C.C.F.
Rosthern	39,608	17,964	13,777	6,898	W. A. Tucker[7]	Rosthern	Lib.
Saskatoon City	46,222	27,114	23,231	9,217	R. R. Knight	Saskatoon	C.C.F.
Swift Current	39,703	19,137	16,633	7,813	T. J. Bentley	Swift Current	C.C.F.
The Battlefords	44,984	21,808	17,424	7,579	M. Campbell	Neilburg	C.C.F.
Weyburn	38,237	18,877	16,914	8,174	E. B. McKay	Radville	C.C.F.
Wood Mountain	36,528	18,101	16,252	7,772	H. R. Argue	Kayville	C.C.F.
Yorkton	50,279	24,422	18,866	9,158	G. H. Castleden	Yorkton	C.C.F.
Alberta—(17 members)							
Acadia	26,308	13,752	10,806	5,556	V. Quelch	Morrin	S.C.
Athabaska	52,689	23,944	15,032	5,301	J. M. Dechene	Bonnyville	Lib.
Battle River	40,455	19,368	13,217	6,250	R. Fair	Paradise Valley	S.C.

[1] Successful candidate. [2] Dr. Bruce resigned Apr. 1, 1946, and Mr. H. Timmins (P.C.) was elected Oct. 21, 1946. [3] The Hon. Mr. Glen resigned Nov. 4, 1948, and his seat remained vacant at Nov. 15, 1948. [4] Mr. Leader died May 9, 1946, and Mr. C. C. Miller (P.C.) was elected Oct. 21, 1946. [5] Parliamentary Assistant to the Minister of Veterans Affairs. [6] Parliamentary Assistant to the Minister of Health and Welfare. [7] Mr. Tucker resigned June 8, 1948, and Mr. W. A. Boucher (Lib.) was elected Oct. 25, 1948.

9.—Electoral Districts, Voters on List and Votes Polled, Names and Addresses of Members of the House of Commons, as Elected at the Twentieth General Election, June 11, 1945—concluded.

Province and Electoral District	Population, Census 1941	Voters on List	Total Votes Polled	Votes Polled by Member[1]	Name of Member	P.O. Address	Party Affiliation
	No.	No.	No.	No.			
Alberta—concluded							
Bow River	45,369	23,943	17,588	6,569	C. E. JOHNSTON	Calgary	S.C.
Calgary East	47,727	34,545	25,340	7,799	D. S. HARKNESS	Calgary	P.C.
Calgary West	43,744	30,089	23,492	8,872	A. L. SMITH	Calgary	P.C.
Camrose	43,104	21,259	15,780	7,194	J. A. MARSHALL	Bashaw	S.C.
Edmonton East	53,766	38,145	25,337	8,214	P. H. ASHBY	South Edmonton	S.C.
Edmonton West	48,300	34,981	26,233	8,562	Hon. J. A. MACKINNON	Edmonton	Lib.
Jasper-Edson	58,947	27,566	19,838	7,313	W. F. KUHL	Spruce Grove	S.C.
Lethbridge	47,636	21,921	16,826	7,250	J. H. BLACKMORE	Cardston	S.C.
Macleod	43,059	21,956	17,259	6,342	E. G. HANSELL	Vulcan	S.C.
Medicine Hat	41,673	21,652	16,525	6,752	W. D. WYLIE	Medicine Hat	S.C.
Peace River	52,427	24,937	18,307	7,319	S. E. LOW*	Edmonton	S.C.
Red Deer	46,903	25,537	18,816	8,653	F. D. SHAW	Innisfail	S.C.
Vegreville	48,546	21,292	17,079	7,146	A. HLYNKA	Edmonton	S.C.
Wetaskiwin	55,516	25,543	18,388	7,255	N. JAQUES	Mirror	S.C.
British Columbia—(16 members)							
Cariboo	33,002	17,302	14,307	5,773	W. IRVINE	Prince George	C.C.F.
Comox-Alberni	37,592	21,509	16,942	7,348	J. L. GIBSON	Ahousat	Ind.-Lib.
Fraser Valley	40,955	22,990	19,266	7,629	G. A. CRUICKSHANK	Clayburn	Lib.
Kamloops	27,387	15,892	13,480	4,401	E. D. FULTON	Kamloops	P.C.
Kootenay East	25,559	13,991	12,930	4,712	J. H. MATTHEWS	Fernie	C.C.F.
Kootenay West	40,088	19,558	16,628	6,123	H. W. HERRIDGE	Trail	People's C.C.F.
Nanaimo	57,689	38,734	31,914	11,181	G. R. PEARKES	Saanich	P.C.
New Westminster	77,631	54,234	42,255	14,158	T. REID[2]	New Westminster	Lib.
Skeena	29,612	14,646	11,195	4,079	H. G. ARCHIBALD	North Vancouver	C.C.F.
Vancouver-Burrard	66,638	50,497	39,798	14,677	C. C. I. MERRITT	Vancouver	P.C.
Vancouver Centre	65,616	46,908	34,074	9,959	Rt. Hon. I. A. MACKENZIE[3]	Ottawa	Lib.
Vancouver East	66,090	48,797	36,393	16,003	A. MACINNIS	Vancouver	C.C.F.
Vancouver North	62,569	46,294	34,961	13,373	J. SINCLAIR	Patricia Bay	Lib.
Vancouver South	77,872	60,639	48,701	25,878	H. C. GREEN	Vancouver	P.C.
Victoria	57,687	43,799	35,763	11,806	Hon. R. W. MAYHEW	Victoria	Lib.
Yale	51,874	29,287	24,795	9,625	Hon. G. STIRLING[4]	Kelowna	P.C.
Yukon Territory—(1 member)							
Yukon	4,914	3,445	2,164	849	G. BLACK	Whitehorse	P.C.

[1] Successful candidate. [2] Parliamentary Assistant to the Minister of National Revenue. [3] The Rt. Hon. Mr. Mackenzie was appointed to the Senate Jan. 26, 1948, and Mr. R. Young (C.C.F.) was elected June 8, 1948. [4] The Hon. Mr. Stirling resigned Oct. 8, 1947, and Mr. O. L. Jones (C.C.F.) was elected May 31, 1948.

10.—By-Elections from the Date of the General Election, June 11, 1945, to Nov. 15, 1948

Province and Electoral District	Date of Election	Voters on List	Candidates	Votes Polled	Name of New Member	Ratio of Votes Polled to Voters	Successful Candidates	
							Votes Cast for	Ratio to Total Votes Polled
		No.	No.	No.		p.c.	No.	p.c.
Nova Scotia—								
Halifax	July 14, 1947	86,441	3	54,884[1]	J. DICKEY	–	24,469	44·58
New Brunswick—								
York-Sunbury	Oct. 20, 1947	29,945	3	24,020	Hon. M. F. GREGG	80·21	12,237	50·95

[1] Each voter could vote for two candidates.

10.—By-Elections from the Date of the General Election, June 11, 1945, to Nov. 15, 1948—concluded

Province and Electoral District	Date of Election	Voters on List	Candidates	Votes Polled	Name of New Member	Ratio of Votes Polled to Voters	Successful Candidates	
							Votes Cast for	Ratio to Total Votes Polled
		No.	No.	No.		p.c.	No.	p.c.
Quebec—								
Pontiac	Sept. 16, 1946	49,435	5	32,124	R. CAOUETTE	64·98	11,412	35·52
Richelieu-Verchères	Dec. 23, 1946	25,718	3	20,143	G. COURNOYER	78·32	11,984	59·49
Montreal Island—Cartier	Mar. 31, 1947	37,779	6	25,187	M. HARTT	66·67	9,649	38·31
Ontario—								
Glengarry	Aug. 6, 1945	10,706	2	4,895	Rt. Hon. W. L. MACKENZIE KING	45·72	4,551	92·97
Toronto—Parkdale	Oct. 21, 1946	41,087	5	23,670	H. TIMMINS	57·61	8,212	34·69
Ontario	June 8, 1948	38,462	3	26,139	A. WILLIAMS	67·96	10,187	38·97
Algoma East	Oct. 25, 1948	[1]	3	[1]	Hon. L. B. PEARSON	[1]	[1]	[1]
Manitoba—								
Portage la Prairie	Oct. 21, 1946	16,535	3	11,852	C. C. MILLER	71·68	4,805	40·54
Saskatchewan—								
Rosthern	Oct. 25, 1948	16,951	3	11,945	W. A. BOUCHER	70·47	6,233	52·18
British Columbia—								
Yale	May 31, 1948	38,439	3	28,445	O. L. JONES	74·00	12,838	45·13
Vancouver Centre	June 8, 1948	43,576	3	22,076	R. YOUNG	50·66	9,518	43·11

[1] Not available.

The Opposition.—The Opposition occupies an essential place in constitutions based on the British Parliamentary System. Like many other institutions such as that of Prime Minister, for instance, it takes its place with the many unwritten arrangements, tested by time, that have been accepted and become firmly established.

The choice of the Canadian electorate not only determines who shall govern Canada but, by deciding which party receives the second largest number of seats in the House of Commons, it settles which of the major parties becomes the Official Opposition. The function of the Leader of the Opposition is to offer intelligent and constructive criticism of the government of the day.

When criticism by the Opposition becomes sufficiently effective it can overthrow the existing government and the Leader of the Opposition might then, as a result of the ensuing election, find himself in the Prime Minister's seat.

Although the position of Leader of the Opposition is not recognized in the British North America Act, it received statutory acknowledgement in Canada in 1927. The Senate and House of Commons Act of that year provided for an annual salary to be paid to the Leader of the Opposition in addition to his indemnity as a Member of the House. (See p. 87.)

The Franchise.*—Legislation concerning the right to vote at Federal elections is outlined at pp. 72-73 of the 1947 Year Book.

* Revised by Jules Castonguay, Chief Electoral Officer, Ottawa.

The present franchise laws are contained in the Dominion Elections Act, 1938 (2 Geo. VI, c. 46, as amended by 6 Geo. VI, c. 26 and 12 Geo. VI, c. 46). The franchise is conferred upon all British subjects, men and women, who have attained the age of 21 years and who have been ordinarily resident in Canada for 12 months prior to polling day at a Dominion election, and ordinarily resident in the electoral district on the date of the issue of the writ for such election. Classes of persons denied the right to vote are:—

(1) Judges appointed by the Governor General in Council;
(2) The returning officer for each electoral district;
(3) Persons undergoing punishment as inmates of any penal institution for the commission of any offence;
(4) Indians ordinarily resident on an Indian reservation who did not serve in the First or Second World Wars;
(5) Persons restrained of their liberty or management of their property by reason of mental disease;
(6) Eskimos, whether born in Canada or elsewhere;
(7) Doukhobors, residing in the Province of British Columbia, whether born in Canada or elsewhere;
(8) Persons disqualified under any law relating to the disqualification of electors for corrupt and illegal practices.

The Act to amend the Dominion Elections Act, passed on June 15, 1948, removed the provisions previously in effect which disqualified Japanese or other persons by reason of race from voting at Dominion elections, also inmates of institutions maintained by any government or municipality for the housing of the poor.

Special procedure prescribed by the Canadian War Service Voting Regulations, 1944, and the Canadian Prisoners of War Voting Regulations, 1944, is outlined at p. 74 of the 1947 Year Book.

11.—Voters on the Lists and Votes Polled at the General Elections of 1930, 1935, 1940 and 1945

NOTE.—Corresponding statistics for the general elections of 1911, 1917, 1921 and 1925 will be found at p. 82 of the 1926 Year Book and those for the general election of 1926 at p. 66 of the 1945 edition.

Province or Territory	Voters on the Lists				Votes Polled			
	1930	1935	1940	1945	1930	1935	1940	1945
	No.	No.	No.	No.	No.	No.	No.	No.
P. E. Island	46,985	53,284	55,339	54,794	59,519[1]	61,641[1]	62,943[1]	63,807[1]
Nova Scotia	275,762	304,313	335,990	362,754	268,727[2]	275,523[2]	283,428[2]	312,954[2]
New Brunswick	207,006	229,266	251,986	262,261	186,277[3]	177,485	174,734	204,273
Quebec	1,351,585[4]	1,575,159	1,799,942	1,956,225	1,029,480[4]	1,162,862	1,189,489	1,433,591
Ontario	1,894,624	2,174,188	2,340,344	2,457,937	1,364,960[5]	1,608,244	1,625,439	1,831,806
Manitoba	328,089	377,733	425,066	433,921	235,192	284,589	320,860	327,794
Saskatchewan	410,400	451,386	481,931	445,601	331,652	347,536	373,376	379,539
Alberta	304,475[4]	368,956	423,609	430,430	201,635[4]	241,107	272,418	315,863
British Columbia	333,326	382,117	472,584	545,077	243,631	292,423	368,103	433,402
Yukon	1,719	1,805	2,097	3,445	1,408	1,265	1,741	2,164
Totals	**5,153,971[6]**	**5,918,207**	**6,588,888**	**6,952,445**	**3,922,481[6]**	**4,452,675**	**4,672,531**	**5,305,193**

[1] Each voter in the double-member constituency of Queens County, P.E.I., had two votes; in 1945, 24,540 voters on the list cast 38,812 votes. [2] Each voter in the double-member constituency of Halifax, N.S., had two votes; in 1945, 85,262 voters on the list cast 105,618 votes. [3] Each voter in the double-member constituency of St. John-Albert, N.B., had two votes; in 1930, 37,067 voters on the list cast 50,121 votes. [4] Not including one electoral district in which the return was by acclamation. [5] Each voter in the double-member constituency of Ottawa, Ont., had two votes; in 1930, 61,535 voters on the list cast 97,369 votes. [6] Not including two electoral districts in which the returns were by acclamation.

Subsection 3.—The Judiciary

The Federal Judiciary

The Parliament of Canada is empowered by Sect. 101 of the British North America Act to provide from time to time for the constitution, maintenance and organization of a general Court of Appeal for Canada and for the establishment of any additional courts for the better administration of the laws of Canada. Under this provision the Parliament of Canada has established the Supreme Court of Canada, the Exchequer Court of Canada and certain miscellaneous courts.

Supreme Court of Canada.—This Court (first established in 1875 by 38 Vict., c. 11, and now governed by the Supreme Court Act, R.S.C. 1927, c. 35) consists of a chief justice, who is called the Chief Justice of Canada, and six puisne judges. The chief justice and the puisne judges are appointed by the Governor in Council and they hold office during good behaviour but are removable by the Governor General on address of the Senate and House of Commons and they cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and exercises general appellate jurisdiction throughout Canada in civil and criminal cases. The Court is also required to consider and advise upon questions referred to it by the Governor in Council and it may also advise the Senate or House of Commons on private bills referred to the Court under any rules or orders of the Senate or House of Commons.

Appeals may be brought from any final judgment of the highest court of final resort in a province in any case where the amount or value of the matter in controversy exceeds the sum of $2,000. Where the amount in controversy does not exceed $2,000 an appeal may be brought with leave of the highest court of final resort in the province; if such court refuses to grant leave the Supreme Court of Canada may, in special cases, grant leave to appeal. Appeals in criminal cases are regulated by Sects. 1023 and 1025 of the Criminal Code. Appeals from Dominion courts are regulated by the statutes establishing such courts.

The judgment of the Supreme Court of Canada in criminal cases is final and conclusive but in civil cases a further appeal may be taken to the Judicial Committee of the Privy Council with leave of the Privy Council.

Exchequer Court.—The Exchequer Court of Canada was first established in 1875 as part of the Supreme Court of Canada but it is now a separate court and is governed by the Exchequer Court Act (R.S.C. 1927, c. 34). The Court consists of a president and three puisne judges who are appointed by the Governor in Council. The president and the puisne judges hold office during good behaviour but may be removed by the Governor General on address of the Senate and House of Commons and they cease to hold office upon attaining the age of 75 years. The Court sits at Ottawa and also at any other place in Canada for which sittings may be fixed by the Court. The jurisdiction of the Court extends to cases where claims are made by or against the Crown in right of Canada. Proceedings against the Crown are taken by petition of right pursuant to the Petition of Right Act (R.S.C. 1927, c. 158). Before proceedings can be taken against the Crown a fiat from the Governor General must be obtained.

An appeal lies to the Supreme Court of Canada from any final judgment of the Exchequer Court in which the amount in controversy exceeds $500; an appeal also lies with leave of the Supreme Court in certain cases where the amount in controversy does not exceed $500.

The Exchequer Court also exercises admiralty jurisdiction in Canada. Admiralty jurisdiction was first conferred in 1891 by the Admiralty Act (54-55 Vict., c. 29) and the admiralty jurisdiction is now governed by the Admiralty Act (24-25 Geo. V, c. 31). Under this statute the Exchequer Court is continued as a Court of Admiralty. The president and puisne judges of the Exchequer Court exercise admiralty jurisdiction throughout the whole of Canada. In addition, Canada is divided into various admiralty districts; a district judge in admiralty is appointed for each district and he exercises admiralty jurisdiction within his district. Appeals to the Supreme Court of Canada from judgments of the president or the puisne judges are governed by the general appeal provisions in the Exchequer Court Act. Appeals may be taken from a final judgment of a district judge in admiralty either to the Exchequer Court or directly to the Supreme Court of Canada.

Miscellaneous Courts. — *Railway Act.* — The Railway Act (R.S.C. 1927, c. 170) established the Board of Railway Commissioners for Canada as a court of record; by the Transport Act, 1938 (2 Geo. VI, c. 53), the name was changed to the Board of Transport Commissioners for Canada. This Court exercises jurisdiction with respect to railway matters. The Governor in Council is given jurisdiction to vary any order of the Board and an appeal lies from the Board to the Supreme Court of Canada upon a question of jurisdiction or a question of law.

Bankruptcy Act.—By virtue of para. 21 of Sect. 91 of the British North America Act, Parliament has exclusive legislative jurisdiction in relation to bankruptcy and insolvency. By the Bankruptcy Act (R.S.C. 1927, c. 11) the superior courts of the provinces are constituted bankruptcy courts; original jurisdiction is conferred upon the trial courts and appellate jurisdiction is conferred upon the appeal courts of the provinces.

Farmers' Creditors Arrangement Act. — Under the Farmers' Creditors Arrangement Act, 1943 (7 and 8 Geo. VI, c. 26), the county or district courts of the provinces are established as courts for the purposes of this Act and the appeal courts of the provinces are given appellate jurisdiction.

Provincial Judiciaries

Express provisions of the British North America Act govern, to some extent, the provincial judiciaries. Under Sect. 92 (14) the legislature of each province may exclusively make laws in relation to the administration of justice in the province including the constitution, maintenance and organization of provincial courts, both of civil and criminal jurisdiction. Sect. 96 provides that the Governor General shall appoint the judges of the Superior, District and County Courts in each province, except those of the Courts of Probate in Nova Scotia and New Brunswick. Sect. 100 provides that the salaries, allowances and pensions of judges of the Superior, District and County Courts (except the Courts of Probate in Nova Scotia and New Brunswick) are to be fixed and provided by the Parliament of Canada, and these are set out in the Judges Act, 1946 (10 Geo. VI, c. 56). Under Sect. 99 the judges of the Superior Courts hold office during good behaviour, but are removable by the Governor General on address of the Senate and House of Commons. The

tenure of office of District and County Court judges is fixed by Sect. 33 of the Judges Act, 1946, as being during good behaviour and their residence within the county or union of counties for which the Court is established.

Prince Edward Island.—*Supreme Court (S.P.E.I. 1940, c. 35).*—The Supreme Court of Prince Edward Island consists of a chief justice, who is known as the Chief Justice of Prince Edward Island, and two other judges, all appointed by the Governor General. The Court has original and appellate jurisdiction.

Court of Chancery (S.P.E.I. 1940, c. 11).—The Court of Chancery consists of a Chancellor, a Vice-Chancellor and the Master of the Rolls. The Chancellor is the Lieutenant-Governor, the Vice-Chancellor is one of the judges of the Supreme Court and the Master of the Rolls is one of the other judges of the Supreme Court. The Court has original jurisdiction in chancery matters.

County Courts (S.P.E.I. 1937, c. 6).—There are three counties in the Province with a County Court and judge for each county. Each Court has criminal jurisdiction and also civil jurisdiction generally in actions up to $500, but has no jurisdiction in cases involving title to or possession of land.

Probate Court (S.P.E.I. 1938, c. 41).—There is one judge, appointed by the Lieutenant-Governor in Council. The Court has jurisdiction in probate and guardianship matters.

Magistrates and Justices of the Peace (S.P.E.I. 1939, c. 32).—Magistrates and justices of the peace are appointed by the Lieutenant-Governor in Council. They have limited criminal and civil jurisdiction.

Nova Scotia.—*Supreme Court (S.N.S. 1919, c. 32).*—The Supreme Court of Nova Scotia consists of a chief justice and six other judges appointed by the Governor General in Council. The Court has original and appellate jurisdiction in civil and in criminal cases. Sitting individually the judges act as Trial Division and sitting *en banc* the judges act as Appeal Judges.

Court of Divorce and Matrimonial Causes (R.S.N.S., 3rd Series, c. 126).—This Court was established by a pre-Confederation statute and has divorce jurisdiction only. The judge is one of the judges of the Supreme Court.

County Courts (S.N.S. 1945, c. 5).—There are seven County Court districts in Nova Scotia and a County Court and judge for each district. The judges are appointed by the Governor General. Each Court has criminal jurisdiction and jurisdiction in civil cases up to $1,000, but no jurisdiction where any devise or bequest is disputed.

Probate Court (R.S.N.S. 1923, c. 217).—By the Probate Act the County Court judges are ex officio judges in probate. Probate matters are decided in the first instance by a registrar of probate and appeals may be taken to the probate judges. A registrar of probate is appointed for each county.

Magistrates.—There are 64 stipendiary magistrates and six provincial magistrates, all appointed by the Lieutenant-Governor in Council. They have limited criminal jurisdiction and civil jurisdiction up to $100.

Minor Courts of Civil Jurisdiction.—These consist of Courts established pursuant to city charters, Municipal Courts and Justices Courts. The City and Municipal Courts have jurisdiction up to $100 and Justices Courts have jurisdiction up to $20 singly or up to $80 when two justices are sitting.

Juvenile Courts (*R.S.N.S. 1923, c. 166*).—The Children's Protection Act provides for the establishment of Juvenile Courts and the appointment of Juvenile Court judges. The Courts exercise jurisdiction in juvenile matters under provincial statutes and are also Juvenile Courts under the Dominion Juvenile Delinquents Act. There are six Juvenile Court judges.

New Brunswick.—*Supreme Court* (*R.S.N.B. 1927, c. 113*).—The Supreme Court of New Brunswick consists of three divisions, namely, an Appeal Division, a Chancery Division and a King's Bench Division. The Appeal Division consists of a chief justice, who is known as the Chief Justice of New Brunswick, and two other judges. The Chancery Division consists of three judges who are the judges of the Appeal Division. The King's Bench Division consists of a chief justice and three other judges. The Appeal Division has general appellate jurisdiction throughout the Province and the King's Bench Division has unlimited original jurisdiction throughout the Province in civil and criminal matters except in chancery. All judges are appointed by the Governor General.

Court of Divorce and Matrimonial Causes (*R.S.N.B. 1927, c. 115*).—This Court was established by a pre-Confederation statute which has continued in force to date. It has divorce jurisdiction only. There is one judge who is appointed by the Governor General.

County Courts (*R.S.N.B. 1927, c. 116*).—The Province is divided into counties with a County Court for a county or group of counties. There are six County Court judges, appointed by the Governor General. The Court has criminal jurisdiction, jurisdiction in contracts up to $400 and jurisdiction in damage actions up to $200. The Court has no jurisdiction where title to land is brought in question or the validity of any devise or bequest is disputed.

Probate Court (*R.S.N.B. 1927, c. 120*).—A Probate Court is established by provincial Act for each county and each Court is presided over by a judge appointed by the Lieutenant-Governor in Council. The Court has jurisdiction over estates.

Juvenile Court (*S.N.B. 1944, c. 44*).—The Juvenile Courts Act provides for the establishment of a Juvenile Court for each place where the Dominion Juvenile Delinquents Act is in force. Two judges have been appointed, one for Saint John and one for Moncton. The Court has jurisdiction in juvenile matters under provincial statutes and is also a Juvenile Court under the Dominion Juvenile Delinquents Act.

Magistrates.—There are four classes of magistrates, namely, those appointed under the Local Courts Act (R.S.N.B. 1927, c. 121), the Towns Incorporation Act (R.S.N.B. 1927, c. 179), under city charters and under the Magistrates Act (S.N.B. 1942, c. 58). Magistrates have limited civil and criminal jurisdiction.

Justices and Commissioners Courts.—These are Courts of limited jurisdiction which are gradually being replaced by Magistrates Courts.

Quebec (R.S.Q. 1941, c. 15).—*Court of King's Bench.*—The Court consists of a chief justice, who is called the Chief Justice of the Province of Quebec, and 11 other judges, all of whom are appointed by the Governor General in Council. The Court has appellate jurisdiction in civil and criminal matters and has original jurisdiction in criminal cases.

Superior Court.—The Superior Court consists of a chief justice, an associate chief justice and 35 other judges, all of whom are appointed by the Governor General. The Court has general original jurisdiction in civil cases throughout the Province.

Magistrates.—Magistrates are appointed by the Lieutenant-Governor in Council. They exercise criminal jurisdiction and also civil jurisdiction in cases up to $200.

Family Courts.—The Lieutenant-Governor in Council is authorized to establish Family Courts but a Court may be established only for a territory that includes a city with a population of over 25,000. The judges are appointed by the Lieutenant-Governor in Council. Every Family Court is a Juvenile Court under the Dominion Juvenile Delinquents Act.

Sessions of the Peace.—The Courts are established and the judges appointed by provincial authority. Two judges are to reside at Montreal and at least one judge at the city of Quebec. The Courts have criminal jurisdiction only.

Justices of the Peace, Recorder's Courts and Commissioners' Courts.—These Courts are established by provincial authority. They have limited civil and criminal jurisdiction. The Recorder's Courts and Commissioners' Courts deal largely with municipal matters.

Ontario.—*Supreme Court (R.S.O. 1937, c. 100).*—The Supreme Court of Ontario consists of two divisions, one of which is known as the Court of Appeal for Ontario and the other as the High Court of Justice for Ontario. The Court of Appeal consists of a chief justice, who is called the Chief Justice of Ontario, and seven other judges. The High Court of Justice consists of a chief justice, who is known as the Chief Justice of the High Court, and 14 other judges. All judges are appointed by the Governor General. The Court of Appeal has general appellate jurisdiction throughout the Province and the High Court of Justice has unlimited original jurisdiction in civil and criminal matters.

County and District Courts (R.S.O. 1937, c. 103).—The Province is divided into counties and districts, of which there are 48 in all. There is a County or District Court for each county or district and one or more judges for each Court. There are 62 judges in all, and they are appointed by the Governor General. The Court has criminal jurisdiction, jurisdiction in contracts where the amount claimed does not exceed $800 and jurisdiction in personal and property actions where the amount claimed does not exceed $500.

Surrogate Courts (R.S.O. 1937, c. 106).—There is a Surrogate Court for each county or district. The Court has jurisdiction to deal with probate and administration matters and is presided over by the County or District Court judge for the district.

Division Courts (R.S.O. 1937, c. 107).—There are 285 Division Courts throughout the Province. These are presided over by the County or District Court judge who sits in the jurisdiction where the particular Division Court is located. Jurisdiction is limited to cases up to $200 except where there is a written contract or a promise in which case jurisdiction extends to $400.

Juvenile Courts (R.S.O. 1937, c. 316).—There is a Juvenile Court for Ontario and it has jurisdiction in juvenile cases under provincial legislation; in addition it is a Juvenile Court for the purposes of the Dominion Juvenile Delinquents Act. The judges are appointed by the Lieutenant-Governor in Council; sometimes the county or district judge is appointed, sometimes the local magistrate and sometimes a person is appointed specially for the purpose of acting as a Juvenile Court judge.

Magistrates (R.S.O. 1937, c. 133).—Magistrates are appointed by the Lieutenant-Governor in Council. They have limited civil and criminal jurisdiction and are ex officio justices of the peace.

Justices of the Peace (R.S.O. 1937, c. 132).—Justices of the peace are appointed by the Lieutenant-Governor in Council. They have limited civil and criminal jurisdiction.

Manitoba.—*Court of Appeal (R.S.M. 1940, c. 40).*—The Court of Appeal consists of a chief justice, who is called the Chief Justice of Manitoba, and four other judges. All judges are appointed by the Governor General. The Court has general appellate jurisdiction throughout the Province.

Court of King's Bench (R.S.M. 1940, c. 44).—The Court consists of a chief justice, who is known as the Chief Justice of the King's Bench, and four other judges. All judges are appointed by the Governor General. The Court has unlimited original jurisdiction throughout the Province in civil and criminal cases.

County Courts (R.S.M. 1940, c. 42).—The Province is divided into six judicial districts and a number of County Courts are established for each district. A judge is appointed by the Governor General for each district and he is the judge of all the County Courts within the district. There are five judges for the Eastern Judicial District and the other districts each have one judge. The Court has criminal jurisdiction and also jurisdiction generally in claims not exceeding $800 but has no jurisdiction in certain types of actions such as recovery of land.

Surrogate Court (R.S.M. 1940, c. 45).—There is a Surrogate Court for each judicial district and the Surrogate Courts Act provides that the County Court judge in each judicial district is to be the judge of the Surrogate Court of that district. The Court has jurisdiction and authority in relation to testamentary matters.

Juvenile Court (R.S.M. 1940, c. 32).—The Juvenile Courts are established under the Child Welfare Act and the territorial jurisdiction of each Court is set out in the Order in Council establishing the Court and appointing the judges. There are two judges for Winnipeg, one for Brandon, and one for Dauphin. In addition, there are 22 deputy judges. The Courts have power to deal with cases involving children under the Child Welfare Act and other provincial statutes and are also Juvenile Courts for the purposes of the Dominion Juvenile Delinquents Act.

Police Magistrates (R.S.M. 1940, c. 125).—Police magistrates are appointed by the Lieutenant-Governor and in addition to criminal jurisdiction they have jurisdiction to try actions for debt where the amount does not exceed $100. An appeal lies to the judge of a County Court. There are 40 police magistrates in the Province.

Justices of the Peace (R.S.M. 1940, c. 125).—Justices of the peace are appointed by the Lieutenant-Governor in Council. They have limited criminal jurisdiction and also small debt jurisdiction up to $100.

Saskatchewan.—*Court of Appeal (R.S.S. 1940, c. 60).*—The Court of Appeal consists of a chief justice, who is called the Chief Justice of Saskatchewan, and four other judges. All judges are appointed by the Governor General. The Court has general appellate jurisdiction throughout the Province.

Court of King's Bench (R.S.S. 1940, c. 61).—The Court of King's Bench consists of a chief justice, who is called the Chief Justice of the King's Bench, and six other judges. All judges are appointed by the Governor General. The Court has unlimited original jurisdiction throughout the Province in civil and criminal matters.

District Courts (R.S.S. 1940, c. 62).—The Province is divided into 21 judicial districts and there is a District Court for each judicial district. The judges are appointed by the Governor General. Each Court has jurisdiction generally in all cases where the claim does not exceed $1,200, but jurisdiction does not include cases where title to land is brought in question or where the validity of any devise or bequest is disputed. Jurisdiction is also excluded in certain personal actions such as malicious prosecution, malicious arrest, false imprisonment, libel, slander and breach of promise of marriage. The Court also has criminal jurisdiction.

Surrogate Courts (R.S.S. 1940, c. 63).—There is a Surrogate Court for each judicial district and the Surrogate Courts Act provides that the judge of the District Court shall be the judge of the Surrogate Court. The Court has jurisdiction in probate matters.

Juvenile Court (S.S. 1946, c. 91).—Under the Child Welfare Act a Juvenile Court is established. Each judge of a District Court and each police magistrate in the Province is ex officio a judge of the Juvenile Court and, in addition, the Lieutenant-Governor in Council may appoint other judges of the Juvenile Court. The Court has jurisdiction over juvenile offences under provincial statutes and also has jurisdiction, under the Dominion Juvenile Delinquents Act.

Magistrates' Courts (R.S.S. 1940, c. 94).—Magistrates are appointed by the Lieutenant-Governor in Council. There are eight full-time and eight part-time magistrates. All the magistrates exercise criminal jurisdiction. They are ex officio justices of the peace and accordingly have the jurisdiction of a justice of the peace in civil cases.

Justices of the Peace (R.S.S. 1940, c. 95).—Justices of the peace are appointed by the Lieutenant-Governor in Council and, in addition to limited criminal jurisdiction, have jurisdiction in civil cases up to $100.

Alberta.—*Supreme Court (R.S.A. 1942, c. 129).*—The Supreme Court of Alberta consists of two branches or divisions; one is designated the Appellate Division of the Supreme Court of Alberta and the other is designated the Trial Division of the Supreme Court of Alberta. The Appellate Division consists of a chief justice, who is called the Chief Justice of Alberta, and four other judges. The Trial Division consists of a chief justice, who is called the Chief Justice of the Trial Division, and five other judges. All judges of the Supreme Court are appointed by the Governor General. The Appellate Division exercises general appellate jurisdiction throughout the Province and the Trial Division has unlimited original jurisdiction in civil and criminal matters.

District Courts (R.S.A. 1942, c. 121). — There are two District Court districts in Alberta, namely, the District of Northern Alberta and the District of Southern Alberta, with a District Court for each District. The Court of the District of Northern Alberta consists of a chief judge and five other judges and the Court of the District of Southern Alberta consists of a chief judge and four other judges. All judges are appointed by the Governor General. The District Courts generally have jurisdiction in all cases where the claim does not exceed $600 and in addition have jurisdiction in criminal, probate and guardianship matters.

Juvenile Courts (*S.A. 1944, c. 8*).—The Child Welfare Act establishes a Juvenile Court for the Province and every judge of the Supreme Court, every judge of a District Court and every police magistrate is ex officio a judge of the Juvenile Court. In addition the Lieutenant-Governor in Council may appoint other persons to be judges of the Juvenile Court; 11 such judges have been appointed. The Court has jurisdiction to hear and determine offences charged against children under any statute of the Province and, in addition, the Court is a Juvenile Court for the purposes of the Dominion Juvenile Delinquents Act.

Police Magistrates (*R.S.A. 1942, c. 134*).—Police magistrates have criminal jurisdiction and also jurisdiction in actions for debt not exceeding $100 and wage claims not exceeding six months' wages. Ninety-six police magistrates have been appointed.

Justices of the Peace (*R.S.A. 1942, c. 134*).—Justices of the peace are appointed by the Lieutenant-Governor in Council. They have limited civil and criminal jurisdiction.

British Columbia.—*Court of Appeal* (*R.S.B.C. 1936, c. 57*).—The Court of Appeal consists of a chief justice, who is called the Chief Justice of British Columbia, and four other judges who are called Justices of Appeal. All are appointed by the Governor General. The Court exercises general appellate jurisdiction.

Supreme Court (*R.S.B.C. 1936, c. 56*).—This Court consists of a chief justice, who is called the Chief Justice of the Supreme Court, and five other judges who are called Judges of the Supreme Court. All are appointed by the Governor General. The Court has unlimited original jurisdiction throughout the Province in civil and criminal matters.

County Courts (*R.S.B.C. 1936, c. 58*).—There are eight counties in the Province with a County Court for each county and one or more judges for each County Court. All judges are appointed by the Governor General. Each County Court has jurisdiction up to $1,000 generally and in some cases up to $2,500. The Courts have no jurisdiction in certain types of personal actions such as libel, slander or breach of promise of marriage. The County Courts also have jurisdiction in criminal and probate matters.

Small Debts Court (*R.S.B.C. 1936, c. 62*).—The Small Debts Court Act provides that the Lieutenant-Governor in Council may appoint any stipendiary magistrate, police magistrate or any two justices of the peace to exercise small debt jurisdiction within the territorial limits for which he or they have been appointed. There are 97 Small Debts Court magistrates. Jurisdiction is limited to $100 and an appeal lies to the nearest County Court judge or Supreme Court judge.

Magistrates and Justices of the Peace (*R.S.B.C. 1936, c. 163*).—Magistrates and justices of the peace are appointed by the Lieutenant-Governor in Council. They have limited civil and criminal jurisdiction.

Section 2.—Provincial Governments

In each of the provinces, the King is represented by a Lieutenant-Governor appointed by the Governor General in Council and acts on the advice and with the assistance of his Ministry or Executive Council, which is responsible to the Legislature and resigns office when it ceases to enjoy the confidence of that body. The

Legislature of each province, with the exception of Quebec, is now unicameral, consisting of a Legislative Assembly elected by the people. In Quebec there is a Legislative Council as well as a Legislative Assembly.

12.—Provinces and Territories of Canada, with Present Areas, Dates of Admission to Confederation, and Legislative Process by which Admission was Effected

Province, Territory or District	Date of Admission or Creation	Legislative Process	Present Area (square miles)		
			Land	Fresh Water	Total
Ontario	July 1, 1867	Act of Imperial Parliament — The British North America Act, 1867 (30-31 Vict., c. 3), and Imperial Order in Council of May 22, 1867.	363,282	49,300	412,582[1]
Quebec	July 1, 1867		523,860	71,000	594,860[2]
Nova Scotia	July 1, 1867		20,743	325	21,068
New Brunswick	July 1, 1867		27,473	512	27,985
Manitoba	July 15, 1870	Manitoba Act, 1870 (33 Vict., c. 3) and Imperial Order in Council, June 23, 1870	219,723	26,789	246,512[3]
British Columbia	July 20, 1871	Imperial Order in Council, May 16, 1871	359,279	6,976	366,255
P. E. Island	July 1, 1873	Imperial Order in Council, June 26, 1873	2,184	[4]	2,184
Yukon	June 13, 1898	Yukon Territory Act, 1898 (61 Vict., c. 6)	205,346	1,730	207,076
Saskatchewan	Sept 1, 1905	Saskatchewan Act, 1905 (4-5 Edw. VII, c. 42)	237,975	13,725	251,700[5]
Alberta	Sept 1, 1905	Alberta Act, 1905 (4-5 Edw. VII, c. 3)	248,800	6,485	255,285[5]
Mackenzie	Jan. 1, 1920	Order in Council, Mar. 16, 1918	493,225	34,265	527,490[6]
Keewatin	Jan. 1, 1920		218,460	9,700	228,160[6]
Franklin	Jan. 1, 1920		541,753	7,500	549,253[6]
		Totals	**3,462,103**	**228,307**	**3,690,410**

[1] The area of Ontario was extended by the Ontario Boundaries Extension Act, 1912 (2 Geo. V, c. 40). [2] Extended by Quebec Boundaries Extension Act, 1912 (2 Geo. V, c. 45), and diminished in consequence of the Award of the Judicial Committee of the British Privy Council (Mar. 1, 1927), whereby some 112,400 square miles of territory, formerly considered as part of Quebec, were assigned to Newfoundland. [3] Extended by Extension of Boundaries of Manitoba Act, 1881, and Manitoba Boundaries Extension Act, 1912 (2 Geo. V, c. 32). [4] Too small to be enumerated. [5] Alberta and Saskatchewan now cover approximately the area formerly comprised in the districts of Assiniboia, Athabaska, Alberta and Saskatchewan, established May 17, 1882, by minute of Canadian P.C., concurred in by Dominion Parliament and Order in Council of Oct. 2, 1895. [6] By Order in Council, June 23, 1870, Rupert's Land, acquired under the Rupert's Land Acts of 1867 and 1868, and the undefined Northern Territories were admitted into the Confederation. The original Northwest Territories, mentioned in the Manitoba Act, 1870, were established by the Northwest Territories Act, 1880 (43 Vict., c. 25), the District of Keewatin having been previously defined by an Act of the Dominion Parliament (39 Vict., c. 21). The provisional Districts of Yukon, Mackenzie, Franklin and Ungava were defined in an Order in Council of Oct. 2, 1895, their boundaries being changed by Order in Council of Dec. 18, 1897. By Order in Council of July 24, 1905, the area of Keewatin, not included in the Northwest Territories, was annexed to the latter from Sept. 1, 1905. By the Extension of Boundaries Act, 1912, Ungava was made a part of the Province of Quebec, and the remaining area of the Northwest Territories south of 60° N. latitude was divided between Manitoba and Ontario.

The source of the powers of the Provincial Governments of Canada is the British North America Act, 1867 (30-31 Vict., c. 3 and amendments). Under Sect. 92 of the Act, the Legislature of each province may exclusively make laws in relation to the following matters: amendment of the constitution of the province, except as regards the Lieutenant-Governor; direct taxation within the province; borrowing of money on the credit of the province; establishment and tenure of provincial offices and appointment and payment of provincial officers; the management and sale of public lands belonging to the province and of the timber and wood thereon; the establishment, maintenance and management of public and reformatory prisons in and for the province; the establishment, maintenance and management of hospitals, asylums, charities and eleemosynary institutions in and for the province, other than marine hospitals; municipal institutions in the province; shop, saloon, tavern, auctioneer and other licences issued for the raising of provincial or municipal revenue; local works and undertakings other than interprovincial or international lines of ships, railways, canals, telegraphs, etc., or works which,

though wholly situated within one province, are declared by the Federal Parliament to be for the general advantage either of Canada or of two or more provinces; the incorporation of companies with provincial objects; the solemnization of marriage in the province; property and civil rights in the province; the administration of justice in the province, including the constitution, maintenance and organization of provincial courts both of civil and criminal jurisdiction, and including procedure in civil matters in these courts*; the imposition of punishment by fine, penalty, or imprisonment for enforcing any law of the province relating to any of the aforesaid subjects; generally all matters of a merely local or private nature in the province.

Further, in and for each province the Legislature may, under Sect. 93, exclusively make laws in relation to education, subject to certain provisions. The purpose of these provisions is to preserve to a religious minority in any province the same privileges and rights in regard to education which it had at the date of Confederation, but the provincial Legislatures were not debarred from legislating on the subject of separate schools provided they did not thereby prejudicially affect privileges enjoyed before Confederation by such schools in the province.

These powers, given to the four original provinces in Confederation, have, with some slight changes, been retained ever since and the more recently admitted provinces have assumed the same rights and responsibilities on their inclusion as units in the federation as were previously enjoyed by the older members.

The tables in the following Subsections are brought up to June 30, 1948, except where provincial elections were held subsequently.

Subsection 1.—Prince Edward Island

The Government of Prince Edward Island consists of a Lieutenant-Governor, an Executive Council and a Legislative Assembly. The Executive Council of Prince Edward Island consists of: the President of the Council, Premier, Minister of Education and Provincial Secretary-Treasurer; the Attorney and Advocate General; the Minister of Health and Welfare; the Minister of Agriculture; the Minister of Public Works and Highways; and four Ministers without portfolio. The Assembly has 30 members who serve for five years, 15 of whom are elected on a basis of manhood suffrage and the other 15 elected by property holders only.

* A description of the provincial courts is given at pp. 96-102.

13.—Lieutenant-Governors of Prince Edward Island, 1873-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948

NOTE.—The Lieutenant-Governor of a province is addressed "His Honour" and is also styled "Honourable" throughout his life. Where a knighthood or other honour was conferred during the term of office, it is shown. Certain Lieutenant-Governors were knighted after their term had expired. Legislatures and Ministries from Confederation to 1923 are given at pp. 75-84 of the 1924 Year Book, and for 1924-34 at pp. 110-118 of the 1938 Year Book.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
WILLIAM ROBINSON	June 10, 1873	BENJAMIN ROGERS	June 1, 1910
Sir ROBERT HODGSON	July 4, 1874	A. C. MACDONALD	June 3, 1915
THOMAS H. HAVILAND	July 10, 1879	MURDOCK MCKINNON	Sept. 2, 1919
ANDREW ARCHIBALD MACDONALD	July 18, 1884	FRANK R. HEARTZ	Sept. 8, 1924
JEDEDIAH S. CARVELL	Sept. 2, 1889	CHARLES DALTON	Nov. 19, 1930
GEORGE W. HOWLAN	Feb. 21, 1894	GEORGE D. DEBLOIS	Dec. 28, 1933
P. A. MCINTYRE	May 23, 1899	BRADFORD W. LEPAGE	Sept. 11, 1939
D. A. MACKINNON	Oct. 3, 1904	J. A. BERNARD	May 18, 1945

13.—Lieutenant-Governors of Prince Edward Island, 1873-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948—concluded

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
July 23, 1935	18th General Assembly.....	5	Sept. 25, 1935.....	Apr. 21, 1939
May 18, 1939	19th General Assembly.....	4	Mar. 20, 1940.....	Aug. 20, 1943
Sept. 15, 1943	20th General Assembly.....	4	Feb. 15, 1944.....	Oct. 27, 1947
Dec. 11, 1947	21st General Assembly.....	[2]	Feb. 24, 1948.....	" [2]

[1] The Ministries from 1934-48 were: 19th Ministry, sworn in Oct. 14, 1933, under the leadership of Hon. W. J. P. MacMillan, M.D., C.M.; 20th Ministry, sworn in Aug. 15, 1935, under the leadership of Hon. W. M. Lea; 21st Ministry, sworn in Jan. 14, 1936, under the leadership of Hon. T. A. Campbell, K.C.; 22nd Ministry, sworn in May 11, 1943, under the leadership of Hon. J. Walter Jones. [2] Life of Legislature not yet expired.

Twenty-Third Ministry

(Party standing at latest General Election, Dec. 11, 1947: 24 Liberals and 6 Progressive Conservatives.)

NOTE.—Ministers who have held office continuously are shown as at the date of original appointment, despite the formation of a new Ministry consequent upon the appointment of a new Premier.

Office	Name	Date of Appointment
President of the Executive Council, Premier, Minister of Education, and Provincial Secretary-Treasurer.....	Hon. J. WALTER JONES.....	May 11, 1943
Attorney and Advocate General.....	Hon. FREDERIC ALFRED LARGE, K.C.....	May 8, 1944
Minister of Public Works and Highways.....	Hon. GEORGE H. BARBOUR.....	May 11, 1943
Minister of Agriculture.....	Hon. W. F. ALAN STEWART.....	May 8, 1944
Minister of Health and Welfare.....	Hon. ALEXANDER W. MATHESON, K.C.....	Mar. 12, 1948
Minister without portfolio.....	Hon. HORACE WRIGHT.....	Sept. 14, 1939
Minister without portfolio.....	Hon. JOHN A. CAMPBELL.....	Aug. 15, 1935
Minister without portfolio.....	Hon. J. WILFRID ARSENAULT.....	Feb. 12, 1948
Minister without portfolio.....	Hon. HARRY COX.....	Apr. 12, 1948

Subsection 2.—Nova Scotia

The Province of Nova Scotia has a House of Assembly consisting of 30 members which was increased by legislation in 1948 to 37 members effective at the next General Election. The members of the Assembly are elected for five years, the maximum duration of its existence. The Ministry or Cabinet, styled the Executive Council, consists of the Premier and Provincial Treasurer; the Attorney General who is also Minister of Labour; the Minister of Public Health who is also Minister of Public Welfare, Minister of Municipal Affairs and Registrar General; the Minister of Mines who is also Provincial Secretary; the Minister of Highways and Public Works; the Minister of Agriculture and Marketing who is also Minister of Lands and Forests; the Minister of Trade and Industry, and two Ministers without portfolio one of whom is in charge of the administration of the Nova Scotia Liquor Control Act.

14.—Lieutenant-Governors of Nova Scotia, 1867-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
Lt.-Gen. Sir WILLIAM F. WILLIAMS..	July 1, 1867	DAVID MACKEEN.....	Oct. 19, 1915
Major-Gen. Sir C. HASTINGS DOYLE	Oct. 18, 1867	MACCALLUM GRANT.....	Nov. 29, 1916
Lt.-Gen. Sir C. HASTINGS DOYLE...	Jan. 31, 1868[1]	MACCALLUM GRANT.....	Mar. 21, 1922[1]
JOSEPH HOWE.....	May 1, 1873	J. ROBSON DOUGLAS.....	Jan. 12, 1925
Sir ADAMS G. ARCHIBALD.....	July 4, 1873	JAMES C. TORY.....	Sept. 14, 1925
MATTHEW HENRY RICHEY.....	July 4, 1883	FRANK STANFIELD.....	Nov. 19, 1930
A. W. MCLELAN.....	July 9, 1888	WALTER H. COVERT.....	Oct. 5, 1931
Sir MALACHY BOWES DALY.....	July 11, 1890	ROBERT IRWIN.....	Apr. 7, 1937
Sir MALACHY BOWES DALY.....	July 29, 1895[1]	FREDERICK F. MATHERS, K.C.....	May 31, 1940
ALFRED G. JONES.....	July 26, 1900	Lt.-Col. H. ERNEST KENDALL, M.D.	Nov. 17, 1942
DUNCAN C. FRASER.....	Mar. 27, 1906	J. A. D. MCCURDY, M.B.E.....	Aug. 12, 1947
JAMES D. MCGREGOR.....	Oct. 18, 1910		

[1] Second term.

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 22, 1933	17th General Assembly.....	4	Mar. 1, 1934.....	May 20, 1937
June 29, 1937	18th General Assembly.....	4	Mar. 1, 1938.....	Sept. 19, 1941
Oct. 28, 1941	19th General Assembly.....	4	Feb. 19, 1942.....	Sept. 12, 1945
Oct. 23, 1945	20th General Assembly.....	3	Mar. 14, 1946.....	[2]

[1] The Ministries from 1934-48 were: 12th Ministry, sworn in Sept. 5, 1933, under the leadership of Hon. Angus L. Macdonald; 13th Ministry, sworn in July 10, 1940, under the leadership of Hon. A. S. MacMillan; 14th Ministry, sworn in Sept. 8, 1945, under the leadership of Hon. Angus L. Macdonald, P.C., K.C.
[2] Life of Legislature not yet expired.

Fourteenth Ministry

(Party standing at latest General Election, Oct. 23, 1945: 28 Liberals and 2 Co-operative Commonwealth Federation.)

NOTE.—Ministers who have held office continuously are shown as at the date of original appointment, despite the formation of a new Ministry consequent upon the appointment of a new Premier.

Office	Name	Date of Appointment
Premier, President of Council and Provincial Treasurer.....	Hon. ANGUS L. MACDONALD, P.C., K.C..	Sept. 8, 1945
Attorney General and Minister of Labour....	Hon. L. D. CURRIE, K.C.....	Feb. 6, 1939
Minister of Public Health, Minister of Public Welfare, Minister of Municipal Affairs and Registrar General.....	Hon. FRANK R. DAVIS, M.D., C.M.....	Sept. 5, 1933
Provincial Secretary and Minister of Mines...	Hon. MALCOLM A. PATTERSON.....	June 10, 1947
Minister of Agriculture and Marketing and Minister of Lands and Forests.....	Hon. A. W. MACKENZIE.....	Sept. 8, 1945
Minister of Trade and Industry.....	Hon. HAROLD CONNOLLY.....	Feb. 24, 1941
Minister of Highways and Public Works.....	Hon. MERRILL D. RAWDING.....	July 31, 1947
Minister without portfolio.....	Hon. J. WILLIE COMEAU.....	Sept. 5, 1933
Minister without portfolio.....	Hon. GEOFFREY STEVENS.....	Apr. 4, 1946

Subsection 3.—New Brunswick

The Province of New Brunswick in all essential features of provincial administration is similar to its neighbour, Nova Scotia. The Legislative Assembly at present has 52 members who are elected for a term of five years. The Executive Council is composed of: the Premier and Attorney General, the Provincial Secretary-Treasurer and President of the Executive Council, the Minister of Public Works,

the Minister of Lands and Mines, the Minister of Agriculture, the Minister of Health and Social Services, the Minister of Labour, the Minister of Education and of Federal and Municipal Relations, the Minister of Industry and Reconstruction and a Minister without portfolio who is the Chairman of the New Brunswick Electric Power Commission.

15.—Lieutenant-Governors of New Brunswick, 1867-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
Major-Gen. Sir C. HASTINGS DOYLE	July 1, 1867	JABEZ B. SNOWBALL	Jan. 30, 1902
Col. F. P. HARDING	Oct. 18, 1867	L. J. TWEEDIE	Mar. 2, 1907
L. A. WILMOT	July 14, 1868	JOSIAH WOOD	Mar. 6, 1912
SAMUEL LEONARD TILLEY	Nov. 5, 1873	G. W. GANONG	June 29, 1916
E. BARRON CHANDLER	July 16, 1878	WILLIAM PUGSLEY	Nov. 6, 1917
ROBERT DUNCAN WILMOT	Feb. 11, 1880	WILLIAM F. TODD	Feb. 24, 1923
Sir SAMUEL LEONARD TILLEY	Oct. 31, 1885	Major-Gen. HUGH H. McLEAN	Dec. 11, 1928
JOHN BOYD	Sept. 21, 1893	Col. MURRAY MacLAREN	Feb. 5, 1935
JOHN A. FRASER	Dec. 20, 1893	W. G. CLARK	Mar. 5, 1940
A. R. McCLELAN	Dec. 9, 1896	DAVID LAURENCE MacLAREN	Nov. 1, 1945

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 19, 1930	10th General Assembly	5	Feb. 12, 1931	May 22, 1935
June 27, 1935	11th General Assembly	4	Mar. 5, 1936	Oct. 26, 1939
Nov. 20, 1939	12th General Assembly	5	Apr. 4, 1940	July 10, 1944
Aug. 28, 1944	13th General Assembly	4	Feb. 20, 1945	May 18, 1948

[1]The Ministries from 1934-48 were: 19th Ministry, sworn in June 1, 1933, under the leadership of Hon. L. P. D. Tilley; 20th Ministry, sworn in July 16, 1935, under the leadership of Hon. A. A. Dysart; 21st Ministry, sworn in Mar. 13, 1940, under the leadership of Hon. J. B. McNair.

Twenty-First Ministry

(Party standing at latest General Election, June 28, 1948: 47 Liberals and 5 Progressive Conservatives.)

NOTE.—Ministers who have held office continuously are shown as at the date of original appointment, despite the formation of a new Ministry consequent upon the appointment of a new Premier.

Office	Name	Date of Appointment
Premier and Attorney General	Hon. J. B. McNAIR, K.C.	Mar. 13, 1940
Provincial Secretary-Treasurer and President of Executive Council	Hon. J. J. HAYES DOONE	Jan. 10, 1940
Minister of Public Works	Hon. W. S. ANDERSON	July 16, 1938
Minister of Lands and Mines	Hon. RICHARD J. GILL	May 16, 1946
Minister of Agriculture	Hon. A. C. TAYLOR	July 16, 1935
Minister of Health and Social Services	Hon. F. A. McGRAND, M.D.	Sept. 27, 1944
Minister of Labour	Hon. SAMUEL E. MOORES	Sept. 27, 1944
Minister of Education and of Federal and Municipal Relations	Hon. C. H. BLAKNEY	Jan. 10, 1940
Minister of Industry and Reconstruction	Hon. J. A. DOUCET	Sept. 27, 1944
Minister without portfolio	Hon. J. GASPARD BOUCHER	Mar. 13, 1940

Subsection 4.—Quebec

The Legislative Assembly of Quebec has 92 members and the Legislative Council has 24 members nominated for life by the Lieutenant-Governor in Council. The Executive council is composed of the Lieutenant-Governor and his advisers, the Ministers of the Crown. These are: the Premier, Attorney General and President of the Executive Council; the Provincial Treasurer; the Minister of Lands and Forests; the Minister of Health; the Minister of Municipal Affairs; the Minister of Colonization; the Minister of Mines; the Minister of Agriculture; the Minister of Roads; the Minister of Labour; the Minister of Game and Fisheries; the Minister of Public Works; the Minister of Social Welfare and Youth; the Minister of Trade and Commerce; the Provincial Secretary; and six Ministers without portfolio.

The Legislative Assembly and also the Legislative Council have the power to bring forward bills relating to civil and administrative matters and to amend or repeal the laws that already exist. A bill, to be approved by the Lieutenant-Governor, must have received the assent of both Houses. Only the Legislative Assembly can bring forward a bill requiring the expenditure of public money. The extreme length of a Legislature is five years.

16.—Lieutenant-Governors of Quebec, 1867-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at July 28, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
Sir NARCISSE F. BELLEAU	July 1, 1867	Sir FRANCOIS LANGELIER	May 5, 1911
Sir NARCISSE F. BELLEAU	Jan. 31, 1868[1]	Sir PIERRE EVARISTE LEBLANC	Feb. 9, 1915
RENE EDOUARD CARON	Feb. 11, 1873	Right Hon. Sir CHARLES FITZPATRICK	Oct. 21, 1918
LUC LETELLIER DE ST-JUST	Dec. 15, 1876	L. P. BRODEUR	Oct. 31, 1923
THEODORE ROBITAILLE	July 26, 1879	N. PERODEAU	Jan. 8, 1924
L. F. R. MASSON	Oct. 4, 1884	SIR LOMER GOUIN	Dec. 31, 1928
A. R. ANGERS	Oct. 24, 1887	H. G. CARROLL	Apr. 2, 1929
Sir JOSEPH A. CHAPLEAU	Dec. 5, 1892	E. L. PATENAUDE	Apr. 29, 1934
LOUIS A. JETTE	Jan. 20, 1898	Major-Gen. Sir EUGENE FISET	Dec. 30, 1939
Sir LOUIS A. JETTE	Feb. 1, 1903[1]	Major-Gen. Sir EUGENE FISET	June 20, 1945[1]
Sir CHARLES A. P. PELLETIER	Sept. 15, 1908		

[1]Second term.

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Aug. 24, 1931	18th General Assembly	4	Nov. 3, 1931	Oct. 30, 1935
Nov. 25, 1935	19th General Assembly	1	Mar. 24, 1936	June 11, 1936
Aug. 17, 1936	20th General Assembly	4	Oct. 7, 1936	Sept. 23, 1939
Oct. 25, 1939	21st General Assembly	5	Feb. 20, 1940	June 29, 1944
Aug. 8, 1944	22nd General Assembly	4	Feb. 7, 1945	June 9, 1948

[1] The Ministries from 1934-48 were: 16th Ministry, sworn in July 8, 1920, under the leadership of Hon. L. A. Taschereau; 17th Ministry, sworn in June 11, 1936, under the leadership of Hon. A. Godbout; 18th Ministry sworn in Aug. 24, 1936, under the leadership of Hon. M. Duplessis; 19th Ministry, sworn in Nov. 10, 1939, under the leadership of Hon. A. Godbout; 20th Ministry, sworn in Aug. 30, 1944, under the leadership of Hon. Maurice L. Duplessis.

16.—Lieutenant-Governors of Quebec, 1867-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at July 28, 1948—concluded

Twentieth Ministry

(Party standing at latest General Election, July 28, 1948: 82 Union Nationale, 8 Liberals and 2 Independent.)

Office	Name	Date of Appointment
Premier, Attorney General and President of Executive Council	Hon. MAURICE L. DUPLESSIS	Aug. 30, 1944
Provincial Treasurer	Hon. ONESIME GAGNON	Aug. 30, 1944
Minister of Lands and Forests	Hon. J. S. BOURQUE	Aug. 30, 1944
Minister of Health	Hon. J. A. PAQUETTE	Aug. 30, 1944
Minister of Municipal Affairs	Hon. BONA DUSSAULT	Aug. 30, 1944
Minister of Roads	Hon. ANTONIO TALBOT	Aug. 30, 1944
Minister of Public Works	Hon. ROMEO LORRAIN	Aug. 30, 1944
Minister of Mines	Hon. JONATHAN ROBINSON	Aug. 30, 1944
Minister of Colonization	Hon. Jos. D. BEGIN	Aug. 30, 1944
Minister of Game and Fisheries	Hon. C. E. POULIOT	Aug. 30, 1944
Minister of Labour	Hon. ANTONIO BARRETTE	Aug. 30, 1944
Minister of Trade and Commerce	Hon. PAUL BEAULIEU	Aug. 30, 1944
Minister of Agriculture	Hon. LAURENT BARRE	Aug. 30, 1944
Provincial Secretary	Hon. OMER COTE	Aug. 30, 1944
Minister of Social Welfare and of Youth	Hon. PAUL SAUVE	Sept. 18, 1946
Minister without portfolio	Hon. ANTONIO ELIE	Aug. 30, 1944
Minister without portfolio	Hon. TANCREDE LABBE	Aug. 30, 1944
Minister without portfolio	Hon MARC TRUDEL	Aug. 30, 1944
Minister without portfolio	Hon. PATRICE TARDIF	Aug. 30, 1944
Minister without portfolio	Hon. J. T. LAROCHELLE	Aug. 30, 1944
Minister without portfolio	Hon. J. H. DELISLE	Aug. 30, 1944

Subsection 5.—Ontario

The House of Assembly of Ontario, the single-chamber Legislature of the Province, is composed of 90 elected members. It is elected for five years on an adult suffrage basis and holds annual sessions so that 12 months shall not intervene between the last sitting in one session and the first sitting in the next.

The Executive Council consists (1948) of 13 members holding portfolios as follows: Premier, President of the Council and Minister of Education; Attorney General; Minister of Lands and Forests; Minister of Agriculture; Minister of Highways and Minister of Public Works; Minister of Labour; Provincial Treasurer and Minister of Mines; Provincial Secretary and Registrar; Minister of Municipal Affairs and Minister of Reform Institutions; Minister of Health; Minister of Public Welfare; Minister of Planning and Development; Minister of Travel and Publicity; and three Ministers without portfolio.

Besides the regular departments, certain commissions have been created for specific purposes. They include the Niagara Parks Commission, the Ontario Municipal Board, the Hydro-Electric Power Commission of Ontario and the Ontario Northland Transportation Commission.

17.—Lieutenant-Governors of Ontario, 1867-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
Major-Gen. H. W. STISTED	July 1, 1867	Sir JOHN M. GIBSON	Sept. 22, 1908
W. P. HOWLAND	July 14, 1868	Lt.-Col. Sir JOHN S. HENDRIE	Sept. 26, 1914
JOHN W. CRAWFORD	Nov. 5, 1873	LIONEL H. CLARKE	Nov. 27, 1919
D. A. MACDONALD	May 18, 1875	Col. HENRY COCKSHUTT	Sept. 10, 1921
JOHN BEVERLY ROBINSON	June 30, 1880	WILLIAM DONALD ROSS	Dec. 20, 1926
Sir ALEXANDER CAMPBELL	Feb. 8, 1887	Col. HERBERT ALEXANDER BRUCE	Oct. 25, 1932
Sir GEORGE A. KIRKPATRICK	May 28, 1892	ALBERT MATTHEWS	Nov. 23, 1937
Sir OLIVER MOWAT	Nov. 18, 1897	RAY LAWSON	Dec. 26, 1946
Sir WILLIAM MORTIMER CLARK	Apr. 20, 1903		

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 19, 1934	19th General Assembly	3	Feb. 20, 1935	Apr. 9, 1936
Oct. 6, 1937	20th General Assembly	8	Dec. 1, 1937	June 30, 1943
Aug. 4, 1943	21st General Assembly	2	Feb. 22, 1944	Mar. 24, 1945
June 4, 1945	22nd General Assembly	4	July 16, 1945	Apr. 27, 1948

[1] The Ministries from 1934-48 were: 11th Ministry, sworn in July 10, 1934, under the leadership of Hon. M. F. Hepburn; 12th Ministry, sworn in Oct. 21, 1942, under the leadership of Hon. G. D. Conant; 13th Ministry, sworn in May 18, 1943, under the leadership of Hon. H. C. Nixon; 14th Ministry, sworn in Aug. 17, 1943, under the leadership of Hon. George A. Drew.

Fourteenth Ministry

(Party standing at latest General Election, June 7, 1948; 53 Progressive Conservatives, 14 Liberals, 21 Co-operative Commonwealth Federation and 2 Labour-Progressive.)

NOTE.—Ministers who have held office continuously are shown as at the date of original appointment, despite the formation of a new Ministry consequent upon the appointment of a new Premier.

Office	Name	Date of Appointment
Premier, President of the Council and Minister of Education	Hon. GEORGE A. DREW, K.C.	Aug. 17, 1943
Minister of Agriculture	Hon. THOMAS L. KENNEDY	Aug. 17, 1943
Provincial Treasurer and Minister of Mines	Hon. LESLIE M. FROST, K.C.	Aug. 17, 1943
Attorney General	Hon. LESLIE E. BLACKWELL, K.C.	Aug. 17, 1943
Minister without portfolio	Hon. GEORGE HOLMES CHALLIES	Aug. 17, 1943
Minister of Highways and Minister of Public Works	Hon. GEORGE H. DOUCETT	Aug. 17, 1943
Minister of Municipal Affairs and Minister of Reform Institutions	Hon. GEORGE H. DUNBAR	Aug. 17, 1943
Minister of Labour	Hon. CHARLES DALEY	Aug. 17, 1943
Minister of Planning and Development	Hon. DANA H. PORTER, K.C.	May 4, 1944
Minister without portfolio	Hon. WILLIAM GOURLAY WEBSTER	Dec. 13, 1944
Minister of Health	Hon. RUSSELL T. KELLEY	Jan. 7, 1946
Minister of Travel and Publicity	Hon. GEORGE A. WELSH	Jan. 7, 1946
Minister of Public Welfare	Hon. WILLIAM A. GOODFELLOW	Jan. 7, 1946
Provincial Secretary and Registrar	Hon. DANIEL ROLAND MICHENER, K.C.	Apr. 15, 1946
Minister without portfolio	Hon. WILLIAM GRIESINGER	Apr. 15, 1946
Minister of Lands and Forests	Hon. HAROLD ROBINSON SCOTT	Nov. 28, 1946

Subsection 6.—Manitoba

Besides its Lieutenant-Governor, Manitoba has a Provincial Executive composed of 11 men and a Legislative Assembly of 58 elected for five years. The Provincial Executive, headed by the Premier and President of the Council, who is also Minister of Dominion-Provincial Relations and Provincial Treasurer, consists of: the Minister of Agriculture and Immigration who is also in charge of the Manitoba Power Commission; the Attorney General; the Minister of Labour; a Municipal Commissioner who is also Minister of the Department of Telephones and Telegraphs and administers the Manitoba Farm Loans Act; the Minister of Education; the Minister of Public Works; the Minister of Health and Public Welfare; the Provincial Secretary; the Minister of Mines and Natural Resources who is also Minister of Industry and Commerce and Railway Commissioner for Manitoba; and one Minister without portfolio.

18.—Lieutenant-Governors of Manitoba, 1870-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
A. G. ARCHIBALD	May 20, 1870	Sir DANIEL H. MCMILLAN	May 11, 1906[1]
FRANCIS GOODSCHALL JOHNSON	Apr. 9, 1872	Sir DOUGLAS C. CAMERON	Aug. 1, 1911
ALEXANDER MORRIS	Dec. 2, 1872	Sir JAMES A. M. AIKINS	Aug. 3, 1916
JOSEPH E. CAUCHON	Oct. 8, 1877	Sir James A. M. AIKINS	Oct. 17, 1921[1]
JAMES C. AIKINS	Sept. 29, 1882	THEODORE A. BURROWS	Oct. 9, 1926
J. C. SCHULTZ	July 1, 1888	J. D. MCGREGOR	Jan. 25, 1929
J. C. PATTERSON	Sept. 2, 1895	WILLIAM JOHNSTON TUPPER	Dec. 1, 1934
Sir DANIEL H. MCMILLAN	Oct. 10, 1900	ROLAND FAIRBAIRN MCWILLIAMS	Nov. 1, 1940

[1] Second term.

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 16, 1932	19th General Assembly	4	Feb. 14, 1933	June 12, 1936
July 27, 1936	20th General Assembly	5	Feb. 18, 1937	Mar. 13, 1941
Apr. 22, 1941	21st General Assembly	5	Dec. 9, 1941	Sept. 8, 1945
Oct. 15, 1945	22nd General Assembly	[2]	Feb. 19, 1946	[2]

[1] The Ministries from 1934-48 were: 12th Ministry, sworn in Aug. 8, 1922, under the leadership of Hon. J. Bracken; 13th Ministry, sworn in Jan. 14, 1943, under the leadership of Hon. Stuart S. Garson, K.C.
[2] Life of Legislature not yet expired.

18.—Lieutenant-Governors of Manitoba, 1870-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948—concluded

Thirteenth Ministry

(Party standing at latest General Election, Oct. 15, 1945: 43 Coalition [25 Liberal-Progressives, 14 Progressive Conservatives, 2 Independent, 2 Social Credit], 12 Anti-Coalition [10 Co-operative Commonwealth Federation, 1 Independent Anti-Coalition, 1 Labour-Progressive]. There were also 3 Service members with no party affiliation.)

NOTE.—Ministers who have held office continuously are shown as at the date of original appointment, despite the formation of a new Ministry consequent upon the appointment of a new Premier. Where two dates are shown, the first denotes the original appointment to the Ministry and the second to the portfolio held at present.

Office	Name	Date of Appointment
Premier, President of the Council and Minister of Dominion-Provincial Relations	Hon. STUART S. GARSON, K.C.	Jan. 14, 1943
Minister of Agriculture and Immigration	Hon. D. L. CAMPBELL	Sept. 21, 1936
Minister of Education	Hon. JOHN C. DRYDEN	Feb. 5, 1944
Minister of Mines and Natural Resources, and Minister of Industry and Commerce	Hon. J. S. McDIARMID	May 27, 1932
Provincial Secretary	Hon. C. E. GREENLAY	Feb. 14, 1946
Provincial Treasurer	Hon. STUART S. GARSON, K.C.	Sept. 21, 1936 May 15, 1941
Municipal Commissioner	Hon. W. MORTON	Nov. 22, 1939
Minister of Telephones and Telegraphs	Hon. W. MORTON	Feb. 11, 1944
Minister of Public Works	Hon. E. F. WILLIS	Nov. 2, 1940 Dec. 19, 1942
Minister of Health and Public Welfare	Hon. IVAN SCHULTZ, K.C.	Feb. 5, 1944
Attorney General	Hon. J. O. McLENAGHEN, K.C.	Nov. 2, 1940 May 3, 1941
Minister of Labour	Hon. C. RHODES SMITH	Feb. 14, 1946
Minister without portfolio	Hon. S. MARCOUX	Sept. 21, 1936

Subsection 7.—Saskatchewan

The Executive Council of Saskatchewan has 12 members: the Premier, President of the Council, and Minister of Public Health; the Provincial Treasurer; the Attorney General; the Minister of Agriculture; the Minister of Municipal Affairs; the Provincial Secretary and the Minister of Labour; the Minister of Social Welfare; the Minister of Natural Resources and Industrial Development; the Minister of Public Works, Telephones and Telegraphs, and Minister of Reconstruction and Rehabilitation; Minister of Highways and Transportation; the Minister of Education; and the Minister of Co-operation and Co-operative Development.

The statutory number of members of the Legislative Assembly is 52 elected for a term of five years, but the number was increased by three in 1944 under the terms of the Active Service Voters' Representation Act.

19.—Lieutenant-Governors of Saskatchewan, 1905-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
A. E. FORGET	Aug. 24, 1905	Lt.-Col. H. E. MUNROE, O.B.E.	Mar. 31, 1931
GEORGE W. BROWN	Oct. 5, 1910	A. P. McNAB	Sept. 10, 1936
Sir RICHARD STUART LAKE	Oct. 6, 1915	THOMAS MILLER	Feb. 27, 1945
H. W. NEWLANDS	Feb. 17, 1921	REGINALD J. M. PARKER	June 22, 1945
H. W. NEWLANDS	Feb. 22, 1926[1]	J. M. UHRICH	Mar. 24, 1948

[1] Second term.

19.—Lieutenant-Governors of Saskatchewan, 1905-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948—concluded

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 19, 1934	8th General Assembly.....	4	Nov. 15, 1934.....	May 14, 1938
June 8, 1938	9th General Assembly.....	6	Jan. 19, 1939.....	May 10, 1944
June 15, 1944	10th General Assembly.....	5	Oct. 19, 1944.....	May 19, 1948

[1] The Ministries from 1934-48 were: 6th Ministry, sworn in July 19, 1934, under the leadership of Hon. J. G. Gardiner; 7th Ministry, sworn in Nov. 1, 1935, under the leadership of Hon. W. J. Patterson; 8th Ministry, sworn in July 10, 1944, under the leadership of Hon. T. C. Douglas.

Eighth Ministry

(Party standing at latest General Election, June 24, 1948: 31 Co-operative Commonwealth Federation; 19 Liberals, 1 Independent and 1 Liberal Progressive-Conservative.)

Office	Name	Date of Appointment
Premier, President of Council and Minister of Public Health.....	Hon. T. C. DOUGLAS.....	July 10, 1944
Provincial Treasurer.....	Hon. C. M. FINES.....	July 10, 1944
Attorney General.....	Hon. J. W. CORMAN.....	July 10, 1944
Minister of Natural Resources and Industrial Development.....	Hon. J. H. BROCKELBANK.....	Aug. 4, 1948
Minister of Municipal Affairs.....	Hon. L. F. MCINTOSH.....	Aug. 4, 1948
Minister of Social Welfare.....	Hon. J. H. STURDY.....	Aug. 4, 1948
Provincial Secretary.....	Hon. C. C. WILLIAMS.....	Aug. 4, 1948
Minister of Highways and Transportation....	Hon. J. T. DOUGLAS.....	July 10, 1944
Minister of Education.....	Hon. W. S. LLOYD.....	July 10, 1944
Minister of Labour.....	Hon. C. C. WILLIAMS.....	July 10, 1944
Minister of Co-operation and Co-operative Development.....	Hon. L. F. MCINTOSH.....	July 10, 1944
Minister of Agriculture.....	Hon. I. C. NOLLET.....	Jan. 8, 1946
Minister of Public Works, Minister of Telephones and Telegraphs, and Minister of Reconstruction and Rehabilitation.....	Hon. J. A. DARLING.....	Aug. 4, 1948

Subsection 8.—Alberta

There are ten members of the Executive Council of Alberta: the Premier and Provincial Treasurer; the Minister of Agriculture; the Minister of Economic Affairs; the Minister of Education; the Minister of Public Works who is also responsible for the Department of Railways and Telephones; the Minister of Lands and Mines; the Minister of Health and Public Welfare; the Minister of Municipal Affairs and Provincial Secretary; the Attorney General; and the Minister of Industries and Labour.

There are 57 members of the Legislative Assembly who are elected for a maximum period of five years.

20.—Lieutenant-Governors of Alberta, 1905-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at Aug. 17, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
GEORGE H. V. BULYEA	Aug. 24, 1905	WILLIAM L. WALSH	Apr. 24, 1931
GEORGE H. V. BULYEA	Oct. 5, 1910[1]	PHILIP C. H. PRIMROSE	Sept. 10, 1936
ROBERT GEORGE BRETT	Oct. 6, 1915	J. C. BOWEN	Mar. 20, 1937
ROBERT GEORGE BRETT	Oct. 20, 1920[1]	J. C. BOWEN	[2]
WILLIAM EGBERT	Oct. 20, 1925		

[1] Second term. [2] Still in office serving second term.

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
June 19, 1930	7th General Assembly	5	Jan. 29, 1931	July 22, 1935
Aug. 22, 1935	8th General Assembly	9	Feb. 6, 1936	Feb. 16, 1940
Mar. 21, 1940	9th General Assembly	4	Feb. 20, 1941	July 7, 1944
Aug. 8, 1944	10th General Assembly	5	Feb. 22, 1945	July 16, 1948

[1] The Ministries from 1934-48 were: 6th Ministry, sworn in July 10, 1934, under the leadership of Hon. R. G. Reid; 7th Ministry, sworn in Sept. 3, 1935, under the leadership of Hon. Wm. Aberhart; 8th Ministry, sworn in May 31, 1943, under the leadership of Hon. Ernest C. Manning.

Eighth Ministry

(Party standing at latest General Election, Aug. 17, 1948: 51 Social Credit, 2 Co-operative Commonwealth Federation, 2 Liberals, 1 Independent Social Credit, and 1 Independent).

NOTE.—Ministers who have held office continuously are shown as at the date of original appointment, despite the formation of a new Ministry consequent upon the appointment of a new Premier. Where two dates are shown the first denotes the original appointment to the Ministry and the second to the portfolio held at present.

Office	Name	Date of Appointment
Premier and Provincial Treasurer	Hon. ERNEST C. MANNING	May 31, 1943 Sept. 12, 1944
Attorney General	Hon. LUCIEN MAYNARD	June 1, 1943
Minister of Education	Hon. IVAN CASEY	Feb. 21, 1948
Minister of Lands and Mines	Hon. NATHAN E. TANNER	Jan. 5, 1937
Minister of Public Works and Minister of Railways and Telephones	Hon. D. B. MACMILLAN	Dec. 3, 1940 May 8, 1948
Minister of Health and Minister of Public Welfare	Hon. W. W. CROSS, M.D.	Sept. 3, 1935 Mar. 30, 1944
Minister of Economic Affairs	Hon. ALFRED J. HOOKE	June 1, 1943 Apr. 20, 1945
Minister of Municipal Affairs and Provincial Secretary	Hon. C. E. GERHART	June 1, 1943 May 8, 1948
Minister of Agriculture	Hon. D. A. URE	May 8, 1948
Minister of Industries and Labour	Hon. J. L. ROBINSON	May 8, 1948

Subsection 9.—British Columbia

The Lieutenant-Governor of British Columbia acts on the advice of an Executive Council composed of: the Premier and President of the Council; Provincial Secretary

and Minister of Health and Welfare; Attorney General and Minister of Labour; Minister of Lands and Forests; Minister of Finance; Minister of Agriculture; Minister of Mines and Minister of Municipal Affairs; Minister of Public Works; Minister of Railways, Minister of Trade and Industry, and Minister of Fisheries; Minister of Education. The Legislative Assembly, elected for a five-year period, has 48 members.

21.—Lieutenant-Governors of British Columbia, 1871-1948, Legislatures and Premiers, 1934-48, and Present Ministry as at June 30, 1948

NOTE.—See headnote to Table 13, p. 104.

Lieutenant-Governors

Name	Date of Commission	Name	Date of Commission
J. W. TRUTCH	July 5, 1871	Sir FRANK S. BARNARD	Dec. 5, 1914
ALBERT NORTON RICHARDS	June 27, 1876	Col. EDWARD G. PRIOR	Dec. 9, 1919
CLEMENT F. CORNWALL	June 21, 1881	WALTER C. NICHOL	Dec. 24, 1920
HUGH NELSON	Feb. 8, 1887	R. RANDOLPH BRUCE	Jan. 21, 1926
EDGAR DEWDNEY	Nov. 1, 1892	J. W. FORDHAM JOHNSON	July 18, 1931
THOMAS R. MCINNES	Nov. 18, 1897	ERIC W. HAMBER	Apr. 29, 1936
Sir HENRI G. JOLY DE LOTBINIERE	June 21, 1900	Lt.-Col. WILLIAM C. WOODWARD	Aug. 29, 1941
JAMES DUNSMUIR	May 11, 1906	Col. the Hon. CHARLES ARTHUR BANKS, C.M.G.	Oct. 1, 1946
T. W. PATERSON	Dec. 3, 1909		

Legislatures, 1934-48[1]

Date of Election	Legislature	Number of Sessions	Date of First Opening	Date of Dissolution
Nov. 2, 1933	18th General Assembly	4	Feb. 20, 1934	Apr. 15, 1937
June 1, 1937	19th General Assembly	5	Oct. 26, 1937	July 22, 1941
Oct. 21, 1941	20th General Assembly	4	Dec. 4, 1941	Aug. 31, 1945
Oct. 25, 1945	21st General Assembly	[2]	Feb. 21, 1946	[2]

[1]The Ministries from 1934-48 were: 22nd Ministry sworn in Nov. 15, 1933, under the leadership of Hon. T. D. Pattullo; 23rd Ministry, sworn in Dec. 10, 1941, under the leadership of Hon. John Hart; 24th Ministry, sworn in Dec. 29, 1947, under the leadership of Hon. B. I. Johnson, M.B.E. [2] Life of Legislature not yet expired.

Twenty-Fourth Ministry

(Party standing at latest General Election, Oct. 25, 1945: 37 Coalition [26 Liberals, 11 Conservatives], 10 Co-operative Commonwealth Federation and 1 Labour.)

Office	Name	Date of Appointment
Premier and President of the Council	Hon. BYRON INGEMAR JOHNSON, M.B.E.	Dec. 29, 1947
Provincial Secretary and Minister of Health and Welfare	Hon. GEORGE SHARRATT PEARSON	Dec. 29, 1947
Attorney General and Minister of Labour	Hon. GORDON SYLVESTER WISMER, K.C.	Dec. 29, 1947
Minister of Lands and Forests	Hon. EDWARD TOURTELLOTTE KENNEY	Dec. 29, 1947
Minister of Finance	Hon. HERBERT ANSCOMB	Dec. 29, 1947
Minister of Agriculture	Hon. FRANK PUTNAM	Dec. 29, 1947
Minister of Mines and Minister of Municipal Affairs	Hon. RODERICK CHARLES MACDONALD	Dec. 29, 1947
Minister of Public Works	Hon. ERNEST CRAWFORD CARSON	Dec. 29, 1947
Minister of Railways, Minister of Trade and Industry and Minister of Fisheries	Hon. LESLIE HARVEY EYRES	Dec. 29, 1947
Minister of Education	Hon. WILLIAM THOMAS STRAITH, K.C.	Dec. 29, 1947

Subsection 10.—Yukon and the Northwest Territories

Yukon.—The Yukon Act provides for a local government composed of a Chief Executive styled Commissioner but classified as Controller, who is appointed by the Governor-General in Council; also an elective Legislative Council of three members having a three-year tenure of office. The Yukon Territorial Council performs much the same functions as do the Provincial Governments. The Controller functions in lieu of the Provincial Cabinet and the three members of the Territorial Council function in lieu of the Provincial Parliament. The seat of local government is at Dawson, but the Controller acts under instructions from the Governor-General in Council or the Minister of Mines and Resources at Ottawa.

The present Controller is John Edward Gibben, appointed Sept. 13, 1947, and the Members of the Territorial Council are: Dawson District, JOHN R. FRASER; Whitehorse District, R. GORDON LEE; and Mayo District, ERNEST J. CORP. The Commissioners who held office previous to the present are listed at p. 78 of the 1946 Year Book.

Northwest Territories.—The Government of the Northwest Territories is vested in a Commissioner, assisted by a Council composed of six members all of whom are appointed by the Governor-General in Council. The administration of the various Acts, Ordinances, and Regulations pertaining to the Northwest Territories is supervised by the Director of the Lands and Development Services Branch, Department of Mines and Resources, who is also Deputy Commissioner. The seat of government is at Ottawa.

The present Territorial Council is composed of the following: Commissioner, HUGH L. KEENLEYSIDE; Deputy Commissioner, ROY ALEXANDER GIBSON; Members, ROBERT ALEXANDER HOEY, STUART TAYLOR WOOD, JOHN G. MCNIVEN, LOUIS DE LA C. AUDETTE, and HAROLD B. GODWIN; Secretary, JAMES GOLDWIN WRIGHT.

Section 3.—Dominion-Provincial Relations*

The genesis of the current phase of Dominion-Provincial relations was the Dominion–Provincial Conference of December, 1936. At that time drought and depressed prices had led the Government of Alberta into partial default on its outstanding debt, and the Governments of Saskatchewan and Manitoba made clear at the Conference that in default of assistance they would be forced to take similar action. On the invitation of the Dominion Minister of Finance and the Premiers of the three Prairie Provinces, the Bank of Canada undertook an examination of their financial positions. The Bank's report on Manitoba was made public on Feb. 15, on Saskatchewan on Mar. 15, and on Alberta on Apr. 7, 1937. The Bank Report recommended certain interim financial assistance from the Dominion Government but concluded that no solution seemed possible other than that which might be provided by a complete inquiry into the financial powers and responsibilities of Canadian governing bodies at all levels. In addition to the special difficulties of the Prairie Provinces, the burden of relief had weakened the financial position of all provincial and municipal governments, and had finally proved completely beyond their capacity to bear in its entirety.

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* Prepared by D. A. Skelton, Research Adviser, Bank of Canada, Ottawa.

Royal Commission on Dominion-Provincial Relations.—By P.C. 1908, on Aug. 14, 1937, the Royal Commission on Dominion-Provincial Relations was established. The Chairman was the Hon. N. W. Rowell, Chief Justice of Ontario, and the members were the Hon. Thibaudeau Rinfret, Justice of the Supreme Court of Canada, Dr. J. W. Dafoe of Winnipeg, Dr. R. A. MacKay of Dalhousie University, and Professor H. F. Angus of the University of British Columbia. Subsequently the Hon. Justice Rinfret was compelled to retire owing to ill health and was replaced by Dr. Joseph Sirois of Quebec. Illness also forced the resignation of Chief Justice Rowell in 1938 and Dr. Sirois was appointed Chairman to succeed him. The Commission has consequently been generally known as the Rowell-Sirois or Sirois Commission. The report, submitted on May 3, 1940, recommended important financial and jurisdictional changes,* of which the chief were: (1) exclusive Dominion jurisdiction in income tax, corporation tax and succession duty fields; (2) acceptance by the Dominion of responsibility for relief to able-bodied unemployed; (3) assumption by the Dominion of net provincial debt charges; and (4) payment by the Dominion of national adjustment grants designed to put each Provincial Government in a position to provide average standards of services without imposing higher than average rates of taxation.

Dominion-Provincial Conference, January, 1941.—A Dominion-Provincial Conference was called in January, 1941, to consider the Royal Commission Report. The Conference broke down on the second day in the face of opposition from the Premiers of Ontario, British Columbia and Alberta.

Wartime Tax Agreements.—Later in the year the Dominion Government proposed that, in order to meet the exigencies of the War, the Provincial Governments (and their municipalities) should suspend imposition of income taxes and corporation taxes for the duration of the War and one year after, and be reimbursed by the Dominion on the basis of either the 1940 revenues of the particular province from these sources, or the amount of that province's net debt service less succession duty collections in 1940. There were also some relatively small fiscal-need subsidies proposed and an offer to guarantee provincial gasoline tax revenues at the 1940 level. Agreements were negotiated with all the Provincial Governments in 1941 and the necessary legislation was passed in the spring of 1942. Under these agreements, which brought into effect an important part of the Sirois Report recommendations for the duration of the War, the Dominion was given a free hand in the income and corporation tax fields and developed these sources of revenue very substantially as an aid both in financing the War and in combating inflation. The other chief problems with which the Sirois Report dealt, such as provincial debts and unemployment and agricultural relief, were shelved for the time being.

Dominion-Provincial Conference, 1945-46.—Since the Wartime Tax Agreements were of temporary duration only and since a number of the pre-war financial and constitutional problems promised to arise in even more aggravated form upon the termination of these agreements, the Dominion formulated proposals for a new agreement. These proposals were submitted at a Dominion-Provincial Conference called in August, 1945. They were broader in scope than the Sirois Report recommendations, primary stress being placed on the maintenance of a high and stable level of employment and income. To this end not only important fiscal changes but also greatly developed public investment and social security policies were sug-

* See Canada Year Book 1940, pp. 1157-1163.

gested. The agreement was proposed initially for a three-year period and would involve no constitutional changes, although there was one recommendation for a constitutional amendment to provide for delegation of powers from the Dominion Government to a Provincial Government or vice versa whenever desired by both Governments.

The fiscal proposals were that the provinces should withdraw from the personal income tax, corporation tax and succession duty fields in return for annual subsidies which would not fall below a guaranteed minimum and which would rise proportionally with population and increases in per capita gross national product. The amount of the subsidies proposed was approximately 50 p.c. above provincial receipts under the Wartime Tax Agreements.

The public investment proposals outlined a substantial expansion in the Dominion program for natural resource development, conservation, and public works, and also a large increase in Dominion assistance to provincial services and construction projects either through joint participation or by grants-in-aid. Particular emphasis was put upon, and tangible encouragement offered to, the advance planning of works and, in so far as practicable, the timing of public investment expenditures with a view to helping to stabilize employment and offset fluctuations in the business cycle.

The social security proposals were among the most extensive undertaken by any country. Family allowances had already been put into effect in 1945. The Dominion now proposed, in addition, to pay a $30 a month old-age pension without a means test to everyone 70 years of age or over; to contribute 50 p.c. to provincially administered old-age assistance under a means test for people from 65 to 69; to make grants to the Provincial Governments for general preventive public-health work and for the prevention and cure of tuberculosis, mental diseases, venereal disease, and other specific ills; to contribute approximately 60 p.c. of the cost of provincially administered health-insurance schemes; to make low-interest loans for hospital construction; to provide assistance for all unemployed able and willing to work, not covered by unemployment insurance, at the scale of approximately 85 p.c. of the unemployment insurance benefits; to provide and assist in the provision of greatly expanded vocational training and other rehabilitation services to improve employability.

The Dominion-Provincial Conference in August adjourned, after five days' discussion, to consider the proposals and any alternatives or amendments to them. A Co-ordinating Committee under the chairmanship of the Prime Minister of Canada, consisting of three Dominion Ministers and the nine Provincial Premiers, was established and subsequently held three meetings in camera from Nov. 26 to Nov. 30, 1945, from Jan. 28 to Feb. 1, 1946, and on Apr. 25 and 26, 1946. An Economic Committee, consisting largely of technical representatives of the different Governments, was also established and met for three weeks in December, 1945, and January, 1946, for the exchange of information and the development and clarification of the proposals in detail. The Economic Committee under its terms of reference made no collective report, but its members reported to their respective Governments. The Co-ordinating Committee reported back to a full plenary session of the Dominion-Provincial Conference when it reassembled on Apr. 29, 1946.

The Dominion put forward a number of modifications that had been made in its original proposals in the light of discussions in the Co-ordinating Committee. The most important of these were: an increase in the guaranteed minimum annual subsidy from $12 per capita to $15; an optional provision in connection with succession duties which would enable any province that wished to continue levying succession duties subject to an adjustment in its annual subsidy and with provision for offsetting credits to the taxpayer; and an expression of willingness by the Dominion to withdraw from certain tax fields as requested by some of the Provincial Governments in return for an adequate financial equivalent.

By this time submissions in relation to the Dominion proposals had been made by all the Provincial Governments. Most of these submissions accepted the Dominion proposals in principle but contained a number of suggested modifications. The submission of the Government of Ontario suggested an alternative approach and differed in principle on some important issues. After five full days of discussion it was found that too wide a gap existed to enable an agreement to be reached at that time and the Conference adjourned *sine die*. The Dominion advised that it would have to proceed with the formulation of its Budget policies in the light of these circumstances.

The Budget Proposals of June, 1946.—The Budget of June 27, 1946, included proposals for a tax agreement which could be entered into by any individual province. In compliance with the Wartime Tax Agreements, the Dominion undertook to reduce the standard corporation income tax from 40 p.c. to 30 p.c. and also to reduce personal income taxes for 1947. The Dominion would also give a tax credit of the amount of personal income tax paid any province up to 5 p.c. of the tax payable to the Dominion. The Dominion proposed to double its succession duty tax, but to provide a credit against this tax of the amount of succession duties paid to a Provincial Government up to 50 p.c. of the Dominion tax. If a province was prepared to agree to withdraw from income tax, corporation tax and succession duty fields for five years, the Dominion would undertake to pay the annual per capita subsidy under the terms proposed at the Conference. Agreeing provinces might levy a 5 p.c. tax on net corporate income within the province to be collected by the Dominion as agent for the province. The proceeds of this tax would be deducted from the annual subsidy, and in the event a province did not wish to levy this tax an amount equivalent to the estimated yield of such a tax would be deducted.

The objective of the Budget proposals was to secure tax agreements with the provinces, but the proposals were designed to enable a province which might prefer to continue its own taxation to do so without unduly penalizing its taxpayers.

Dominion-Provincial Tax Agreements.—Following the Budget Address several provinces entered into negotiations with the Dominion. During the course of these negotiations the formula on which Dominion payments to the provinces would be based was expanded and modified. Under the modified formula every province entering the agreement has a guaranteed minimum annual payment which is subject to adjustment upward for increases in provincial population and in gross national product per capita. For the Province of Prince Edward Island the guaranteed minimum is $2,100,000. All other provinces have the choice of either one of the following two formulæ for determining their guaranteed minimum annual payment: (1) a combination of $12·75 per capita of 1942 population, plus 50 p.c. of provincial income and corporation income tax receipts in 1940, plus the statutory

subsidies; or (2) $15 per capita of 1942 population, plus the statutory subsidies. Option (1) proves to be the more favourable in the case of New Brunswick, Quebec, Ontario, Manitoba, Alberta and British Columbia while option (2) proves more favourable to Nova Scotia and Saskatchewan.

If all provinces should conclude agreements with the Dominion, and assuming that each took the option more favourable to it, the guaranteed minimum annual payment to each province and the amount payable in 1947, as estimated at July, 1947, as compared with the total receipts under the Wartime Tax Agreements and from succession duties and statutory subsidies would be as follows:

	Proposed Agreement		*Total Annual Receipts during Wartime from Wartime Tax Agreements, Succession Duties, and Statutory Subsidies*
	Guaranteed Minimum	*Estimated 1947*	
	$'000,000	$'000,000	$'000,000
Prince Edward Island	2·1	2·3	1·2
Nova Scotia	10·9	12·1	4·2
New Brunswick	8·8	9·5	4·8
Quebec	56·4	63·4	31·3
Ontario	67·2	74·4	44·3
Manitoba	13·5	14·5	8·0
Saskatchewan	15·3	15·8	8·2
Alberta	14·2	15·3	8·2
British Columbia	18·1	21·4	14·3
TOTALS	206·5	228·7	124·5

The Dominion Government on Mar. 31, 1947, in accordance with its undertaking, discontinued its wartime tax of 3 cents a gallon on gasoline, leaving this field of taxation which was yielding the Dominion approximately $35,000,000 annually, entirely to the provinces. Following this, in 1947, all the provinces increased their rates of taxation on gasoline as follows: Manitoba, Saskatchewan and Alberta 2 cents per gallon; Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia 3 cents per gallon.

Seven provinces—Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta and British Columbia—have concluded agreements to rent their corporation tax, income tax and succession duties fields to the Dominion for five years, terminating Mar. 31, 1952, in exchange for the payments indicated above. These agreements were confirmed by legislation passed in the Dominion and Provincial Houses in 1947. On the other hand, the Governments of Ontario and Quebec announced in March, 1947, their budget proposals for the fiscal year 1947-48. These proposals included a 7 p.c. corporation tax, the maintenance of existing succession duties, and no personal income tax. At the time of its Budget announcement, the Government of Ontario made it clear that it would like to see the Dominion-Provincial Conference reconvened in the hope of arriving at a general tax agreement. The Dominion Government has committed itself to holding a Dominion-Provincial Conference to deal with the social security and public investment proposals of the 1945 Conference as soon as tax agreements are concluded with all provinces.

On Nov. 17, 1947, the Dominion Government announced the elimination of the 8 p.c. sales tax on electricity and gas used for domestic purposes.

Several other points in connection with the agreements are worthy of mention. First, special payments were made to the Maritime Provinces to fill in the so-called

gap in their case between the beginning of the new agreements, Apr. 1, 1947, and the end of the old wartime tax agreements: Oct. 31, 1946, in the case of New Brunswick; Nov. 30, 1946, in the case of Nova Scotia; and Dec. 31, 1946, in the case of Prince Edward Island. Secondly, if an agreeing province proceeds to take over the whole or any part of the business or undertaking or assets of a corporation and thus serves to reduce the tax revenues which the Dominion would otherwise obtain, a corresponding reduction will be made from the annual amounts otherwise payable to such province. Thirdly, in respect of natural resources, the agreement does not prevent the imposition of royalties and rentals by the province, since these are not regarded as taxes when they are of a nature conforming with the definitions set forth in the agreement. Further, the agreement specifically allows the imposition of taxes on income derived from logging and mining operations, as defined, without any deduction from the payment to the province. Also, under an offer ancillary to the agreement, but which applies to all provinces, whether agreeing or not, the Dominion is authorized to pay to the province one-half of the Dominion's net collections of tax on the income of certain specified public utility corporations resulting from the distribution to the public or the generation for distribution to the public of electricity, gas or steam in the province concerned.

Adjustment of Indebtedness and Natural Resources Claims of the Western Provinces.—The Dominion and the Western Provinces reached a settlement, effective July 1, 1947, concurrently with the tax agreements but not as a part of them, which covered the Treasury Bill indebtedness of these Provinces and the claims of Alberta and Saskatchewan regarding natural resources. The results of the settlement are summarized as follows:—

Item	*Manitoba*	*Saskatchewan*	*Alberta*	*British Columbia*	*Total*
	$	$	$	$	$
Total Treasury Bill debt	24,734,452	80,361,852[1]	26,212,000	34,031,219	165,339,523
Treasury Bills for capital and ordinary governmental purposes	13,855,101	13,414,441	15,617,000	17,346,838	60,233,379
Treasury Bills for direct and agricultural relief	10,879,351	61,221,227	10,595,000	16,684,381	99,379,960
Amount to be cancelled—					
(1) Half of above item	5,439,676	30,610,614	5,297,500	8,342,191	55,416,164
(2) Capitalized relief interest	–	5,726,184	–	–	–
To be repaid in cash out of proceeds of Natural Resources Settlement (calculated as of June 30, 1947)	–	8,031,250	8,031,250	–	16,062,500
Amount to be refunded without interest	5,439,676	30,610,614	5,297,500	8,342,191	49,689,980
Amount to be refunded with interest	13,855,101	5,383,191	7,585,750	17,346,838	44,170,879

[1] Excluding Treasury Bills covering 1938 seed-grain loans refunded in 1945; original amount $16,468,852; amount presently outstanding $10,051,708.

The Treasury Bill indebtedness was incurred during the depression and drought period of the 1930's. The natural resources claim covered the period 1905 to 1930 during which time the Dominion had administration and control. The general principles of the settlement are as follows: (1) that part of the Treasury Bill indebtedness of the province which represents borrowing for purposes other than direct relief or agricultural relief is to be retired over a period of thirty years by an equal annual payment representing amortization of principal and interest at $2\frac{5}{8}$ p.c., which is approximately the cost of borrowing by the Dominion for a comparable period; and (2) half of that part of the total Treasury Bill indebtedness of the province which represents borrowing for direct relief and agricultural relief will be written off and

the remaining half will be refunded on a basis requiring the retirement of the total amount by equal annual instalments over a period of thirty years without interest. In the case of Saskatchewan, the amount cancelled includes a certain amount of capitalized interest in respect of relief Treasury Bills.

PART III.—CANADA'S EXTERNAL RELATIONS

Section 1.—Canada's Growth in External Status

The evolution of Canada in its external relations is reflected in the growth of its Department of External Affairs. A review of the organization and development of that Department is given at pp. 74-79 of the 1945 edition of the Year Book.

Section 2.—Canada and the United Nations*

An outline of the organization of the United Nations and Canada's place therein appears at pp. 82-86 of the 1946 Year Book. A continuation of that material is given below.

Canadian Contribution During 1947

During the year 1947 the United Nations continued to develop the subsidiary organs necessary to carry out its many political, social and economic responsibilities. While this process of constitutional development was going on, a good deal was also accomplished in the drafting of preliminary surveys of particular problems, in the detailed discussion of these problems by the delegates and in the passage of resolutions recommending the adoption by Member States of certain common policies. The United Nations met its most difficult problems in the political field. Basic disagreements as to voting procedure in the Security Council and political antagonisms among the Permanent Members hampered the objective consideration of disputes and the firm handling of them by the Council.

Canada continued its policy of consistent support to the United Nations during 1947. Canadian statesmen emphasized that the only real hope for world peace lay in the achievement of collective security. They admitted the many weaknesses of the United Nations but insisted that the Member Nations should begin with vigour and imagination to eliminate these weaknesses. In the face of Security Council weaknesses, Canada accepted membership in the Council and prepared to make its contribution to the effective functioning of that body. At the same time Canadian delegates to the General Assembly made it clear that, if the Security Council could not fulfil its responsibilities adequately, the General Assembly should make greater use of its functions in the field of international security.

Second Session of the General Assembly, Sept. 19, 1947.—The Rt. Hon. L. S. St. Laurent, M.P., Secretary of State for External Affairs, was the Chairman of the Canadian Delegation to the General Assembly and the Rt. Hon. J. L. Ilsley, M.P., Minister of Justice, was associated with him in the leadership of the Delegation. Members of the Senate, House of Commons, Department of National Health and Welfare and the Department of External Affairs completed the Canadian Delegation. Four Parliamentary advisers from the Opposition parties in Parliament assisted the Delegation. Other advisers were drawn from the Departments of National Defence, Finance and External Affairs.

* Prepared by United Nations Division, Department of External Affairs, Ottawa.

The problem of Palestine was the most serious political issue confronting the Second Session of the General Assembly. This matter had already been considered at a Special Session of the General Assembly which began on Apr. 28, 1947. A Special Committee on Palestine was created and instructed to prepare for consideration at the next regular session of the Assembly a report on the question of Palestine. Canada was one of the eleven nations chosen to provide a member for the Special Committee. The Canadian member supported the majority recommendation of this Committee for a plan of partition with economic union. A minority recommended the formation of a federal state.

At the Second Session of the General Assembly, therefore, these recommendations of the Special Committee on Palestine were considered by an *ad hoc* Committee along with a plan introduced by the Arab nations for an independent unitary state. Each of these plans was considered by a separate sub-committee and a third sub-committee was appointed to explore the possibility of conciliation between the contending parties. The General Assembly finally approved the recommendation of the *ad hoc* Committee that Palestine be partitioned into independent Arab and Jewish states and that Jerusalem be placed under a Special International Regime, all parts of the country to form an economic union. The Assembly set up the Palestine Commission to supervise the steps leading to this objective. This Commission was to be guided by and report to the Security Council in the interval between meetings of the Assembly.

The proposal to create an Interim Committee of the General Assembly to meet during the recess of the main body was supported by the Canadian Delegation, which assisted in drafting the resolution accepted by the necessary two-thirds majority of the Assembly. The Canadian Delegation made important contributions to a resolution regarding war propaganda, which was accepted unanimously by the Assembly. Other important political results of the Session were the establishment of a Special Balkan Committee, the election of Argentina, the Ukraine, and Canada to the Security Council, the admission of Yemen and Pakistan to membership in the United Nations and the establishment of a Temporary Commission on Korea, to which Canada was appointed.

In the economic field, agreements with five specialized agencies* were approved; the applications of Austria and Italy for membership in the International Civil Aviation Organization were accepted. Resolutions were adopted recommending the preparation by the United Nations of periodic reports on world economic conditions. It was agreed to study the factors bearing upon the establishment of an Economic Commission for the Middle East.

The General Assembly in dealing with social matters approved an appropriation of $670,000 for an Advisory Social Welfare Services Program. The action taken by the Economic and Social Council and the International Labour Organization to formulate definite principles regarding trade union rights was confirmed. A resolution was accepted inviting Member States not to assist illegal immigration and urging measures to encourage voluntary repatriation and the settlement of a fair share of non-repatriable persons in each Member State. The Assembly urged the acceptance by Member States of the constitution of the World Health Organization at the earliest possible date.

* International Telecommunications Union, Universal Postal Union, World Health Organization, International Bank for Reconstruction and Development, and International Monetary Fund.

The discussion of legal matters resulted in the adoption of resolutions regarding the surrender and punishment of war criminals, the establishment of an International Law Commission for the purpose of codifying international law, the preparation by the Economic and Social Council of a draft convention on genocide, and the approval of a convention on the privileges and immunities of specialized agencies.

To finance the United Nations, a budget of $34,825,195 was adopted. Canada joined in approving this budget. The scale of contribution for members was essentially the same as for 1946, Canada's share being 3·2 p.c. of the total.

Economic and Social Activities.—Canada is one of the eighteen members of the Economic and Social Council, having been elected in January, 1946, for a period of three years. Two sessions, the fourth and fifth, were held in 1947.

At the Fourth Session, held in New York, U.S.A., from Feb. 28 to Mar. 29, important decisions were taken in matters of policy. The earlier sessions were concerned largely with organization. Reports from eight of the nine functional commissions of the Council were presented containing recommendations for decision and action by the Council. Canada attended meetings of five of these commissions during the year.

The greatest achievement of the Fourth Session was the establishment of an Economic Commission for Europe and an Economic Commission for Asia and the Far East; these proposals were supported by the Canadian Delegation. Both regional commissions are of a temporary character, designed to conduct studies, to initiate action, and to participate in measures adopted by the United Nations as a whole.

At its Fifth Session the Economic and Social Council appointed an *ad hoc* Committee which reported favourably to the Second Session of the General Assembly regarding the establishment of an Economic Commission for Latin America. Important recommendations were made regarding the question of voting rights of these States which are not members of the United Nations but which attend United Nations international conferences.

One of the major functions assigned to the Economic and Social Council by the Charter is the co-ordination of the activities of the Specialized Agencies. To aid in the discharge of this function the Council may enter into agreements with the Agencies. Nine agreements have so far been approved. Canada is a member of all these Agencies and has approved all the agreements with the United Nations.

Among the most important achievements of the year in this field were the completion of a draft Charter for the proposed International Trade Organization, and the opening stages of a World Trade Conference at Havana, Cuba, during November and December where the principles of this Charter were discussed. A General Agreement on Tariffs and Trade had been signed earlier in the year by 23 governments (including that of Canada) which agreed to substantial reductions in tariffs.

The Canadian Delegate to the Fourth Session of the Council was Dr. G. F. Davidson, Deputy Minister of National Health and Welfare (Welfare) and at the Fifth Session Canada was represented by the Hon. Paul Martin, Minister of National Health and Welfare.

While the Economic and Social Council brings into focus the widespread activities of international organizations, most of the work in this field is accomplished by the Specialized Agencies.

The Canadian Government also contributed international relief. From a $20,000,000 fund set aside for international relief on the termination of UNRRA, Canada gave $5,000,000 to the International Children's Emergency Fund and $11,000,000 for work in Austria, Greece and Italy. Another outstanding contribution was made by Canadian participation in the Preparatory Commission of the International Refugee Organization, which has taken responsibility for the maintenance and repatriation or resettlement of refugees and displaced persons.

PART IV.—DIPLOMATIC REPRESENTATION*

Section 1.—Representatives of Canada in Other Countries

Subsection 1.—British Commonwealth Countries

United Kingdom: (Established 1880.)

High Commissioner for Canada in the United Kingdom: MR. N. A. ROBERTSON (Sept. 17, 1946). Previous High Commissioners:—

SIR ALEXANDER GALT, 1880-83
SIR CHARLES TUPPER, 1884-87, 1888-96
LORD STRATHCONA AND MOUNT ROYAL, 1896-1914
SIR GEORGE PERLEY, 1917-22 (Acting 1914-17)
THE HON. P. C. LARKIN, 1922-30
THE HON. G. HOWARD FERGUSON, 1930-35
THE RT. HON. CHARLES VINCENT MASSEY, 1935-46.

Address: Canada House, Trafalgar Square, London, S.W. 1.

Australia: (Established 1939.)

High Commissioner for Canada in Australia: MR. KENNETH A. GREENE (March, 1947). Previous High Commissioners:—

MR. CHARLES J. BURCHELL, 1939-41
MAJOR-GENERAL VICTOR ODLUM, 1941-42
THE HON. THOMAS C. DAVIS, 1942-46.

Address: State Circle, Canberra.

New Zealand: (Established 1940.)

High Commissioner for Canada in New Zealand: DR. A. RIVE (June 1, 1946). Previous High Commissioner: DR. W. A. RIDDELL, 1940-46.

Address: Government Life Insurance Building, Customs Quay, Wellington.

South Africa: (Established 1940.)

High Commissioner for Canada in the Union of South Africa: MR. E. D. MCGREER (Nov. 6, 1946). Previous High Commissioners:—

DR. HENRY LAUREYS, 1940-44
MR. CHARLES J. BURCHELL, 1944-45
MR. J. C. MACGILLIVRAY, 1945-46 (Acting).

Address: 24 Barclays Bank Building, Church Square, Pretoria.

* Revised by the Department of External Affairs, Ottawa, as at June 30, 1948. Subsequent appointments to date of going to press are given in Chapter XXXII, the Annual Register. An annual review of the organization and activities of Canadian Government representation abroad is contained in the Report of the Department of External Affairs, which may be obtained from the King's Printer, Price 10 cents.

Ireland: (Established 1940.)

The High Commissioner for Canada in Ireland: The Hon. W. F. A. Turgeon (Nov. 6, 1946). Previous High Commissioners:—

Mr. John H. Kelly, 1940-41

Mr. J. D. Kearney, 1941-45

Mr. Merchant M. Mahoney, 1945-46.

Address: 92 Merrian Square, West, Dublin.

Newfoundland: (Established 1941.)

The High Commissioner for Canada in Newfoundland: Mr. P. A. Bridle (Acting). Previous High Commissioners: —

Mr. Charles J. Burchell, 1941-44.

Mr. J. Scott Macdonald, 1944-48.

Address: Circular Road, St. John's.

India: (Established 1946.)

High Commissioner for Canada in India: Mr. J. D. Kearney (Dec. 23, 1946).

Address: 4 Auranczeb Road, New Delhi.

Subsection 2.—Foreign Countries

Embassies and Legations

Argentina: (Established 1941.)

Ambassador: Mr. Warwick F. Chipman (presented Letter of Credence Oct. 1, 1945). Previous Minister: The Hon. W. F. A. Turgeon, 1941-44. *Chargé d'Affaires ad interim:* Mr. K. P. Kirkwood, 1944-45.

Address: Bartolome Mitre, 478, Buenos Aires.

Belgium: (Established 1939.)

Ambassador: Mr. Victor Dore (presented Letter of Credence Jan. 21, 1947). Previous Representatives:—

Ministers:—

Mr. Jean Desy, 1939-40

Major-General George P. Vanier, 1943-45.

Chargé d'Affaires ad interim:—

Mr. Pierre Dupuy, 1940-43.

Ambassador:—

The Hon. W. F. A. Turgeon, 1945-47.

Address: 46 Montoyer Street, Brussels.

Brazil: (Established 1941.)

Ambassador: Mr. J. S. Macdonald (presented Letter of Credence June 3, 1948). Previous Ambassador: Mr. Jean Desy, 1944-47. Mr. Jean Desy was Minister from 1941 until 1944.

Address: Avenida President Wilson, 165, 7th Floor, Rio de Janeiro.

Chile: (Established 1942.)

Ambassador: MR. C. F. ELLIOTT (presented Letter of Credence Apr. 3, 1947). Previous Representatives:—

Ministers:—

THE HON. W. F. A. TURGEON, 1942-43

MR. WARWICK F. CHIPMAN, 1943-44.

Ambassador:—

MR. WARWICK F. CHIPMAN, 1944-46.

Chargé d'Affaires ad interim:—

MR. JULES LEGER, 1945-46.

Address: Bank of London and South America Building, Santiago.

China: (Established 1942.)

Ambassador: The HON. T. C. DAVIS (presented Letter of Credence May 21, 1947). Previous Ambassador: MAJOR-GENERAL VICTOR W. ODLUM, 1942-46.

Address: No. 3 Ping Tsang Hsiang, Nanking.

Cuba: (Established 1945.)

Minister: MR. C. P. HEBERT (presented Letter of Credence Mar. 16, 1948). Previous Minister: MR. EMILE VAILLANCOURT, 1945-48.

Address: Avenida de las Misiones No. 17, Havana.

Czechoslovakia: (Established 1942.)

Minister: MAJOR-GENERAL GEORGE P. VANIER (appointed Nov. 30, 1942). *Chargé d'Affaires ad interim:* MR. R. M. MACDONNELL (appointed February, 1947).

Address: Krakowska 22, Prague.

Denmark: (Established 1946.)

Minister: DR. HENRY LAUREYS (presented Letter of Credence July 12, 1947). Previous Minister: MR. J. D. KEARNEY, 1946-47.

Address: Osterbrogade 26, Copenhagen.

France: (Established 1928.)

Ambassador: MAJOR-GENERAL GEORGE P. VANIER (presented Letter of Credence Dec. 20, 1944). MAJOR-GENERAL GEORGE P. VANIER was Minister from 1938 until 1944. Previous Minister: The HON. PHILIPPE ROY, 1928-38.

Address: 72 Foch Avenue, Paris.

Greece: (Established 1943.)

Ambassador: MAJOR-GENERAL THE HON. L. R. LAFLECHE (presented Letter of Credence Sept. 28, 1945). Previous Minister: MAJOR-GENERAL GEORGE P. VANIER, 1943-45.

Address: 31 Queen Sofia Boulevard, Athens.

Italy: (Established 1947.)

Ambassador: MR. JEAN DESY (presented Letter of Credence June 26, 1948). MR. JEAN DESY was Minister from October, 1947, until June, 1948.

Address: Saverio Mercadante 15, Rome.

Luxembourg: (Established 1945.)

Minister: MR. VICTOR DORE (presented Letter of Credence Mar. 4, 1947). Previous Minister: THE HON. W. F. A. TURGEON, 1945-47.

Address: 46 Montoyer Street, Brussels.

Mexico: (Established 1944.)

Ambassador: MR. S. D. PIERCE (presented Letter of Credence July 17, 1947). Previous Ambassadors:—

THE HON. W. F. A. TURGEON, 1944-45

DR. H. L. KEENLEYSIDE, 1945-47.

Address: Edificio International, Paseo de La Reforma, No. 1, Mexico City.

Netherlands: (Established 1939.)

Ambassador: MR. PIERRE DUPUY (presented Letter of Credence Mar. 18, 1947). MR. PIERRE DUPUY was Minister from 1945 until 1947. Previous Ministers:—

MR. JEAN DESY, 1939-40

MAJOR-GENERAL GEORGE P. VANIER, 1943-45.

Chargé d'Affaires ad interim:—

MR. PIERRE DUPUY, 1940-43.

Address: Sophialaan 1A, The Hague.

Norway: (Established 1943.)

Minister: MR. E. J. GARLAND (presented Letter of Credence Oct. 21, 1947). Previous Ministers:—

MAJOR-GENERAL GEORGE P. VANIER, 1943-46

MR. J. D. KEARNEY, 1946-47.

Address: Fridtjof Nansens Place, 5 Oslo.

Peru: (Established 1944.)

Ambassador: MR. J. A. STRONG (presented Letter of Credence June 21, 1947). Previous Ambassador: DR. HENRY LAUREYS, 1944-47.

Address: Edificio Boza, Plaza San Martin, Lima.

Poland: (Established 1942.)

Minister: MAJOR-GENERAL GEORGE P. VANIER (appointed Nov. 30, 1942).

Chargé d'Affaires ad interim: MR. K. P. KIRKWOOD (appointed February, 1947).

Address: Hotel Bristol, Warsaw.

Sweden: (Established 1947.)

Minister: Vacant. *Chargé d'Affaires ad interim:* MR. F. H. PALMER (appointed February, 1947).

Address: Strandvägen 7-C.

Switzerland: (Established 1947.)

Minister: MR. L. D. WILGRESS (presented Letter of Credence Oct. 21, 1947).

Address: Thunstrasse 95, Berne.

Turkey: (Established 1947.)
Ambassador: MAJOR-GENERAL VICTOR W. ODLUM (presented Letter of Credence Nov. 26, 1947).
Address: 211 Ayranci Baglari Kavaklidere, Ankara.

Union of Soviet Socialist Republics: (Established 1942.)
Ambassador: Vacant. *Chargé d'Affaires ad interim:* MR. J. W. HOLMES (appointed March, 1947). Previous Ambassador: MR. L. D. WILGRESS, 1942-47.
Address: 23 Starokonyushny Pereulok, Moscow.

United States of America: (Established 1927.)
Ambassador: MR. H. H. WRONG (presented Letter of Credence Nov. 8, 1946).
Previous Representatives:—

Ministers:—
THE RT. HON. CHARLES VINCENT MASSEY, 1927-30
THE HON. W. D. HERRIDGE, 1931-35
THE HON. SIR HERBERT MARLER, 1936-39
MR. LORING C. CHRISTIE, 1939-41
THE HON. LEIGHTON G. MCCARTHY, 1941-43.

Ambassadors:—
THE HON. LEIGHTON G. MCCARTHY, 1943-44
MR. L. B. PEARSON, 1944-46.

Address: 1746 Massachusetts Avenue, Washington, D.C.

Yugoslavia: (Established 1948.)
Minister: MR. E. VAILLANCOURT (presented Letter of Credence Feb. 26, 1948).
Address: Belgrade.

MILITARY AND LIAISON MISSIONS

Germany:
Head of Military Mission: Lieutenant-General Maurice Pope.
Address: Commonwealth House, 40 Johannesberger St., Wilmersdorf, Berlin.

Japan:
Head of Liaison Mission: Mr. E. H. Norman.
Address: 16 Omote-Machi, 3 Chome, Akaska-Ku, Tokyo.

CONSULATES

China:
Vice-Consuls: Mr. P. G. R. Campbell and Mr. F. G. Ballachey.
Address: 27 The Bund, Shanghai.

Portugal:
Acting Consul General: Mr. L. S. Glass.
Address: Rua Rodrigo Fonseca, 103-40, Lisbon.

United States of America:
Consul General: Mr. H. D. Scully.
Address: 620 Fifth Avenue, New York, N.Y.
Consul General: Mr. E. Turcotte.
Address: Suite 800, Daily News Building, 400 West Madison Ave., Chicago, Ill.
Consul General: Mr. Harry A. Scott.
Address: Kohl Bldg., 400 Montgomery St., San Francisco, Cal.

CONSULATES—concluded

United States of America:—concluded
Consul: Mr. James J. Hurley.
Address: 1035 Penobscot Building, Detroit 26, Mich.
Honorary Vice-Consul: Mr. A. Lafleur.
Address: Office 503, 120 Exchange Street, Portland, Me.

Venezuela:
Acting Consul General: Mr. C. S. Bissett.
Address: No. 805, Edificio America, Esquina Veroes, Caracas.

Section 2.—Representatives of Other Countries in Canada

Subsection 1.—British Commonwealth Countries

United Kingdom: (Established 1928.)
High Commissioner for the United Kingdom: THE HON. SIR ALEXANDER CLUTTERBUCK (appointed May 29, 1946). Previous High Commissioners:—
SIR WILLIAM H. CLARK, 1928-34
SIR FRANCIS FLOUD, 1935-38
SIR GERALD CAMPBELL, 1938-41
THE RT. HON. MALCOLM MACDONALD, 1941-46.
Address: Earnscliffe, Ottawa.

Australia: (Established 1940.)
High Commissioner for the Commonwealth of Australia: THE RT. HON. FRANCIS M. FORDE (appointed Jan. 18, 1947). Previous High Commissioners:—
MAJOR-GENERAL THE HON. SIR WILLIAM GLASGOW, 1940-45
THE HON. ALFRED STIRLING, 1945-46.
Address: 24 Sussex Street, Ottawa.

New Zealand: (Established 1943.)
High Commissioner for New Zealand: THE HON. JAMES THORN (appointed May 12, 1947). Previous High Commissioner: THE HON. DAVID WILSON, 1944-47.
Address: 107 Wurtemburg Street, Ottawa.

South Africa: (Established 1938.)
High Commissioner for the Union of South Africa: THE HON. DR. P. R. VILJOEN (appointed Sept. 10, 1945). Previous Accredited Representative: MR. DAVID DE WAAL MEYER, 1938-44.
Address: 15 Sussex Street, Ottawa.

Ireland: (Established 1939.)
High Commissioner for Ireland: THE HON. JOHN J. HEARNE (appointed Aug. 18, 1939).
Address: 140 Wellington Street, Ottawa.

India: (Established 1947.)
High Commissioner for India: SARDAR THE HON. HARDIT SINGH MALIK (appointed Sept. 3, 1947).
Address: 114 Wellington Street, Ottawa.

Subsection 2.—Foreign Countries

Argentina: (Established 1941.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Dr. Juan Carlos Rodriguez (Jan. 13, 1947).

Address: 18 Rideau Street, Ottawa.

Belgium: (Established 1937.)

Ambassador Extraordinary and Plenipotentiary: His Excellency A. Paternotte de la Vaillee (July 20, 1945).

Address: 395 Laurier Avenue East, Ottawa.

Brazil: (Established 1941.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Dr. Acyr do Nascimento Paes (Apr. 26, 1946).

Address: 400 Wilbrod Street, Ottawa.

Chile: (Established 1942.)

Ambassador Extraordinary and Plenipotentiary: His Excellency General Arnaldo Carrasco (June 5, 1947).

Address: Suite 215, 56 Sparks Street, Ottawa.

China: (Established 1942.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Liu Chieh (June 7, 1947).

Address: 410 Besserer Street, Ottawa.

Cuba: (Established 1945.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Dr. Mariano Brull (Nov. 2, 1945).

Address: 499 Wilbrod Street, Ottawa.

Czechoslovakia: (Established 1942.)

Chargé d'Affaires ad interim: Mr. Stanislav Klima (Mar. 11, 1948).

Address: 171 Clemow Avenue, Ottawa.

Denmark: (Established 1946.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency G. B. Holler (Mar. 7, 1946).

Address: 107 Sparks Street, Ottawa.

Finland: (Established 1947.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Urho Vilpiton Toivola (Jan. 7, 1948).

Address: Chateau Laurier Hotel, Ottawa.

France: (Established 1928.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Francisque Gay (Apr. 21, 1948).

Address: 42 Sussex Street Ottawa.

Greece: (Established 1942.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Constantine Sakellaropoulo (Nov. 12, 1945).

Address: Chateau Laurier Hotel, Ottawa.

Iceland: (Established 1947.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Thor Thors (Jan. 20, 1948).

Address: Chateau Laurier Hotel, Ottawa.

Italy: (Established 1947.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Count Carlo Fecia di Cossato (Oct. 10, 1947).

Address: 384 Laurier Avenue East, Ottawa.

Mexico: (Established 1944.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Primo Villa Michel (Sept. 15, 1947).

Address: 11 Metcalfe Street, Ottawa.

Netherlands: (Established 1939.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Dr. J. H. van Roijen (Apr. 2, 1947).

Address: 168 Laurier Avenue East, Ottawa.

Norway: (Established 1942.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Daniel Steen (Apr. 2, 1942).

Address: 509 Plaza Building, 45 Rideau Street, Ottawa.

Peru: (Established 1944.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Alfredo Benavides (Mar. 29, 1945).

Address: 36 Elgin Street, Ottawa.

Poland: (Established 1942.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Eugeniusz Milnikiel (Apr. 22, 1948).

Address: 183 Carling Avenue, Ottawa.

Sweden: (Established 1943.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Per Wijkman (Aug. 4, 1943).

Address: 720 Manor Road, Rockcliffe Park.

Switzerland: (Established 1945.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Dr. Victor Nef (Apr. 25, 1946).

Address: 5 Marlborough Avenue, Ottawa.

Turkey: (Established 1944.)

Ambassador Extraordinary and Plenipotentiary: His Excellency Muzaffer Goker (Nov. 12, 1947).

Address: Chateau Laurier Hotel, Ottawa.

Union of Soviet Socialist Republics: (Established 1942.)

Chargé d'Affaires ad interim: Nikolai Belokhvostikov (Dec. 29, 1947).

Address: 285 Charlotte Street, Ottawa.

United States of America: (Established 1927.)

Ambassador Extraordinary and Plenipotentiary: His Excellency the Hon. Ray Atherton (Nov. 19, 1943).

Address: 100 Wellington Street, Ottawa.

Uruguay: (Established 1947.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Cesar Montero de Bustamante (Mar. 11, 1948).

Address: 7 Delaware Avenue, Ottawa.

Yugoslavia: (Established 1947.)

Envoy Extraordinary and Minister Plenipotentiary: His Excellency Mato Jaksic (July 8, 1948).

Address: 259 Daly Avenue, Ottawa.

CHAPTER IV.—POPULATION*

CONSPECTUS

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The records accumulated at the decennial censuses of Canada since the creation of the Dominion in 1867 to the latest census to date, 1941, make a valuable contribution to the demographic history of the nation. Each successive decade has added to the vast scope of the material; the detailed statistical analyses and the numerous monographs and studies available under the several aspects of demography and agriculture have made the census a most important statistical measure of accomplishment and progress.

The salient aspects of population growth under each main heading shown in the conspectus are covered but not necessarily in any one edition. The Canada Year Book can do no more than summarize the broad results of the census. More detailed information can be obtained from the census publications.

The main legal reason for a periodic census under the constitution of Canada is to determine representation in the House of Commons: this, according to the British North America Act, is based on population (see p. 85). The payment of provincial subsidies on a per capita basis is adjusted annually on population estimated from the census data. In view of this each person is counted as belonging to the locality of his regular domicile, rather than to the place he may be at the date of enumeration.

The modern Dominion-wide census, however important this redistribution purpose, has a much wider sphere of usefulness. It constitutes, through the data collected directly from the people, a true measure of the social and economic progress of the country and can therefore be used in the regulation and general administration of public affairs, social security and rehabilitation programs, etc.

History of the Census.—An outline of the history of the census is given at pp. 96-97 of the 1947 edition of the Year Book.

Growth of Population.—A brief résumé of the population history of Canada from the first census in 1666, when it numbered 3,215 persons, to the eighth Dominion Census of 1941, when the figure was 11,506,655, places Canada among the leading countries of the British Empire in the rate of population growth. The inflow of

* This Chapter has been checked by O. A. Lemieux, Director, Census (Demography) Division, Dominion Bureau of Statistics.

capital and the opening up of new and vast areas with the consequent stimulation of immigration began with the opening of the twentieth century and was the latest episode in the transformation of the central prairie region, which, in the course of forty years, has been organized into provinces and developed with such promise. The total population of Canada at the end of the nineteenth century was approximately 5,400,000; it had about doubled this figure by 1931. The general increase in the population of European countries during the entire nineteenth century was approximately three-fold; Canada equalled this rate of progress during the sixty years from 1871 to 1931.

In the decade 1901-11 immigration alone totalled 1,800,000. This figure was the main factor in the gain of 34·2 p.c. registered by the total population of Canada in that decade, which was relatively larger than the growth of any modern country during the same period.

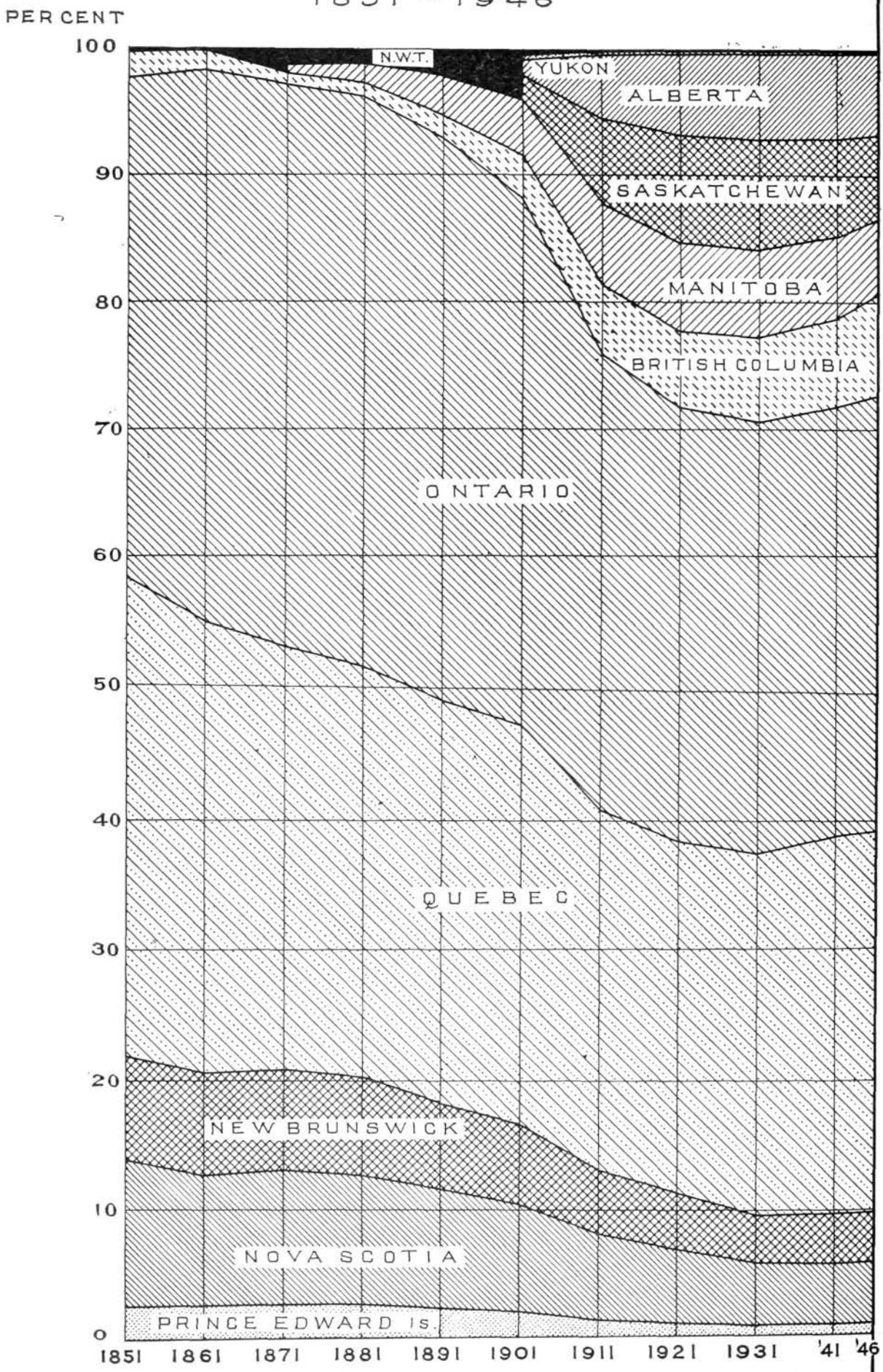
The next decade started out with an intensification of this immigration movement, but with the outbreak of the First World War a recession set in. The effects of that War upon the Canadian population were both direct and indirect. Nearly 60,000 members of the Canadian Forces died overseas and approximately 20,000 took their discharge in the United Kingdom. To these may be added 50,000 deaths from the war plague, influenza. In addition large numbers of British Isles residents, most of them recent immigrants, left Canada to join the Armed Forces of the United Kingdom and did not return; the same is true of enemy nationals who passed in considerable numbers into the United States immediately before and after the declaration of hostilities. The fluidity of the Canadian population accordingly rendered the War costly in personnel far beyond actual casualties. However, the net result over the ten years was a population increase of 21·9 p.c. or the largest increase for any modern country in that decade with the exception of Australia where an increase of 22·0 p.c. was recorded.

The Census of 1931 showed a further increase of 18·1 p.c. over 1921. Natural increase and immigration contributed 1,325,256 and 1,509,136, respectively, although the net gain was only 1,588,837 since estimated emigration was 1,245,555, for the ten years. Census returns of Great Britain for 1921-31 showed an increase of 4·7 p.c., equalling that of the previous decade. New Zealand in the ten-year interval 1911-21 showed an increase of 19·8 p.c. and the decade 1921-31, 19·3 p.c. A census of Australia was not taken in 1931, but the official estimate of population based on the Census of 1933 gave an increase of 19·8 p.c. as against 22·0 p.c. for the period 1911-21. Census figures for the United States showed an increase in population of 14·9 p.c. for 1910-20, 16·1 p.c. for 1920-30 and 7·2 p.c. for 1930-40.

The eighth census of Canada taken June 2, 1941, gave the population as 11,506,655 as compared with 10,376,786 as of June 1, 1931, an increase of 1,129,869 or 10·9 p.c. in the decade. During the greater part of this decade, Canada, along with all other countries, was face to face with a prolonged and severe economic depression; immigration was still further restricted by government regulations as well as by economic necessity. The figures for immigrant arrivals were actually reduced from 1,166,004 in the ten-year period 1921-31 to 140,361 in 1931-41. The natural increase for this period showed a reduction of about 7 p.c. and, since immigration was reduced more than 88 p.c. over the decade, the net increase in population was due almost entirely to the favourable birth and death rates of the established population.

CHANGES IN PERCENTAGE DISTRIBUTION OF POPULATION, CANADA

1851 – 1946



PART I.—STATISTICS OF GENERAL POPULATION

Section 1.—Census Statistics of General Population

Since the creation of the Dominion of Canada in 1867, decennial censuses have been taken as of Apr. 2, 1871, Apr. 4, 1881, Apr. 5, 1891, Apr. 1, 1901, June 1, 1911, 1921, 1931 and June 2, 1941. Summary figures are given in Table 1.

1.—Population of Canada, by Provinces and Territories, Decennial Census Years 1871-1941

NOTE.—The populations of the Prairie Provinces in 1906, 1916, 1926, 1936 and 1946 are shown at p. 164. Intercensal estimated populations from 1867–1904 will be found at p. 141 of the 1936 Year Book; from 1905–30 at p. 127 of the 1946 edition; and from 1931–48 in Table 4, p. 139, of the present edition.

Province or Territory	1871	1881	1891	1901	1911	1921	1931	1941
P. E. Island	94,021	108,891	109,078	103,259	93,728	88,615	88,038	95,047
Nova Scotia	387,800	440,572	450,396	459,574	492,338	523,837	512,846	577,962
New Brunswick	285,594	321,233	321,263	331,120	351,889	387,876	408,219	457,401
Quebec	1,191,516	1,359,027	1,488,535	1,648,898	2,005,776[1]	2,360,510[2]	2,874,662	3,331,882
Ontario	1,620,851	1,926,922	2,114,321	2,182,947	2,527,292[1]	2,933,662	3,431,683	3,787,655
Manitoba	25,228	62,260	152,506	255,211	461,394[1]	610,118	700,139	729,744
Saskatchewan	–	–	–	91,279	492,432	757,510	921,785	895,992
Alberta	–	–	–	73,022	374,295[3]	588,454	731,605	796,169
British Columbia	36,247	49,459	98,173	178,657	392,480	524,582	694,263	817,861
Yukon	–	–	–	27,219	8,512	4,157	4,230	4,914
N.W.T.[4]	48,000	56,446	98,967	20,129	6,507[3]	8,143	9,316	12,028
Canada	**3,689,257**	**4,324,810**	**4,833,239**	**5,371,315**	**7,206,643**	**8,787,949[2]**	**10,376,786**	**11,506,655**

[1] Corrected as a result of the Boundaries Extension Acts, 1912. [2] Revised in accordance with the Labrador Award of the Privy Council, Mar. 1, 1927. The total for 1921 includes 485 members of the Royal Canadian Navy who were recorded separately. [3] Corrected by transfer of population of Fort Smith (368) to the Northwest Territories. [4] The decreases shown in the population of the Northwest Territories since 1891 are due to the separation therefrom of vast areas to form Alberta, Saskatchewan and Yukon and to extend the boundaries of Quebec, Ontario and Manitoba.

Numerical increases in the populations of the different provinces of Canada are given by decades from 1871-1941, at p. 99 of the 1947 Year Book.

Section 2.—Movement of Population

The traditional movement of population on the North American Continent from east to west has not been in evidence in the statistics of the past two decades. A somewhat spotty picture is revealed by the intercensal comparison between 1931 and 1941, by the ration book counts of 1944 and 1946 and by the special survey of interprovincial migration covering 1946-47.

The most spectacular changes are shown in the Prairie Provinces and in British Columbia. The three Prairie Provinces lost by out-migration about a quarter of a million people between 1931 and 1941 and almost the same number from 1941 to 1946. British Columbia gained—during the 1930's at the rate of about 8,000 a year and during the 1940's at about 25,000 a year. According to the most recent figures available there is no sign of a falling-off in British Columbia's growth. On an absolute basis, Ontario received almost the same number of people as British Columbia, but in relation to her larger population this growth was only a quarter as important. Quebec's net change was very small relative to its population. Nova Scotia gained during the war years and lost immediately after the War, while the Maritime Provinces as a whole lost population over the past two decades.

In the 1945 edition of the Year Book a calculation was presented* using the ration-card count of 1944 by counties to estimate rural-urban movement. Tables 2 and 3 show these results as well as a similar series for the periods Apr. 1, 1944, to Sept. 1, 1946, and June 1, 1946, to June 1, 1947. The average exodus of about 30,000 persons a year from farm counties to urban places, which was shown during the 1930's, increased to over 80,000 a year in 1941-44. Since 1944, however, no significant rural-urban movement appeared.

2.—Rural and Urban Movement of Population, 1911-46

(Exclusive of Yukon and the Northwest Territories)

Item	Metropolitan	Other Urban	Farm	Rural Non-Farm	Canada
	'000	'000	'000	'000	'000
Population—					
June, 1911	1,768	2,339	2,663	422	7,192
June, 1921	2,401	2,749	3,143	482	8,775
June, 1931	3,232	3,152	3,444	535	10,363
June, 1941	3,621	3,564	3,679	626	11,490
March, 1944	3,966	3,785	3,553	623	11,927
September, 1946	4,059	3,898	3,708	669	12,334
Natural Increase—					
1931-41	256	379	526	62	1,223
1941-44	110	156	158	22	446
1944-46	91	137	149	21	398
Internal Migration—					
1931-41	133	33	−291	29	−96
1941-44	235	65	−284	−25	−9
1944-46	2	−24	6	25	9

3.—Interprovincial Migration, 1931-47

(Exclusive of Yukon and the Northwest Territories)

Province	June 1, 1931 to June 1, 1941	June 1, 1941 to Apr. 1, 1944	Apr. 1, 1944 to Sept. 1, 1946	June 1, 1946 to June 1, 1947
	'000	'000	'000	'000
Prince Edward Island	−3	−7	[1]	−2
Nova Scotia	+8	+8	−18	−2
New Brunswick	−10	−19	+3	−2
Quebec	−3	−13	−10	+1
Ontario	+78	+59	+79	+21
Manitoba	−48	−25	−21	+2
Saskatchewan	−158	−86	−38	−6
Alberta	−42	−15	−42	+1
British Columbia	+82	+89	+56	+26
Canada	**−96**	**−9**	**+9**	**+39**

[1] Less than 500.

Section 3.—Intercensal Estimates of Population and Current Analyses

Intercensal estimates of the population serve many uses. They constitute a base for vital statistics rates, per capita figures of production and trade, and other analyses. More recently, they have proved useful for estimates of labour force and other population characteristics on data collected in sample surveys.

Estimates are constructed in the first place for the total population of Canada and each province. It is a requirement that these be made available about the date to which they apply, June 1 of each year. As final figures on the components of

* A review of the rural-urban movement of population in 1941-44, the migration between the nine provinces of Canada during the decade 1931-41, and the estimated net civilian immigration by provinces, 1941-44, appears at pp. 120-122 of the 1945 Year Book.

population change are not ready at that date, the numbers of births, deaths and immigrants are partly filled in by extrapolation so that a preliminary figure is secured for the June to May interval. To avoid a cumulative error the calculation in effect starts afresh with the latest preceding census for each year's estimates and uses the most up-to-date figures then at hand. To the census figures are added the births of the intervening years and the deaths are subtracted. Immigrants are added and emigrants are subtracted. On the last item of this calculation there is least information—it is possible to ascertain the number of Canadians entering the United States from United States immigration figures, and sometimes the same for the United Kingdom but no data for other countries are available.

The same calculation provides the estimates for the provinces year by year, with the addition that interprovincial migration for each year is now given by the June survey of the Dominion Bureau of Statistics Sampling Unit. This special 2 p.c. sample is used to fill what has hitherto been a serious gap in the annual estimates.

The program of population estimates calls for two figures to be given in respect of each year; one based on preliminary materials, as described above, necessarily involving an extrapolation of birth, death and immigration returns, and the other on final figures subject to no further change which can be made available only when the last item of subsequent information has been secured. This last item is the succeeding decennial census. There is no theoretical gain in making minor adjustments which are within the band of error to which the figures are subject in any case, and such adjustments in practice cause confusion to users. As estimates for successive years are independently calculated back to the latest census the best estimate of the balance of population change is not obtained by subtracting the figure for one year from that for the year following. As there is in fact much interest attaching to the year-to-year balance, Table 5, which gives all available data on that point, is included.

4.—Estimates of Population, by Provinces, Intercensal Years, 1931-48

NOTE.—At every census the previous post-censal data are adjusted to the newly recorded population figures. Figures for 1867–1904 will be found at p. 141 of the 1936 Year Book and for 1905–30 at p. 127 of the 1946 edition. Figures for all provinces for 1931 and 1941 are decennial census figures while those for the Prairie Provinces for 1936 and 1946 are quinquennial census figures.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N. W.T.	Canada
	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000	'000
1931	**88**	**513**	**408**	**2,874**	**3,432**	**700**	**922**	**732**	**694**	**4**	**9**	**10,376**
1932	89	519	414	2,925	3,473	705	924	740	707	4	10	10,510
1933	90	525	419	2,972	3,512	708	926	750	717	4	10	10,633
1934	91	531	423	3,016	3,544	709	928	758	727	4	10	10,741
1935	92	536	428	3,057	3,575	710	930	765	736	5	11	10,845
1936	93	543	433	3,099	3,606	711	931	773	745	5	11	10,950
1937	93	549	437	3,141	3,637	715	922	776	759	5	11	11,045
1938	94	555	442	3,183	3,672	720	914	781	775	5	11	11,152
1939	94	561	447	3,230	3,708	726	906	786	792	5	12	11,267
1940	95	569	452	3,278	3,747	728	900	790	805	5	12	11,381
1941	**95**	**578**	**457**	**3,332**	**3,788**	**730**	**896**	**796**	**818**	**5**	**12**	**11,507**
1942[1]	90	591	464	3,390	3,884	724	848	776	870	5	12	11,654
1943[1]	91	607	463	3,457	3,917	726	842	792	900	5	12	11,812
1944[1]	91	612	462	3,500	3,965	732	846	818	932	5	12	11,975
1945[1]	92	621	468	3,561	4,004	736	845	826	949	5	12	12,119
1946[1]	94	612	480	3,630	4,101	727	833	803	1,003	8	16	12,307
1947[1]	94	621	491	3,712	4,189	743	842	822	1,044	8	16	12,582
1948[1]	93	635	503	3,792	4,297	757	854	846	1,082	8	16	12,883

[1] These estimates are subject to adjustment as later data are made available.

5.—Summary of Births, Deaths, Natural Increase and Immigration, Calendar Years, with Estimated Population as at June 1, 1931-46

(Exclusive of Yukon and the Northwest Territories)

Year	Calendar-Year Data				Estimated Population as at June 1
	Births	Deaths	Natural Increase	Immigration	
1931	**240,473**	**104,517**	**135,956**	**27,508**	**10,363,000**
1932	235,666	104,377	131,289	20,579	10,496,000
1933	222,868	101,968	120,900	14,358	10,619,000
1934	221,303	101,582	119,721	12,466	10,727,000
1935	221,451	105,567	115,884	11,251	10,829,000
1936	220,371	107,050	113,321	11,634	10,934,000
1937	220,235	113,824	106,411	15,080	11,029,000
1938	229,446	106,817	122,629	17,232	11,136,000
1939	229,468	108,951	120,517	16,978	11,250,000
1940	244,316	110,927	133,389	11,312	11,364,000
1941	**255,224**	**114,500**	**140,724**	**9,325**	**11,490,000**
1942	272,184	112,848	159,336	7,576	11,637,000[1]
1943	283,423	118,531	164,892	8,502	11,795,000[1]
1944	284,220	116,052	168,168	12,793	11,958,000[1]
1945	288,730	113,414	175,316	22,711	12,102,000[1]
1946	330,732	114,931	215,801	71,691	12,283,000[1]

[1] These estimates are subject to adjustment as later data are made available.

The present trends of growth as applied to the future are reviewed in a short analysis in the 1946 Year Book at pp. 127-128. Further details on this subject may be found in Bulletin F-4 "The Future Population of Canada", published by the Dominion Bureau of Statistics.

Population by Sex and Age.—In calculating many vital statistics rates it is necessary to know not only the total population but also the distribution by sex and age. Hitherto, such calculations have usually been restricted to the years about the census, but with the figures of Table 6 sufficient accuracy is secured for calculations of vital statistics rates.

Table 6 shows the population of Canada by sex and age for the years 1931 to 1947. The figures for 1931 and 1941 are those of the census. For the other years they are estimates, calculated from the census figures, the births and deaths in each year, and known migration into and out of the country.

The starting point in this calculation was the population of the 1931 Census. The Census was taken at the beginning of June. The number of children under one year of age on June 1 of each year was obtained by subtracting the number who had died during the previous 12 months from the number who had been born. At each other year of age, the deaths at that age were subtracted from the census figures to give an estimate of the number at the next higher age in the following year. This process was carried forward for each year to 1941, and gave what may be called the 'expected' figures of population for that year. These expected figures were then compared with the actual figures of the 1941 Census, the differences at each age noted, and the estimates for the previous years revised in the light of these differences. The differences for each year were distributed between the two sexes and the different ages in the same ratio as the differences between the actual and 'expected' figures in 1941. The sum of the differences in 1941 was about 90,000 and is believed to be largely due to unrecorded migration into and out of the country.

The estimates for the years after 1941 are being made in the same way as the estimates for the years before 1941. The figures for 1942 to 1947 will be revised after the 1951 Census; those for the years 1932 to 1940 are now final.

The population of Canada in 1931 and 1941 by sex and age is shown graphically in the Chart facing p. 226.

6.—Population by Age Groups and Sex, Censuses of 1931 and 1941 with Estimates (as at June 1) for Intercensal Years 1932-40 and 1942-47

(Exclusive of Yukon and the Northwest Territories)

Sex and Age	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
		'000	'000	'000	'000	'000	'000	'000	'000	'000		'000	'000	'000	'000	'000	'000
Males	**5,366,704**	**5,432**	**5,491**	**5,542**	**5,588**	**5,636**	**5,679**	**5,729**	**5,782**	**5,834**	**5,890,683**	**5,962**	**6,039**	**6,118**	**6,169**	**6,254**	**6,390**
0- 4 years	542,439	539	534	524	524	517	508	503	510	517	532,825	553	579	599	634	657	696
5- 9 "	571,845	567	565	562	549	547	545	541	531	533	528,134	520	518	528	525	549	570
10-14 "	542,358	552	564	572	578	575	573	571	568	557	555,519	554	550	539	533	531	535
15-19 "	524,913	529	524	525	525	539	549	560	566	570	564,548	558	555	554	550	542	539
20-24 "	463,378	474	487	498	506	512	513	508	508	506	517,145	532	545	559	549	545	548
25-29 "	409,664	419	427	433	441	445	453	465	476	483	487,396	492	493	490	492	506	516
30-34 "	367,795	372	377	383	388	394	400	409	416	426	430,664	440	450	462	468	475	483
35-39 "	358,827	358	358	357	358	361	365	371	379	387	395,653	402	407	411	414	430	439
40-44 "	347,484	349	349	350	349	348	347	346	346	346	348,039	354	362	371	378	382	391
45-49 "	321,291	326	330	332	333	333	333	334	334	333	332,008	332	332	332	333	341	348
50-54 "	267,056	277	286	293	299	305	308	312	314	315	315,404	317	318	318	318	313	316
55-59 "	198,897	208	217	227	236	244	252	259	266	271	274,893	281	285	290	293	290	291
60-64 "	156,637	160	163	166	170	176	182	191	201	210	218,202	225	231	238	244	245	249
65-69 "	120,549	123	126	130	135	139	143	146	150	156	162,233	167	172	178	183	186	192
70-74 "	88,502	90	92	94	96	98	100	103	105	108	110,944	115	118	122	125	127	133
75-79 "	49,997	52	55	58	61	62	64	64	65	66	67,104	69	71	73	75	77	81
80-84 "	23,867	25	25	26	27	28	29	31	32	34	34,038	35	36	36	37	38	41
85-89 "	8,665	9	9	9	10	10	11	11	11	12	12,607	13	13	14	14	15	16
90+ "	2,540	3	3	3	3	3	4	4	4	4	3,327	3	4	4	4	5	6
14 years or over	3,815,105	3,876	3,936	3,994	4,053	4,112	4,167	4,227	4,285	4,338	4,384,833	4,445	4,504	4,560	4,585	4,624	4,696
21 years or over	3,090,475	3,145	3,199	3,255	3,305	3,358	3,404	3,456	3,504	3,553	3,599,186	3,659	3,718	3,785	3,821	3,865	3,940
Females	**4,996,536**	**5,064**	**5,128**	**5,185**	**5,241**	**5,298**	**5,350**	**5,407**	**5,468**	**5,530**	**5,599,030**	**5,675**	**5,756**	**5,840**	**5,933**	**6,029**	**6,168**
0- 4 years	530,524	527	520	510	509	502	494	489	496	502	516,916	535	557	576	608	628	664
5- 9 "	559,460	554	551	549	539	537	535	529	519	520	515,791	510	507	515	511	533	551
10-14 "	530,531	540	554	562	567	563	560	557	555	545	543,815	542	539	529	522	520	522
15-19 "	513,894	519	514	513	515	527	537	551	557	560	554,190	549	544	543	540	535	532
20-24 "	447,129	459	474	487	499	504	508	503	502	502	513,846	527	540	550	552	550	552
25-29 "	375,995	387	399	410	419	429	438	452	464	475	478,017	484	486	487	499	511	522
30-34 "	340,351	343	346	349	353	359	367	379	390	402	411,703	423	436	449	462	471	480
35-39 "	329,113	331	331	331	331	333	336	340	346	354	362,690	370	377	385	396	412	424
40-44 "	298,109	303	309	314	319	322	324	325	325	326	327,566	332	337	343	350	355	366
45-49 "	263,488	269	274	278	281	285	288	293	298	301	302,361	305	308	312	316	321	327
50-54 "	221,198	229	235	241	246	252	257	262	266	271	275,611	280	284	287	290	290	295
55-59 "	167,759	175	183	191	198	205	211	217	223	227	231,450	238	244	251	257	259	262
60-64 "	137,602	140	142	144	147	152	157	165	173	181	188,415	194	199	204	210	213	219
65-69 "	110,409	112	115	118	122	125	129	131	135	139	145,099	149	154	159	163	167	173
70-74 "	82,999	85	87	89	91	94	96	98	100	103	105,878	109	112	115	118	120	125
75-79 "	48,603	51	53	57	60	62	64	65	66	67	68,457	70	72	74	76	78	81
80-84 "	25,283	26	26	27	28	29	31	33	35	36	37,410	38	39	40	41	42	45
85-89 "	10,465	10	11	11	12	13	13	13	13	14	15,010	15	16	16	17	18	20
90+ "	3,624	4	4	4	5	5	5	5	5	5	4,805	5	5	5	5	6	8
14 years or over	3,478,617	3,542	3,606	3,672	3,741	3,809	3,874	3,942	4,008	4,071	4,130,044	4,197	4,262	4,328	4,397	4,453	4,535
21 years or over	2,767,621	2,827	2,885	2,948	3,007	3,070	3,124	3,184	3,240	3,299	3,358,359	3,428	3,497	3,569	3,639	3,703	3,789
Totals	**10,363,240**	**10,496**	**10,619**	**10,727**	**10,829**	**10,934**	**11,029**	**11,136**	**11,250**	**11,364**	**11,489,713**	**11,637**	**11,795**	**11,958**	**12,102**	**12,283**	**12,558**

PART II.—CENSUS ANALYSES OF GENERAL POPULATION

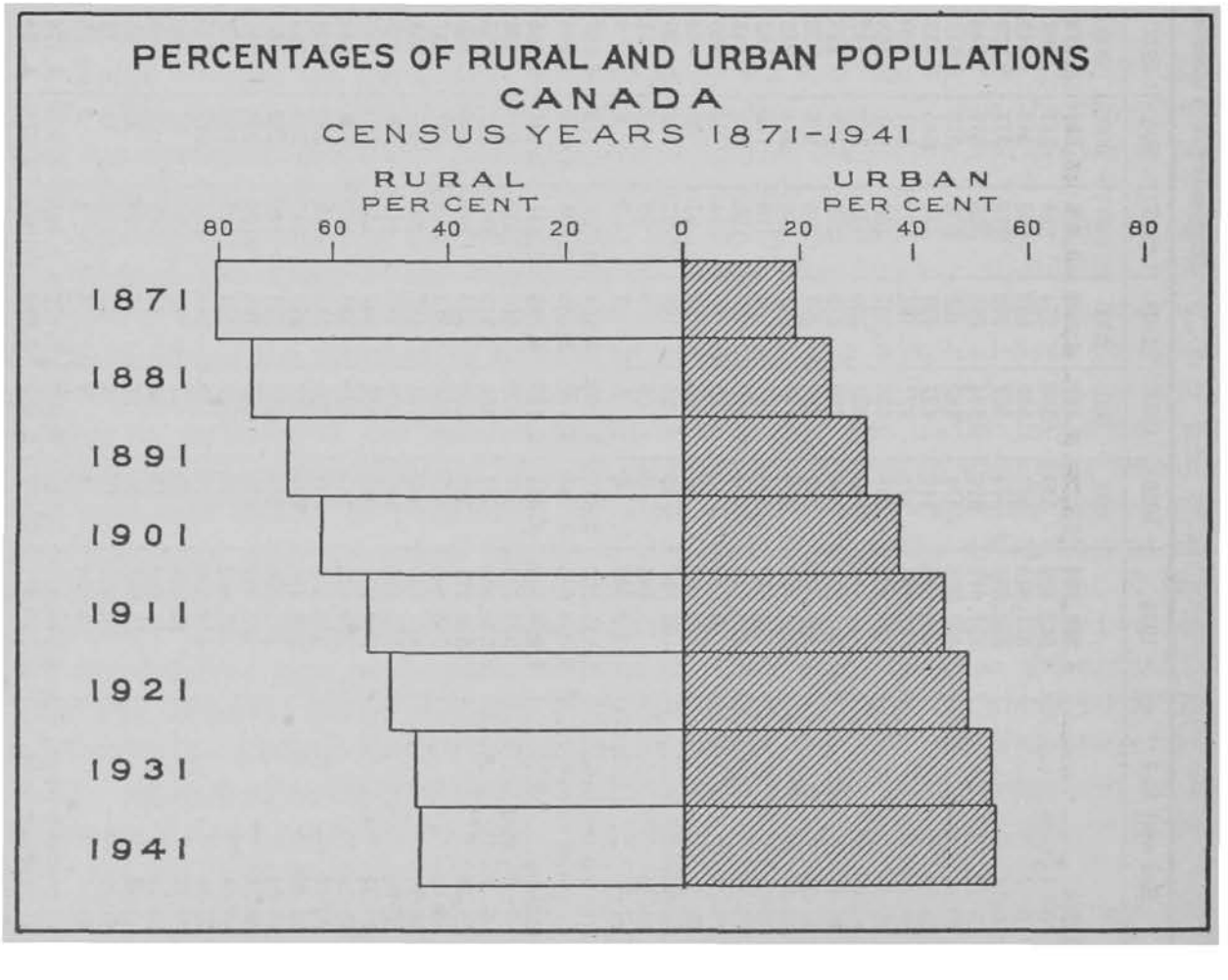
Section 1.—Rural and Urban Population

The population residing in cities, towns and incorporated villages has been defined for census purposes as 'urban' and that outside of such localities as 'rural'. The distinction between rural and urban populations in Canada, therefore, is a distinction of provincial legal status rather than of size of aggregation of population within a limited area. Since the laws of the various provinces differ in regard to the population necessary before a municipality may be incorporated as urban,* the line of demarcation between rural and urban population is not uniformly drawn throughout the Dominion.

This basis of comparing rural and urban populations adhered to throughout the census analyses is adopted for Canada because the necessary comparable data over a long period of years required for comparison by degree of urbanization does not exist. Obviously, the populations of villages of less than 1,000 cannot be regarded as truly urban, although there is reason, for certain purposes, to distinguish them from the surrounding rural populations, in that they enjoy definite cultural advantages not possessed by the strictly rural municipalities.

Table 2 has been prepared to overcome some of the difficulties involved, and to provide a basis for comparison of urban centres by size with those of other countries. These data enable places outside any required size limits to be readily excluded. Similar data, by provinces, will be found in Vol. II of the Census of 1941.

* In Saskatchewan the original legislation of 1908 provided that a community of 50 persons on an area not greater than 640 acres might be incorporated. Several amendments have since been made and, as the Act now stands, 100 people resident on an area not greater than 240 acres may be incorporated. The Ontario law, on the other hand, requires that a village before it can be incorporated must have a population of 750 on an area not exceeding 500 acres.



During the latest four decades there has been a radical shifting in the distribution of the Canadian population from rural to urban district. The change has been continuous throughout the period. In the decade ended 1941 the proportion of urban population increased from 53·7 p.c. to 54·3 p.c. Urban communities absorbed nearly 60·2 p.c. of the total increase in population during that decade and the urban population of Canada in 1941 exceeded the rural by 998,177. Out of every 1,000 persons in the country, 457 were resident in rural and 543 in urban communities on June 2, 1941, as compared with 463 in rural and 537 in urban communities on June 1, 1931; 505 in rural and 495 in urban on June 1, 1921; and 546 in rural and 454 in urban on June 1, 1911. In this trend to urbanization of population, Canada is by no means unique. The same change has characterized virtually all western nations to a greater or less degree during the past century.

1.—Rural and Urban Populations, by Provinces and Territories, Census Years 1911-41

Province or Territory	1911		1921		1931		1941	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
P. E. Island	78,758	14,970	69,522	19,093	67,653	20,385	70,707	24,340
Nova Scotia	306,210	186,128	296,799	227,038	281,192	231,654	310,422	267,540
New Brunswick	252,342	99,547	263,432	124,444	279,279	128,940	313,978	143,423
Quebec	1,038,934	966,842	1,037,941	1,322,569	1,061,056	1,813,606	1,222,198	2,109,684
Ontario	1,198,803	1,328,489	1,227,030	1,706,632	1,335,691	2,095,992	1,449,022	2,338,633
Manitoba	261,029	200,365	348,502	261,616	384,170	315,969	407,871	321,873
Saskatchewan	361,037	131,395	538,552	218,958	630,880	290,905	600,846	295,146
Alberta	236,633	137,662	365,550	222,904	453,097	278,508	489,583	306,586
British Columbia	188,796	203,684	277,020	247,562	299,524	394,739	374,467	443,394
Yukon	4,647	3,865	2,851	1,306	2,870	1,360	3,117	1,797
N.W.T.	6,507	Nil	8,143	Nil	9,316	Nil	12,028	Nil
Canada	**3,933,696**	**3,272,947**	**4,435,827**[1]	**4,352,122**	**4,804,728**	**5,572,058**	**5,254,239**	**6,252,416**

[1] Royal Canadian Navy (485) included in rural total.

Table 2 gives the distribution of urban population in Canada by size of urban centres; the rural-urban trend is very strongly indicated by the increased size of the larger cities and towns at a time when immigration, which in former decades (especially that of British origin) tended to concentrate in urban centres, was negligible.

2.—Urban Populations, by Size-of-Municipality Groups, Census Years 1921-41

Urban Centres of—	1921			1931			1941		
	Number of Places	Population	P.C. of Total Pop.	Number of Places	Population	P.C. of Total Pop.	Number of Places	Population	P.C. of Total Pop.
Over 500,000	2	1,140,399	12·98	2	1,449,784	13·97	2	1,570,464	13·65
Between—									
400,000 and 500,000	Nil	-	-	Nil	-	-	Nil	-	-
300,000 and 400,000	"	-	-	"	-	-	"	-	-
200,000 and 300,000	"	-	-	2	465,378	4·48	2	497,313	4·32
100,000 and 200,000	4	518,298	5·90	3	413,013	3·98	4	577,356	5·02
50,000 and 100,000	5	336,650	3·83	7	470,443	4·53	7	508,808	4·42
25,000 and 50,000	7	239,096	2·72	10	339,521	3·27	19	605,805	5·26
15,000 and 25,000	19	370,990	4·22	23	457,292	4·41	20	377,505	3·28
10,000 and 15,000	18	224,033	2·55	23	275,944	2·66	24	296,195	2·57
5,000 and 10,000	54	382,762	4·36	68	458,784	4·42	74	510,429	4·44
3,000 and 5,000	72	272,720	3·10	71	273,276	2·63	91	348,709	3·03
1,000 and 3,000	293	492,116	5·60	324	557,466	5·37	337	561,019	4·88
500 and 1,000	290	215,648	2·45	322	231,375	2·23	310	219,571	1·91
Under 500	679	159,410	1·81	750	179,782	1·73	750	179,242	1·56
Totals	**1,443**	**4,352,122**	**49·52**	**1,605**	**5,572,058**	**53·70**	**1,640**	**6,252,416**	**54·34**

Montreal, the largest city in Canada, increased by 84,430 in the decade 1931-41, from 818,577 to 903,007; Toronto, the only other city of over half a million population, increased by 36,250 from 631,207 to 667,457. Vancouver and Winnipeg went up to 275,353 and 221,960, respectively; Hamilton, Ottawa and Quebec were all over 150,000; Windsor over 100,000; and the western cities of Edmonton and Calgary 93,817 and 88,904, respectively. These latter cities exceeded London, which also came in the 75,000 to 100,000 class in 1941.

All the larger cities have in their neighbourhoods growing 'satellite' towns or other densely settled areas in close economic relationship with the central municipality. It has, therefore, been advisable to calculate the total populations for the metropolitan areas of these greater cities: they are shown for 1931 and 1941 in Table 3.

3.—Populations of Greater Cities in 1941 Compared with 1931

Greater City	1941	1931	Greater City	1941	1931
	No.	No.		No.	No.
Montreal	1,139,921	1,023,158	Hamilton	176,110	163,710
Toronto	900,491	810,467	Windsor	121,112	110,385
Vancouver	351,491	308,340	Halifax	91,829	74,161
Winnipeg	290,540	284,295	London	86,740	[1]
Ottawa	215,022	175,988	Victoria	75,218	[1]
Quebec	200,814	172,517	Saint John	65,784	58,717

[1] Not included in Greater Cities in 1931.

4.—Urban Centres With Populations of Over 30,000 in 1941 and 1946[1] Compared with Census Years 1871-1931

NOTE.—Urban centres in which a Board of Trade exists are indicated by an asterisk (*), and those in which there is a Chamber of Commerce by a dagger (†). In all cases the populations for previous censuses have been adjusted to cover the same area as the 1941 Census.

Urban Centre and Province	Populations								
	1871	1881	1891	1901	1911	1921	1931	1941	1946[1]
	No.	No.	No.	No.	No.	No.	No.	No.	No.
*†Montreal, Que	129,822	176,263	254,278	325,653	490,504	618,506	818,577	903,007	–
*Toronto, Ont	59,000	96,196	181,215	218,504	381,833	521,893	631,207	667,457	–
*Vancouver, B.C	–	–	13,709	29,432	120,847	163,220	246,593	275,353	–
*Winnipeg, Man	241	7,985	25,639	42,340	136,035	179,087	218,785	221,960	229,045
†Hamilton, Ont	26,880	36,661	48,959	52,634	81,969	114,151	155,547	166,337	–
*Ottawa, Ont	24,141	31,307	44,154	64,226	87,062	107,843	126,872	154,951	–
*Quebec, Que	59,699	62,446	63,090	68,840	78,118	95,193	130,594	150,757	–
†Windsor, Ont	5,413	7,704	12,607	15,198	23,433	55,935	98,179	105,311	–
†Edmonton, Alta	–	–	–	4,176	31,064	58,821	79,197	93,817	113,116
*Calgary, Alta	–	–	3,876	4,392	43,704	63,305	83,761	88,904	100,044
†London, Ont	18,000	27,867	31,977	37,976	46,300	60,959	71,148	78,264	–
*Halifax, N.S	29,582	36,100	38,437	40,832	46,619	58,372	59,275	70,488	–
†Verdun, Que	–	278	296	1,898	11,629	25,001	60,745	67,349	–
*Regina, Sask	–	–	–	2,249	30,213	34,432	53,209	58,245	60,246
*Saint John, N.B	41,325	41,353	39,179	40,711	42,511	47,166	47,514	51,741	–
†Victoria, B.C	3,270	5,925	16,841	20,919	31,660	38,727	39,082	44,068	–
*Saskatoon, Sask	–	–	–	113	12,004	25,739	43,291	43,027	46,028
†Three Rivers, Que	7,570	8,670	8,334	9,981	13,691	22,367	35,450	42,007	–
†Sherbrooke, Que	4,432	7,227	10,097	11,765	16,405	23,515	28,933	35,965	–
*Kitchener, Ont	2,743	4,054	7,425	9,747	15,196	21,763	30,793	35,657	–
†Hull, Que	3,800	6,890	11,264	13,993	18,222	24,117	29,433	32,947	–
*Sudbury, Ont	–	–	–	2,027	4,150	8,621	18,518	32,203	–
*Brantford, Ont	8,107	9,616	12,753	16,619	23,132	29,440	30,107	31,948	–
Outremont, Que	–	387	795	1,148	4,820	13,249	28,641	30,751	–
†Fort William, Ont	–	690	2,176	3,633	16,499	20,541	26,277	30,585	–
†St. Catharines, Ont	7,864	9,631	9,170	9,946	12,484	19,881	24,753	30,275	–
†Kingston, Ont	12,407	14,091	19,263	17,961	18,874	21,753	23,439	30,126	–

[1] The 1946 Quinquennial Census figures cover urban centres of the Prairie Provinces only.

5.—Urban Centres Having Populations of 1,000 to 30,000, by Provinces, 1941 and 1946,[1] Compared with Decennial Census Years 1901-31

NOTE.—In all cases the populations for previous decennial censuses have been adjusted to cover the same areas as in 1941.

Province and Urban Centre	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.
P. E. Island—					
Charlottetown	10,718	9,883	10,314	12,361	14,821
Summerside	2,875	2,678	3,228	3,759	5,034
Souris	1,140	1,089	1,094	1,063	1,114
Nova Scotia—					
Sydney	9,909	17,723	22,545	23,089	28,305
Glace Bay	6,945	16,562	17,007	20,706	25,147
Dartmouth	4,806	5,058	7,899	9,100	10,847
Truro	5,993	6,107	7,562	7,901	10,272
New Waterford	–	–	5,615	7,745	9,302
New Glasgow	4,447	6,383	8,974	8,858	9,210
Amherst	4,964	8,973	9,998	7,450	8,620
Sydney Mines	3,191	7,470	8,327	7,769	8,198
Yarmouth	6,430	6,600	7,073	7,055	7,790
Springhill	4,559	5,713	5,681	6,355	7,170
North Sydney	4,646	5,418	6,585	6,139	6,836
Stellarton	2,335	3,910	5,312	5,002	5,351
Westville	3,471	4,417	4,550	3,946	4,115
Kentville	1,731	2,304	2,717	3,033	3,928
Bridgewater	2,203	2,775	3,147	3,262	3,445
Windsor	2,849	2,894	2,946	3,032	3,436
Dominion	1,546	2,589	2,390	2,846	3,279
Liverpool	1,937	2,109	2,294	2,669	3,170
Pictou	3,235	3,179	2,988	3,152	3,069
Inverness	306	2,719	2,963	2,900	2,975
Lunenburg	2,916	2,681	2,792	2,727	2,856
Trenton	1,274	1,749	2,844	2,613	2,699
Antigonish	1,838	1,787	1,746	1,764	2,157
Parrsboro	2,705	2,224	2,161	1,919	1,971
Wolfville	1,412	1,458	1,743	1,818	1,944
Digby	1,150	1,247	1,230	1,412	1,657
Shelburne	1,445	1,435	1,360	1,474	1,605
Canso	1,479	1,617	1,626	1,575	1,418
Wedgeport	1,026	1,392	1,424	1,294	1,327
Oxford	1,285	1,392	1,402	1,133	1,297
Middleton	537	827	875	904	1,172
Joggins	1,088	1,648	1,732	1,000	1,109
Lockeport	1,117	784	851	973	1,084
Mulgrave	–	–	–	975	1,057
Port Hawkesbury	633	684	869	1,011	1,031
Mahone Bay	866	951	1,177	1,065	1,025
Bridgetown	858	996	1,086	1,126	1,020
Louisburg	1,046	1,006	1,152	971	1,012
New Brunswick—					
Moncton	9,026	11,345	17,488	20,689	22,763
Fredericton	7,117	7,208	8,114	8,830	10,062
Edmundston	–	1,821	4,035	6,430	7,096
Campbellton	2,652	3,817	5,570	6,505	6,748
Dalhousie	862	1,650	1,958	3,974	4,508
Chatham	4,868	4,666	4,506	4,017	4,082
Newcastle	2,507	2,945	3,507	3,383	3,781
Woodstock	3,644	3,856	3,380	3,259	3,593
Bathurst	1,044	960	3,327	3,300	3,554
St. Stephen	2,840	2,836	3,452	3,437	3,306
Sussex	1,398	1,906	2,198	2,252	3,027
Sackville	1,444	2,039	2,173	2,234	2,489
Devon	–	–	1,924	1,977	2,337
Shediac	1,075	1,442	1,973	1,883	2,147
Milltown	2,044	1,804	1,976	1,735	1,876
Grand Falls	644	1,280	1,327	1,556	1,806
Marysville	1,892	1,837	1,614	1,512	1,651
Sunny Brae	–	–	–	–	1,368
St. George	733	988	1,110	1,087	1,169
St. Andrews	1,064	987	1,065	1,207	1,167
St. Leonard	–	–	–	–	1,095

Province and Urban Centre	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.
Quebec—					
Westmount	8,856	14,579	17,593	24,235	26,047
Shawinigan Falls	–	4,265	10,625	15,345	20,325
Lachine	6,365	11,688	15,404	18,630	20,051
St. Hyacinthe	9,210	9,797	10,859	13,448	17,798
Valleyfield (Salaberry de)	11,055	9,449	9,215	11,411	17,052
Chicoutimi	3,826	5,880	8,937	11,877	16,040
Granby	3,773	4,750	6,785	10,587	14,197
Jonquière	–	2,354	4,851	9,448	13,769
St. Jean	4,030	5,903	7,734	11,256	13,646
Joliette	4,220	6,346	9,039	10,765	12,749
Thetford Mines	3,256	7,261	8,272	10,701	12,716
Sorel	7,057	8,420	8,174	10,320	12,251
Lévis	9,242	8,703	10,470	11,724	11,991
Cap de la Madeleine	–	–	6,738	8,748	11,961
St. Jérôme	3,619	3,473	5,491	8,967	11,329
Drummondville	1,450	1,725	2,852	6,609	10,555
Magog	3,516	3,978	5,159	6,302	9,034
Rouyn	–	–	–	3,225	8,808
Rivière-du-Loup	4,569	6,774	7,703	8,499	8,713
Grand'Mère	2,511	4,783	7,631	6,461	8,608
Victoriaville	1,693	3,028	3,759	6,213	8,516
La Tuque	–	2,934	5,603	7,871	7,919
Lauzon	4,267	4,982	6,428	7,084	7,877
Longueuil	2,835	3,972	4,682	5,407	7,087
Rimouski	1,804	3,097	3,612	5,589	7,009
Kenogami	–	–	2,557	4,500	6,579
St. Joseph d'Alma	–	–	850	3,970	6,449
St. Lambert	1,362	3,344	3,890	6,075	6,417
St. Laurent	1,390	1,860	3,232	5,348	6,242
Montreal North	–	–	1,360	4,519	6,152
Asbestos	783	2,224	2,189	4,396	5,711
St. Joseph de Grantham	–	–	–	2,812	5,556
Montmorency	–	2,710	3,367	4,575	5,393
Lachute	2,022	2,407	2,592	3,906	5,310
Giffard	–	–	1,254	3,573	4,909
Mount Royal	–	–	160	2,174	4,888
Ste. Thérèse	1,541	2,120	3,043	3,292	4,659
Lasalle	–	–	726	2,362	4,651
Matane	1,176	2,056	3,050	4,757	4,633
Montmagny	1,919	2,617	4,145	3,927	4,585
Arvida	–	–	–	1,790	4,581
Noranda	–	–	–	2,246	4,576
Mégantic	2,171	2,816	3,140	3,911	4,560
Pointe Claire	555	793	2,617	4,058	4,536
Buckingham	2,936	3,854	3,835	4,638	4,516
Coaticook	2,880	3,165	3,554	4,044	4,414
Val d'Or	–	–	–	–	4,385
Pointe-aux-Trembles	–	1,517	2,350	2,970	4,314
St. Pierre	505	2,201	3,535	4,185	4,061
Farnham	3,114	3,560	3,343	4,205	4,055
Nicolet	2,225	2,593	2,342	2,868	3,751
Beauport	–	–	3,240	3,242	3,725
Quebec W	–	–	130	1,813	3,619
Beauharnois	1,976	2,015	2,250	3,729	3,550
Louiseville	1,565	1,675	1,772	2,365	3,542
Mont Joli	822	2,141	2,799	3,143	3,533
Plessisville	1,586	1,559	2,032	2,536	3,522
East Angus	–	–	3,802	3,566	3,501
Baie St. Paul	1,408	1,857	2,291	2,916	3,500
Cowansville	699	881	1,094	1,859	3,486

[1] The 1946 Quinquennial Census figures cover urban centres of the Prairie Provinces only.

5.—Urban Centres Having Populations of 1,000 to 30,000, by Provinces, 1941 and 1946,[1] Compared with Decennial Census Years 1901-31—continued

Province and Urban Centre	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.
Quebec—con.					
Montreal W.	352	703	1,882	3,190	3,474
Iberville	1,512	1,905	2,454	2,778	3,454
Windsor	2,149	2,233	2,330	2,720	3,368
Ste. Agathe-des-Monts	1,073	2,020	2,812	2,949	3,308
Bagotville	507	1,011	2,204	2,468	3,248
Port Alfred	–	–	1,213	2,342	3,243
Laval-des-Rapides	–	1,014	1,989	2,716	3,242
Roberval	1,248	1,737	2,068	2,770	3,220
Waterloo	1,797	1,886	2,063	2,192	3,173
Aylmer	2,291	3,109	2,970	2,835	3,115
Brownsburg	–	–	–	–	3,105
Richmond	2,057	2,175	2,450	2,596	3,082
Donnacona	–	–	1,225	2,631	3,064
Ste. Anne de Bellevue	1,343	1,416	2,212	2,417	3,006
St. Michel	–	–	493	1,528	2,956
Laprairie	1,451	2,388	2,158	2,774	2,936
Malartic	–	–	–	–	2,895
Amos	–	–	1,488	2,153	2,862
Dolbeau	–	–	–	2,032	2,847
Charny	–	1,408	2,265	2,823	2,831
Gatineau	–	–	–	–	2,822
Charlesbourg	–	–	1,267	1,869	2,789
Mont Laurier	–	752	2,211	2,394	2,661
Berthier	1,364	1,335	2,193	2,431	2,634
Loretteville	1,555	1,588	2,066	2,251	2,564
Marieville	1,306	1,587	1,748	1,986	2,394
St. Tite	991	1,438	1,783	1,969	2,385
Acton Vale	1,175	1,402	1,549	1,753	2,366
Montreal E.	–	210	1,776	2,242	2,355
La Malbaie	826	1,449	1,883	2,408	2,324
Priceville	–	–	–	2,310	2,321
Maniwaki	–	–	–	1,720	2,320
Ste. Rose	1,154	1,480	1,811	1,661	2,292
Almaville	–	–	1,174	2,010	2,282
Black Lake	–	2,645	2,656	2,167	2,276
St. Alexis-de-la-Grande Baie	–	1,355	1,735	1,790	2,230
Pointe-à-Gatineau	1,583	1,751	1,919	2,282	2,230
Terrebonne	1,822	1,990	2,056	1,955	2,209
St. Joseph (Richelieu)	647	1,416	1,658	1,869	2,207
Trois Pistoles	–	–	1,454	1,837	2,176
Timiskaming	–	–	–	1,855	2,168
La Sarre	–	–	–	–	2,167
St. Raymond	1,272	1,653	1,693	1,772	2,157
Lennoxville	1,120	1,211	1,554	1,927	2,150
St. Marc-des-Carrières	296	1,224	1,492	1,997	2,118
Saindon	–	–	1,793	2,355	2,115
Dorval	481	1,005	1,466	2,052	2,048
Cabano	–	–	–	2,187	2,031
Courville	–	910	1,293	1,678	2,011
Beloeil	–	1,501	1,418	1,434	2,008
Hampstead	–	–	53	594	1,974
Huntingdon	1,122	1,265	1,401	1,619	1,952
St. Georges E. (Beauce)	–	1,410	1,058	1,543	1,945
L'Epiphanie	–	–	1,199	1,705	1,941
La Providence	819	894	1,078	1,241	1,924
St. Joseph (Beauce)	1,117	1,440	1,445	1,625	1,892
Arthabaska	995	1,458	1,234	1,608	1,883
Pont Rouge	–	–	1,419	1,353	1,865
Chandler	–	–	1,756	1,741	1,858
L'Assomption	1,605	1,747	1,320	1,576	1,829
Greenfield Park	–	–	1,112	1,610	1,819
Ste. Anne-de-Beaupré	–	2,381	1,648	1,901	1,783
Quebec—con.					
L'Abord-à-Plouffe	–	–	1,011	1,227	1,773
Ste. Marie	–	–	1,311	1,598	1,736
Lac-au-Saumon	–	1,171	1,354	1,779	1,703
Bedford	1,364	1,432	1,669	1,570	1,697
Bromptonville	–	1,239	2,603	1,527	1,672
Bernierville	721	628	751	946	1,638
St. Jacques	–	–	1,332	1,529	1,634
St. Gabriel-de-Brandon	1,199	1,602	1,667	1,530	1,632
St. Félicien	–	581	1,306	1,599	1,603
St. Benoît Joseph Labre	–	1,070	1,416	1,648	1,593
St. Eustache	1,079	996	1,098	1,187	1,564
Rivière-du-Moulin	–	–	738	1,040	1,561
Baie Comeau	–	–	–	–	1,548
Bourlamaque	–	–	–	–	1,545
Causapscal	–	–	–	1,390	1,545
Ste. Anne-de-Chicoutimi	516	657	838	1,102	1,540
Warwick	790	928	961	987	1,504
St. Eustache-sur-le-Lac	–	–	–	215	1,472
St. Jérôme	498	719	923	1,235	1,469
Montreal S.	–	790	1,030	1,164	1,441
St. Rémi	1,080	1,021	1,135	1,201	1,431
Châteauguay	–	–	881	1,067	1,425
Chambly Bassin	849	900	1,068	1,287	1,423
Rock Island	615	861	1,442	1,424	1,395
Duparquet	–	–	–	–	1,384
Laurentides	934	1,128	1,150	1,284	1,342
Disraeli	1,018	1,606	1,646	1,437	1,338
Danville	1,017	1,331	1,290	1,354	1,332
Cap Chat	–	–	–	1,139	1,329
St. Casimir	–	–	1,457	1,316	1,307
Pierreville	1,108	1,363	1,394	1,352	1,302
Thurso	525	601	538	1,292	1,295
Mistassini	–	–	–	970	1,294
Dorion	275	631	833	1,155	1,292
Scotstown	791	933	987	1,189	1,273
Montebello	795	954	977	1,501	1,266
St. Pascal	–	–	–	–	1,265
Baie-de-Shawinigan	–	1,024	1,213	1,316	1,255
St. Pacôme	–	–	–	1,235	1,254
Beauceville E.	–	–	–	975	1,251
Rawdon	–	–	1,042	1,066	1,236
Masson	1,012	1,034	950	2,015	1,226
Rigaud	779	856	939	1,099	1,222
St. Césaire	865	941	985	1,051	1,209
Chambly Canton	957	857	839	955	1,185
L'Enfant Jésus	–	–	–	1,066	1,175
Charlemagne	–	776	829	813	1,150
Princeville	742	752	869	980	1,145
St. Félix-de-Valois	–	–	–	896	1,130
Sutton	691	986	923	967	1,118
Bic	–	–	912	1,020	1,117
McMasterville	–	–	612	819	1,097
Pointe-au-Pic	537	617	703	961	1,083
St. Joseph-de-la-Rivière Bleue	–	–	864	1,111	1,082
Deschaillons-sur-St. Laurent	–	–	–	–	1,078
Fort Coulonge	482	811	973	1,130	1,072
St. Jovite	–	–	862	981	1,059
Boucherville	940	1,097	934	883	1,047
Nouveau-Salaberry	–	–	606	805	1,043

[1] The 1946 Quinquennial Census figures cover urban centres of the Prairie Provinces only.

5.—Urban Centres Having Populations of 1,000 to 30,000, by Provinces, 1941 and 1946,[1] Compared with Decennial Census Years 1901-31—continued

Province and Urban Centre	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.
Quebec—conc.					
Contrecoeur	–	624	659	794	1,043
Chambord	–	–	–	–	1,029
Normandin	–	–	–	773	1,029
Notre-Dame-d'Hébertville	537	655	719	933	1,025
Beebe Plain	477	808	921	1,053	1,024
Papineauville	772	1,015	884	954	1,023
St. Joseph (St. Hyacinthe)	352	514	540	783	1,021
St. Emilien	–	–	–	646	1,018
Notre-Dame-de-Portneuf	–	–	877	1,017	1,015
La Pérade	–	–	745	926	1,014
St. Pie	–	768	960	858	1,009
Ville-Marie	502	850	840	1,049	1,001
Ontario—					
Timmins	–	–	3,843	14,200	28,790
Oshawa	4,394	7,436	11,940	23,439	26,813
Sault Ste. Marie	7,169	14,920	21,092	23,082	25,794
Peterborough	12,886	18,360	20,994	22,327	25,350
Port Arthur	3,214	11,220	14,886	19,818	24,426
Guelph	11,496	15,175	18,128	21,075	23,273
Niagara Falls	5,702	9,248	14,764	19,046	20,589
Sarnia	8,176	9,947	14,877	18,191	18,734
Chatham	9,068	10,770	13,256	14,569	17,369
St. Thomas	11,485	14,054	16,026	15,430	17,132
Stratford	9,959	12,946	16,094	17,742	17,038
Belleville	9,117	9,876	12,206	13,790	15,710
North Bay	2,530	7,737	10,692	15,528	15,599
Galt	7,866	10,299	13,216	14,006	15,346
Cornwall	6,704	6,598	7,419	11,126	14,117
Owen Sound	8,776	12,558	12,190	12,839	14,002
Welland	1,863	5,318	8,654	10,709	12,500
Woodstock	8,833	9,320	9,935	11,146	12,461
Forest Hill	–	–	–	5,207	11,757
Brockville	8,940	9,374	10,043	9,736	11,342
Pembroke	5,156	5,626	7,875	9,368	11,159
Orillia	4,907	6,828	7,631	8,183	9,798
Barrie	5,949	6,420	6,936	7,776	9,725
New Toronto	209	686	2,669	7,146	9,504
Waterloo	3,537	4,359	5,883	8,095	9,025
Lindsay	7,003	6,964	7,620	7,505	8,403
Trenton	4,217	3,988	5,902	6,276	8,323
Mimico	437	1,373	3,751	6,800	8,070
Eastview	–	3,169	5,324	6,686	7,966
Kenora	5,202	6,158	5,407	6,766	7,745
Smiths Falls	5,155	6,370	6,790	7,108	7,159
Port Colborne	1,253	1,624	3,415	6,503	6,993
Swansea	–	–	–	5,031	6,988
Midland	3,174	4,663	7,016	6,920	6,800
Preston	2,308	3,883	5,423	6,280	6,704
Fort Erie	2,246	2,916	3,947	5,904	6,595
Collingwood	5,755	7,090	5,882	5,809	6,270
Hawkesbury	4,150	4,400	5,544	5,177	6,263
Leaside	–	–	325	938	6,183
Simcoe	2,627	3,227	3,953	5,226	6,037
Brampton	2,748	3,412	4,527	5,532	6,020
Cobourg	4,239	5,074	5,327	5,834	5,973
Whitby	2,110	2,248	3,957	5,046	5,904
Fort Frances	1,163	1,611	3,109	5,470	5,897
Leamington	2,451	2,652	3,675	4,902	5,858
Ingersoll	4,573	4,763	5,150	5,233	5,782
Parry Sound	2,884	3,429	3,546	3,512	5,765
Weston	1,083	1,875	3,166	4,723	5,740
Renfrew	3,153	3,846	4,906	5,296	5,511
Thorold	1,979	2,273	4,825	5,092	5,305
Dundas	3,173	4,299	4,978	5,026	5,276
Long Branch	–	–	–	3,962	5,172
Port Hope	4,188	5,092	4,456	4,723	5,055
Wallaceburg	2,763	3,438	4,006	4,326	4,986

Province and Urban Centre	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.
Ontario—con.					
Riverside	–	–	1,155	4,432	4,878
Paris	3,229	4,098	4,368	4,137	4,637
Sturgeon Falls	1,418	2,199	4,125	4,234	4,576
Goderich	4,158	4,522	4,107	4,491	4,557
Penetanguishene	2,422	3,568	4,037	4,035	4,521
Perth	3,588	3,588	3,790	4,099	4,458
Carleton Place	4,059	3,621	3,841	4,105	4,305
Oakville	1,643	2,372	3,298	3,857	4,115
Bowmanville	2,731	2,814	3,233	4,080	4,113
Gananoque	3,526	3,804	3,604	3,592	4,044
Dunnville	2,105	2,861	3,224	3,405	4,028
Newmarket	2,125	2,996	3,626	3,748	4,026
Tillsonburg	2,241	2,758	2,974	3,385	4,002
Picton	3,698	3,564	3,356	3,580	3,901
Arnprior	4,152	4,405	4,077	4,023	3,895
Burlington	1,119	1,831	2,709	3,046	3,815
Copper Cliff	2,500	3,082	2,597	3,173	3,732
St. Marys	3,384	3,388	3,847	3,802	3,635
Kapuskasing	–	–	926	3,819	3,431
Napanee	3,143	2,807	3,038	3,497	3,405
Hanover	1,392	2,342	2,781	3,077	3,290
Prescott	3,019	2,801	2,636	2,984	3,223
Portsmouth	1,827	1,786	2,351	2,741	3,135
Hespeler	2,457	2,368	2,777	2,752	3,058
New Liskeard	–	2,108	2,268	2,880	3,019
Campbellford	2,485	3,051	2,890	2,744	3,018
Strathroy	2,933	2,823	2,691	2,964	3,016
Listowel	2,693	2,289	2,477	2,676	3,013
Merritton	1,710	1,670	2,544	2,523	2,993
Geraldton	–	–	–	–	2,979
Humberstone	–	–	1,524	2,490	2,963
Amherstburg	2,222	2,560	2,769	2,759	2,853
Cochrane	–	1,715	2,655	3,963	2,844
Fergus	1,396	1,534	1,796	2,594	2,832
Petrolia	4,135	3,518	3,148	2,596	2,801
Huntsville	2,152	2,358	2,246	2,817	2,800
Aurora	1,590	1,901	2,307	2,587	2,726
Orangeville	2,511	2,340	2,187	2,614	2,718
Walkerton	2,971	2,601	2,344	2,431	2,679
Meaford	1,916	2,811	2,650	2,624	2,662
Blind River	2,656	2,558	1,843	2,805	2,619
Georgetown	1,313	1,583	2,061	2,288	2,562
Almonte	3,023	2,452	2,426	2,415	2,543
Kincardine	2,077	1,956	2,077	2,465	2,507
Aylmer	2,204	2,102	2,194	2,283	2,478
Tecumseh	–	–	978	2,129	2,412
Cobalt	–	5,638	4,449	3,885	2,376
Bracebridge	2,479	2,776	2,451	2,436	2,341
Grimsby	1,001	1,669	2,004	2,198	2,331
Kingsville	1,537	1,427	1,783	2,174	2,317
Haileybury	–	3,874	3,743	2,813	2,268
Coniston	–	–	–	–	2,245
Alexandria	1,911	2,323	2,195	2,006	2,175
Port Credit	–	–	1,123	1,635	2,160
Tilbury	1,012	1,368	1,673	1,992	2,155
Gravenhurst	2,146	1,624	1,478	1,864	2,122
Acton	1,484	1,720	1,722	1,855	2,063
Delhi	823	825	733	1,121	2,062
Rockland	1,998	3,397	3,496	2,118	2,040
Wingham	2,392	2,238	2,092	1,959	2,030
Elmira	1,060	1,782	2,016	2,170	2,012
Mattawa	1,400	1,524	1,462	1,631	1,971
Port Dover	1,177	1,138	1,462	1,707	1,968
Milton	1,372	1,654	1,873	1,839	1,964
Blenheim	1,653	1,387	1,565	1,737	1,952
Ridgetown	2,405	1,954	1,855	1,952	1,944
Essex	1,391	1,353	1,588	1,954	1,935
Clinton	2,547	2,254	2,018	1,789	1,896
Mount Forest	2,019	1,839	1,718	1,801	1,892
Mitchell	1,945	1,766	1,800	1,588	1,777
Sioux Lookout	–	550	1,127	2,088	1,756
Wiarton	2,443	2,266	1,726	1,949	1,749

[1] The 1946 Quinquennial Census figures cover urban centres of the Prairie Provinces only.

5.—Urban Centres Having Populations of 1,000 to 30,000, by Provinces, 1941 and 1946,[1] Compared with Decennial Census Years 1901-31—continued

Province and Urban Centre	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.
Ontario—con.					
Alliston	1,256	1,279	1,376	1,355	1,733
Port Dalhousie	1,125	1,152	1,492	1,547	1,723
Chesley	1,734	1,734	1,708	1,699	1,701
Durham	1,422	1,581	1,494	1,750	1,700
Seaforth	2,245	1,983	1,829	1,686	1,668
Dresden	1,613	1,551	1,339	1,529	1,662
Brighton	1,378	1,320	1,411	1,580	1,651
Cardinal	1,378	1,111	1,241	1,319	1,645
Capreol	–	–	1,287	1,684	1,641
Dryden	140	715	1,019	1,326	1,641
Southampton	1,636	1,685	1,537	1,489	1,600
Exeter	1,792	1,555	1,442	1,666	1,589
Morrisburg	1,693	1,696	1,444	1,420	1,575
Forest	1,553	1,445	1,422	1,480	1,570
Niagara	1,258	1,318	1,357	1,228	1,541
Keewatin	1,156	1,242	1,327	1,422	1,481
Rockcliffe Park	–	–	–	951	1,480
Larder Lake	–	–	–	–	1,464
Hagersville	1,020	1,106	1,169	1,385	1,455
Vankleek Hill	1,674	1,577	1,499	1,380	1,435
Palmerston	1,850	1,665	1,523	1,543	1,418
Uxbridge	1,657	1,433	1,456	1,325	1,406
New Hamburg	1,208	1,484	1,351	1,436	1,402
Caledonia	801	952	1,223	1,396	1,401
Port Elgin	1,313	1,235	1,291	1,305	1,395
Chippawa	460	707	1,137	1,266	1,385
Point Edward	780	874	1,258	1,362	1,363
Lakefield	1,244	1,397	1,189	1,332	1,349
Richmond Hill	629	652	1,055	1,295	1,345
Tweed	1,168	1,368	1,339	1,271	1,343
Waterford	1,122	1,083	1,123	1,213	1,342
Thessalon	1,205	1,945	1,651	1,632	1,316
Beamsville	832	1,096	1,256	1,203	1,309
Harriston	1,637	1,491	1,263	1,296	1,305
Iroquois Falls	–	–	1,178	1,476	1,302
Norwich	1,269	1,112	1,176	1,158	1,268
Englehart	–	670	759	1,210	1,262
Deseronto	3,527	2,013	1,847	1,476	1,261
Stouffville	1,223	1,034	1,053	1,155	1,253
Elora	1,187	1,197	1,136	1,195	1,247
Port Perry	1,465	1,148	1,143	1,163	1,245
Kemptville	1,523	1,192	1,204	1,286	1,232
Rainy River	–	1,578	1,444	1,402	1,205
Markham	967	909	1,012	1,008	1,204
Barry's Bay	–	–	–	–	1,198
Madoc	1,157	1,058	1,058	1,059	1,188
Port Stanley	552	891	973	816	1,177
Harrow	–	–	–	989	1,166
Fenelon Falls	1,132	1,053	1,031	963	1,158
Frankford	–	–	786	852	1,144
L'Orignal	1,026	1,347	1,298	1,121	1,118
Havelock	984	1,436	1,268	1,173	1,113
Marmora	961	866	948	996	1,106
Bancroft	554	625	768	911	1,094
Eganville	1,107	1,189	1,015	1,020	1,088
Little Current	728	1,208	923	1,101	1,088
Stayner	1,225	1,039	972	1,019	1,085
Watford	1,279	1,092	1,059	979	1,076
Chesterville	932	883	967	1,012	1,067
Tavistock	403	981	1,011	1,029	1,066
Sutton	646	753	789	788	1,051
Winchester	1,101	1,143	1,126	1,027	1,049
Woodbridge	604	607	672	812	1,044
Wellington	652	785	824	966	1,036
Bradford	984	946	961	972	1,033
Victoria Harbour	989	1,616	1,463	1,128	1,026
Casselman	707	956	977	995	1,021
Milverton	698	826	951	983	1,015
Stoney Creek	–	–	–	877	1,007
Shelburne	1,188	1,113	1,072	1,077	1,005
Cache Bay	384	889	926	1,151	1,004
Bobcaygeon	914	1,000	1,095	991	1,002
Fonthill	–	–	–	863	1,000
	1911	1921	1931	1941	1946[1]
	No.	No.	No.	No.	No.
Manitoba—					
St. Boniface	7,483	12,821	16,305	18,157	21,613
Brandon	13,839	15,397	17,082	17,383	17,551
Portage la Prairie	5,892	6,766	6,597	7,187	7,620
Flin Flon[2]	–	–	–	–	7,595
Transcona	–	4,185	5,747	5,495	6,132
Selkirk	2,977	3,726	4,486	4,915	5,408
Dauphin	2,815	3,885	3,971	4,662	4,637
The Pas	–	1,858	4,030	3,181	3,102
Brooklands	–	–	2,628	2,240	2,728
Neepawa	1,864	1,887	1,910	2,292	2,468
Minnedosa	1,483	1,505	1,680	1,636	1,837
Morden	1,130	1,268	1,416	1,427	1,690
Virden	1,550	1,361	1,590	1,619	1,597
Carman	1,271	1,591	1,418	1,455	1,555
Souris	1,854	1,710	1,661	1,346	1,517
Beauséjour	847	994	1,139	1,161	1,181
Swan River	574	903	968	1,129	1,175
Winkler	458	812	1,005	957	1,164
Killarney	1,010	871	1,003	1,051	1,091
Stonewall	1,005	1,112	1,031	1,020	1,071
Altona	–	–	–	–	1,065
Gimli	496	617	713	853	1,045
Saskatchewan—					
Moose Jaw	13,823	19,285	21,299	20,753	23,069
Prince Albert	6,254	7,352	9,905	12,508	14,532
Weyburn	2,210	3,193	5,002	6,179	7,003
Swift Current	1,852	3,518	5,296	5,594	6,379
North Battleford	2,105	4,108	4,533	4,745	5,717
Yorkton	2,309	5,151	5,027	5,577	5,714
Melville	1,816	2,808	3,891	4,011	3,824
Estevan	1,981	2,290	2,936	2,774	3,120
Melfort	599	1,746	1,809	2,005	2,305
Nipawin	–	–	562	1,344	2,211
Biggar	315	1,535	2,369	1,930	1,799
Humboldt	859	1,822	1,899	1,767	1,798
Kamsack	473	2,002	2,087	1,792	1,754
Shaunavon	–	1,146	1,761	1,603	1,643
Assiniboia	–	1,006	1,454	1,349	1,585
Rosetown	317	865	1,553	1,470	1,563
Tisdale	250	783	1,069	1,237	1,469
Meadow Lake	–	–	–	971	1,456
Wilkie	537	778	1,222	1,232	1,425
Indian Head	1,285	1,439	1,438	1,349	1,354
Battleford	1,335	1,229	1,096	1,317	1,336
Maple Creek	936	1,002	1,154	1,085	1,280
Kindersley	456	1,003	1,037	990	1,235
Rosthern	1,172	1,074	1,412	1,149	1,218
Canora	435	1,230	1,179	1,200	1,205
Lloydminster	663	755	1,516	1,624[3]	1,833[3]
Moosomin	1,143	1,099	1,119	1,096	1,134
Watrous	781	1,101	1,303	1,138	1,126
Wynyard	515	849	1,042	1,080	1,084
Gravelbourg	–	1,106	1,137	1,130	1,079
Sutherland	421	961	1,148	888	1,046

[1] The 1946 Quinquennial Census figures cover urban centres in the Prairie Provinces only. [2] Flin Flon did not become incorporated until June 18, 1946, that is, subsequent to the 1946 Census. The figure given here represents the population then living within the area now incorporated. [3] Includes 572 in Alberta in 1941 and 698 in 1946.

5.—Urban Centres Having Populations of 1,000 to 30,000, by Provinces, 1941 and 1946,[1] Compared with Decennial Census Years 1901-31—concluded

Province and Urban Centre	1911	1921	1931	1941	1946[1]	Province and Urban Centre	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.		No.	No.	No.	No.	No.
Alberta—						**British Columbia—**					
Lethbridge	8,050	11,097	13,489	14,612	16,522	New Westminster	6,499	13,199	14,495	17,524	21,967
Medicine Hat	5,608	9,634	10,300	10,571	12,859	Trail	1,360	1,460	3,020	7,573	9,392
Red Deer	2,118	2,328	2,344	2,924	4,042	North Vancouver	365	8,196	7,652	8,510	8,914
Camrose	1,586	1,892	2,258	2,598	2,967	Prince Rupert	–	4,184	6,393	6,350	6,714
Drumheller	–	2,499	2,987	2,748	2,659	Nanaimo	6,130	6,254	6,304	6,745	6,635
Wetaskiwin	2,411	2,061	2,125	2,318	2,645	Kamloops	–	3,772	4,501	6,167	5,959
Cardston	1,207	1,612	1,672	1,864	2,334	Nelson	5,273	4,476	5,230	5,992	5,912
Grande Prairie	–	1,061	1,464	1,724	2,267	Vernon	802	2,671	3,685	3,937	5,209
Raymond	1,465	1,394	1,849	2,089	2,116	Kelowna	261	1,663	2,520	4,655	5,118
Coleman	1,557	1,590	1,704	1,870	1,809	Port Alberni	–	–	1,056	2,356	4,584
Lacombe	1,029	1,133	1,259	1,603	1,808	Chilliwack	277	1,657	1,767	2,461	3,675
Blairmore	1,137	1,552	1,629	1,731	1,767	Rossland	6,156	2,826	2,097	2,848	3,657
Taber	1,400	1,705	1,279	1,331	1,760	Cranbrook	1,196	3,090	2,725	3,067	2,568
Hanna	–	1,364	1,490	1,622	1,756	Fernie	–	3,146	2,802	2,732	2,545
High River	1,182	1,198	1,459	1,430	1,674	Duncan	–	–	1,178	1,843	2,189
Macleod	1,844	1,723	1,447	1,912	1,649	Revelstoke	1,600	3,017	2,782	2,736	2,106
Vermilion	625	1,272	1,270	1,408	1,630	Prince George	–	–	2,053	2,479	2,027
Edson	497	1,138	1,547	1,499	1,571	Mission	–	–	–	1,314	1,957
Vegreville	1,029	1,479	1,659	1,696	1,563	Alberni	–	–	540	702	1,807
Olds	917	764	1,056	1,337	1,521	Courtenay	–	–	810	1,219	1,737
Stettler	1,444	1,416	1,219	1,295	1,499	Ladysmith	746	2,517	1,967	1,443	1,706
Ponoka	642	712	836	1,306	1,468	Port Coquitlam	–	–	1,178	1,312	1,539
Black Diamond	–	–	683	890	1,380	Port Moody	–	–	1,030	1,260	1,512
Claresholm	809	963	1,156	1,265	1,306	Grand Forks	1,012	1,577	1,469	1,298	1,259
Magrath	995	1,069	1,224	1,207	1,295	Creston	–	–	–	695	1,153
Redcliff	220	1,137	1,192	1,111	1,289						
Innisfail	602	941	1,024	1,223	1,272						
Wainwright	788	975	1,147	980	1,261						
St. Paul	–	869	938	1,018	1,187						
Beverly	–	1,039	1,111	981	1,171						
Turner Valley	–	–	656	676	1,157						
Pincher Creek	1,027	888	1,024	994	1,148						
Brooks	–	499	708	888	1,091						
Rocky Mountain House	–	375	646	800	1,017	**Yukon—** Dawson	9,142	3,013	975	819	1,043

[1] The 1946 Quinquennial Census figures cover urban centres in the Prairie Provinces only.

Section 2.—Area and Density of Population

The area and density of the population per square mile is given by provinces in Table 6 for the census years 1911-41. Similar information by counties or census divisions for the 1941 Census is given at pp. 109-112 of the 1947 Year Book.

6.—Area and Density of Population, by Provinces and Territories, Census Years 1911-41

Province or Territory	Land Area in Sq. Miles	Population, 1911[1]		Population, 1921		Population, 1931		Population, 1941	
		Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile	Total	Per Sq. Mile
Prince Edward Island	2,184	93,728	42·92	88,615	40·57	88,038	40·31	95,047	43·52
Nova Scotia	20,743	492,338	23·74	523,837	25·25	512,846	24·72	577,962	27·86
New Brunswick	27,473	351,889	12·81	387,876	14·12	408,219	14·86	457,401	16·65
Quebec	523,860	2,005,776	3·83	2,360,510[2]	4·51	2,874,662	5·49	3,331,882	6·36
Ontario	363,282	2,527,292	6·96	2,933,662	8·08	3,431,683	9·45	3,787,655	10·43
Manitoba	219,723	461,394	2·10	610,118	2·78	700,139	3·19	729,744	3·32
Saskatchewan	237,975	492,432	2·07	757,510	3·18	921,785	3·87	895,992	3·77
Alberta	248,800	374,295	1·50	588,454	2·37	731,605	2·94	796,169	3·20
British Columbia	359,279	392,480	1·09	524,582	1·46	694,263	1·93	817,861	2·28
Canada (Exclusive of the Territories)	**2,003,319**	**7,191,624**	**3·59**	**8,775,164[2]**	**4·38**	**10,363,249**	**5·17**	**11,489,713**	**5·74**
Yukon	205,346	8,512	0·04	4,157	0·02	4,230	0·02	4,914	0·02
Northwest Territories	1,253,438	6,507	0·01	8,143	0·01	9,316	0·01	12,028	0·01
Canada	**3,462,103**	**7,206,643**	**2·08**	**8,787,949[2]**	**2·54**	**10,376,786**	**3·00**	**11,506,655**	**3·32**

[1] The populations of Ontario, Quebec, Manitoba and the Northwest Territories were adjusted for 1911 according to the provisions of the Boundaries Extension Acts, 1912. [2] Revised in accordance with the Labrador Award of the Privy Council, Mar. 1, 1927. The total for 1921 includes 485 members of the Royal Canadian Navy who were recorded separately.

Section 3.—Sex Distribution

The sex distribution of the Canadian people has been characterized since early colonial times by a preponderance of males, although this condition has been greatly modified in more recent years. In 1666, during the early years of settlement by the French-speaking immigrants, 63·3 p.c. of the population were males. In 1784, when the English-speaking immigration to Canada was commencing, there were 54,064 males and 50,759 females and by the middle of the nineteenth century there were 449,967 males to 440,294 females in Lower Canada, and 499,067 males to 452,937 females in the more newly settled Upper Canada. Since Confederation the newer sections of Canada—the west and the northwest—have shown the greatest excess of males.

From 1871 to 1941, for Canada as a whole, the proportion of males never dropped below 51 p.c. of the total population, whereas for Western Canada it varied between 53 p.c. and 59 p.c.

7.—Sex Distribution of the Population, by Provinces and Territories, Census Years 1871-1941

Province or Territory	1871		1881		1891		1901	
	Male	Female	Male	Female	Male	Female	Male	Female
P. E. Island	47,121	46,900	54,729	54,162	54,881	54,197	51,959	51,300
Nova Scotia	193,792	194,008	220,538	220,034	227,093	223,303	233,642	225,932
New Brunswick	145,888	139,706	164,119	157,114	163,739	157,524	168,639	162,481
Quebec	596,041	595,475	678,175	680,852	744,141	744,394	824,454	824,444
Ontario	828,590	792,261	978,554	948,368	1,069,487	1,044,834	1,096,640	1,086,307
Manitoba	12,864	12,364	35,123	27,137	84,342	68,164	138,504	116,707
Saskatchewan	–	–	–	–	–	–	49,431	41,848
Alberta	–	–	–	–	–	–	41,019	32,003
British Columbia	20,694	15,553	29,503	19,956	63,003	35,170	114,160	64,497
Yukon	–	–	–	–	–	–	23,084	4,135
N.W.T	24,274	23,726	28,113	28,333	53,785	45,182	10,176	9,953
Canada	**1,869,264**	**1,819,993**	**2,188,854**	**2,135,956**	**2,460,471**	**2,372,768**	**2,751,708**	**2,619,607**
	1911		1921		1931		1941	
	Male	Female	Male	Female	Male	Female	Male	Female
P. E. Island	47,069	46,659	44,887	43,728	45,392	42,646	49,228	45,819
Nova Scotia	251,019	241,319	266,472	257,365	263,104	249,742	296,044	281,918
New Brunswick	179,867	172,022	197,351	190,525	208,620	199,599	234,097	223,304
Quebec	1,012,815	992,961	1,179,651	1,180,859	1,447,326	1,427,336	1,672,982	1,658,900
Ontario	1,301,272	1,226,020	1,481,890	1,451,772	1,748,844	1,682,839	1,921,201	1,866,454
Manitoba	252,954	208,440	320,567	289,551	368,065	332,074	378,079	351,665
Saskatchewan	291,730	200,702	413,700	343,810	499,935	421,850	477,563	418,429
Alberta	223,792	150,503	324,208	264,246	400,199	331,406	426,458	369,711
British Columbia	251,619	140,861	293,409	231,173	385,219	309,044	435,031	382,830
Yukon	6,508	2,004	2,819	1,338	2,825	1,405	3,153	1,761
N.W.T	3,350	3,157	4,204	3,939	5,012	4,304	6,700	5,328
Canada	**3,821,995**	**3,384,648**	**4,529,643**[1]	**4,258,306**	**5,374,541**	**5,002,245**	**5,900,536**	**5,606,119**

[1] Includes 485 members of the Royal Canadian Navy, who were recorded separately in 1921.

Immigration has influenced the sex distribution of the population, as between provinces, in widely different degree. In the older settlements of Quebec and parts of New Brunswick and Ontario, where the populations are of French basic stock, immigration has not played as great a part in upsetting the normal distribution of the sexes as it has in the other provinces. Even in Ontario immigrants from Continental European countries do not settle as readily and are not assimilated as completely as in the newer western provinces.

A characteristic of population distribution since 1911 has been the rapid growth of urban centres due to the far-reaching developments in manufacturing that have entirely changed the economic picture. Summary figures showing the disparity between the sexes in the matter of urban concentration in 1911, 1921, 1931 and 1941 in the total population are given in the following tabulation. Where the percentage of urban males is large the percentage of females is also large. Each decade emphasizes the greater opportunities for female employment in urban centres as compared with rural.

Item	*1911*	*1921*	*1931*	*1941*
Excess of all males over all females per 100 of total population.....	6·07	3·09	3·59	2·56
Percentage of females in urban centres to all females.....	47·12	51·78	55·98	56·61
Percentage of males in urban centres to all males.....	43·91	47·41	51·57	52·18
Excess of urban females over urban males per 100 of urban population	−2·54	1·32	0·52	1·52

Estimates of the population by age and sex for the intercensal years 1932-40 and 1942-47 are given in Table 6, p. 141 of this edition.

Table 8 gives the position of Canada among other countries of the world in regard to masculinity.

8.—Masculinity of the Populations of Various Countries

NOTE.—The minus sign (−) indicates a deficiency of males.

Country	Year	Excess of Males over Females per 100 Population	Country	Year	Excess of Males over Females per 100 Population
Argentina	1914	7·22	Italy	1936	−1·82
India	1941	3·36	Finland	1930	−2·05
Canada	**1941**	**2·56**	German Reich	1939	−2·15
Eire	1936	2·43	Norway	1930	−2·49
Australia	1933	1·57	Northern Ireland	1937	−2·66
New Zealand	1936	1·52	Poland	1931	−2·71
Union of South Africa[1]	1936	1·19	Czechoslovakia	1930	−3·01
Bulgaria	1934	0·49	Austria	1939	−3·11
United States	1940	0·34	Switzerland	1940	−3·30
Japan	1940	0·02	France	1940	−3·62
Netherlands	1930	−0·63	Scotland	1931	−3·94
Sweden	1940	−0·80	Portugal	1940	−4·01
Greece	1928	−0·85	Spain	1940	−4·06
Chile	1940	−0·88	U.S.S.R.	1939	−4·19
Belgium	1930	−0·96	England and Wales	1931	−4·22
Denmark	1940	−1·14			

[1] White population only.

Section 4.—Age Distribution

The age distribution of a population is fundamental to most, if not all, other analyses, for the age factor influences employment, marriage, birth rates and death rates, education, immigration, criminology and a multitude of events and activities that are of great importance in the national life.

Immigration has a strong influence on age distribution: it does not directly affect the very young sections of the population except to a small degree, but it immediately affects the age groups between the 'teens' and the 'twenties' and its effects are carried to the older groups as time goes by. Thus, the influence of the very heavy immigration of the early years of the century (1900-11) is indicated by the fact that, in 1901, 175·1 persons per 1,000 of the total population were in

the age group 20-29 years and 130·5 persons per 1,000 in the group 30-39 years: a decade later, 190·3 per 1,000 were in the former group and 142·6 in the latter. Since immigration was cut down very severely after the outbreak of war in 1914, the influence of these earlier accretions to the population has crept through the upper age groups year by year until it has now reached those of the population in the 'fifties'.

Between 1931 and 1941 a more pronounced general ageing of the population is shown owing to practically non-existent migration and a lower birth rate—factors that were emphasized during the depression years. In 1921 the number per 1,000 of total population between 40 and 59 years of age was 183·0; it was 201·1 in 1931 and 209·5 in 1941. Greater proportional increases, however, are shown by the group 60 years of age or over; this group represented 75·1 per 1,000 of the total population in 1921, 83·9 in 1931 and no less than 102·1 per 1,000 in 1941.

Male and female population by age groups for the census years 1931 and 1941 together with estimates by age and sex for the intercensal years 1932-40 and 1942-47 are given in Table 6, p. 141, of the present edition. More detailed tables on this subject are given at pp. 94-96 of the 1943-44 edition of the Year Book.

Section 5.—Marital Status

Next to the sex and age distribution of a population, that of marital status is probably the most fundamental. Its incidence is twofold: 'vital' and 'economic and social'.

The vital basis lies in the influence of the marriage state on the fertility of a population and, from this angle, close analyses of marital status, by age, are important. The ages of females between 15 and 45 years have more significance than those of males; if the proportion of females in this group is small, the expected proportion of births will also be small. It has been shown that for the Canadian population the combined influences of age of the population, age of the married females, and proportion of females married has become steadily more favourable to the birth rate from 1871 to 1921 but that, since the latter date, the trend has been less favourable.

9.—Marital Status of the Population, 15 Years of Age or Over, by Sex, Census Years 1911-41

NOTE.—Figures for censuses previous to 1911 are not comparable.

Year and Sex	Single		Married		Widowed		Divorced and Legally Separated		Total[1]
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.
1911..... M.	1,161,088	45·0	1,326,959	51·5	88,716	3·4	2,087	0·1	2,597,133
F.	765,092	34·8	1,247,761	56·8	178,961	8·2	2,255	0·1	2,201,780
1921..... M.	1,173,730	39·2	1,697,145	56·7	119,571	4·0	3,664	0·1	2,994,720
F.	881,771	32·0	1,630,636	59·2	236,283	8·6	3,726	0·1	2,752,637
1931..... M.	1,519,844	41·0	2,032,691	54·9	148,851	4·0	4,048	0·1	3,713,221
F.	1,148,977	34·0	1,937,458	57·3	288,530	8·5	3,392	0·1	3,378,579
1941..... M.	1,703,528	39·8	2,363,528	55·2	170,743	4·0	42,770	1·0	4,281,237
F.	1,328,489	33·0	2,292,478	56·9	354,378	8·8	51,399	1·3	4,026,867

[1] Includes persons whose marital status was not stated; percentages are based on stated condition.

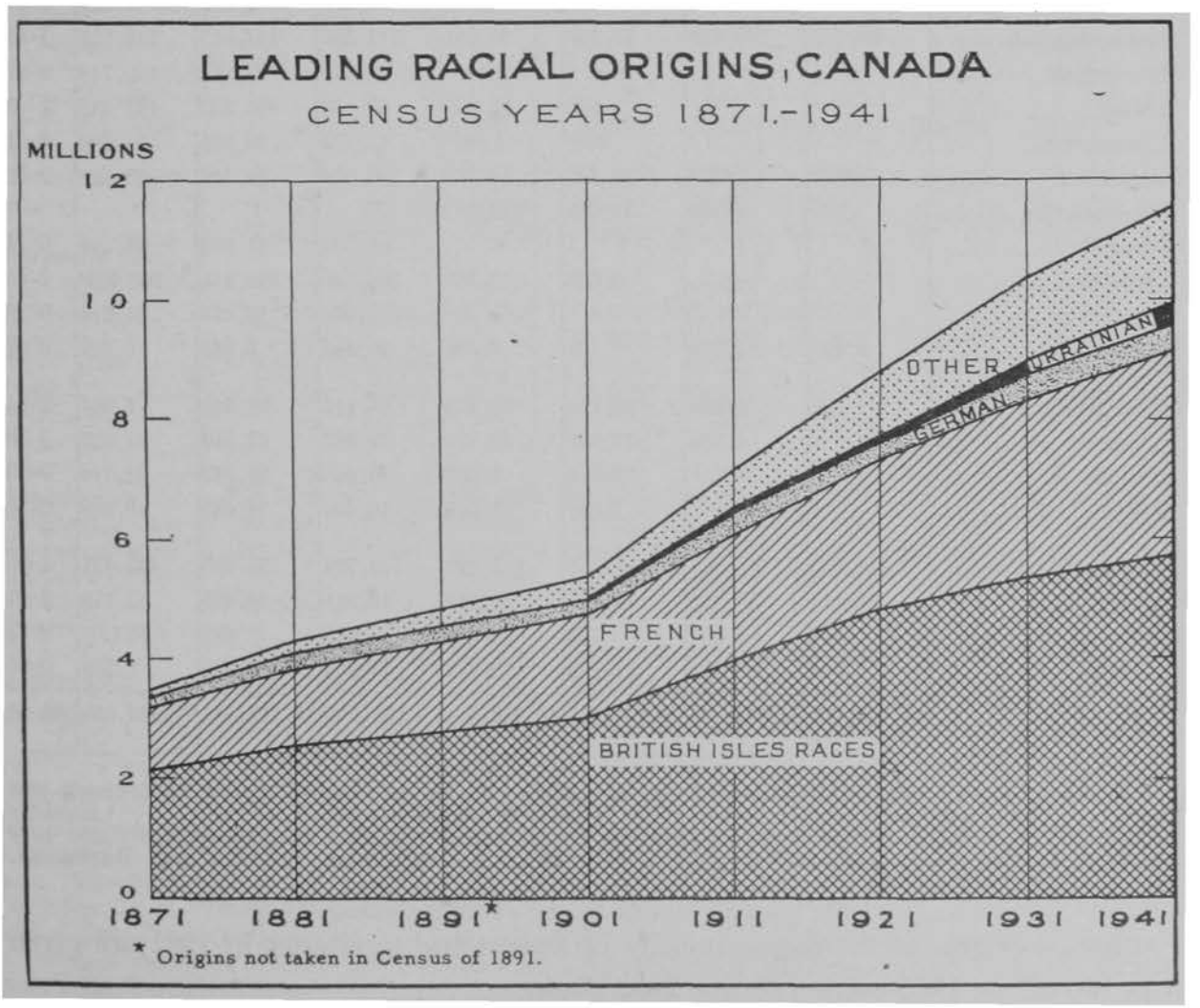
In Canada as a whole there are more married males than married females. Other striking statistics of conjugal condition are the great preponderance of widows compared to widowers and the large and increasing numbers of divorced and legally separated persons.

Marital status of the 1941 population 15 years of age or over, by provinces and sex, is shown at p. 102 of the 1945 Year Book.

Section 6.—Racial Origins

A population composed of diverse racial stocks gives rise to political, economic and social problems quite different in nature from those of one with a small admixture of foreign elements, although, to the extent that certain racial stocks are more readily assimilated than others, the problems are mitigated. It is equally true that the different educational, moral, economic, religious and political backgrounds of a people of mixed origins lend variety and diversity to the national life.

The two basic stocks of the Canadian people are the French and the English: historically the French is much the older and, excepting at the time of the Census of 1921, has exceeded in numbers any one of the basic British Isles stocks.



10.—Racial Origins of the Population, Census Years 1871-1941, with Percentage Distribution for 1941

Racial Origin	1871[1]	1881	1901	1911	1921	1931	1941	
	No.	No.	No.	No.	No.	No.	No.	p.c.
British Isles Races....	2,110,502	2,548,514	3,063,195	3,999,081	4,868,738	5,381,071	5,715,904	49·68
English.....	706,369	881,301	1,260,899	1,871,268	2,545,358	2,741,419	2,968,402	25·80
Irish.....	846,414	957,403	988,721	1,074,738	1,107,803	1,230,808	1,267,702	11·02
Scottish.....	549,946	699,863	800,154	1,027,015	1,173,625	1,346,350	1,403,974	12·20
Other.....	7,773	9,947	13,421	26,060	41,952	62,494	75,826	0·66
Other European Races.	1,322,813	1,598,386	2,107,327	3,006,502	3,699,846	4,753,242	5,526,964	48·03
French.....	1,082,940	1,298,929	1,649,371	2,061,719	2,452,743	2,927,990	3,483,038	30·27
Austrian.....	–	–	10,947[2]	44,036	107,671	48,639	37,715	0·33
Belgian.....	–	–	2,994	9,664	20,234	27,585	29,711	0·26
Bulgarian.....	–	–	–	–	1,765	3,160	3,260	0·03
Czech and Slovak...	–	–	–	–	8,840	30,401	42,912	0·37
Danish.....	[3]	[3]	[3]	[3]	21,124	34,118	37,439	0·33
Finnish.....	–	–	2,502	15,500	21,494	43,885	41,683	0·36
German.....	202,991	254,319	310,501	403,417	294,635	473,544	464,682	4·04
Greek.....	39	–	291	3,614	5,740	9,444	11,692	0·10
Hungarian.....	–	–	1,549[4]	11,648[4]	13,181	40,582	54,598	0·47
Icelandic.....	[3]	[3]	[3]	[3]	15,876	19,382	21,050	0·18
Italian.....	1,035	1,849	10,834	45,963	66,769	98,173	112,625	0·98
Jewish.....	125	667	16,131	76,199	126,196	156,726	170,241	1·48
Lithuanian.....	–	–	–	–	1,970	5,876	7,789	0·07
Netherlandish.....	29,662	30,412	33,845	55,961	117,505	148,962	212,863	1·85
Norwegian.....	[3]	[3]	[3]	[3]	68,856	93,243	100,718	0·88
Polish.....	–	–	6,285	33,652	53,403	145,503	167.485	1·45
Roumanian.....	–	–	354[5]	5,883[5]	13,470	29,056	24,689	0·21
Russian.....	607[6]	1,227[6]	19,825	44,376	100,064	88,148	83,708	0·73
Scandinavian.....	1,623	5,223	31,042	112,682	[7]	[7]	[7]	–
Swedish.....	[3]	[3]	[3]	[3]	61,503	81,306	85,396	0·74
Ukrainian.....	–	–	5,682	75,432	106,721	225,113	305,929[8]	2·66
Yugoslavic.....	–	–	–	–	3,906	16,174	21,214	0·18
Other.....	3,791	5,760	5,174	6,756	16,180	6,232	6,527	0·06
Asiatic Races.....	4	4,383	23,731	43,213	65,914	84,548	74,064	0·64
Chinese.....	–	4,383	17,312	27,831	39,587	46,519	34,627	0·30
Japanese.....	–	–	4,738	9,067	15,868	23,342	23,149	0·20
Other.....	4	–	1,681	6,315	10,459	14,687	16,288	0·14
Indian and Eskimo....	23,037	108,547	127,941	105,611	113,724	128,890	125,521	1·09
Negro.....	21,496	21,394	17,437	16,994	18,291	19,456	22,174	0·19
Other.....	348	2,780	145	18,310	187	681	36,753[9]	0·32
Not stated.....	7,561	40,806	31,539	16,932	21,249	8,898	5,275	0·05
Totals.....	**3,485,761**	**4,324,810**	**5,371,315**	**7,206,643**	**8,787,949**	**10,376,786**	**11,506,655**	**100·00**

[1] Includes the four original provinces of Canada only. [2] Includes Bohemian, Bukovinian and Slavic. [3] Included under Scandinavian. [4] Includes Lithuanian and Moravian. [5] Includes Bulgarian. [6] Includes Finnish and Polish. [7] Since 1921 Scandinavian has been divided into Danish, Icelandic, Norwegian and Swedish. [8] Includes Bukovinian, Galician and Ruthenian. [9] Includes 35,416 half-breeds.

Racial origins of the population by provinces and territories in 1941 are given at p. 106 of the 1945 edition of the Year Book.

Section 7.—Religions

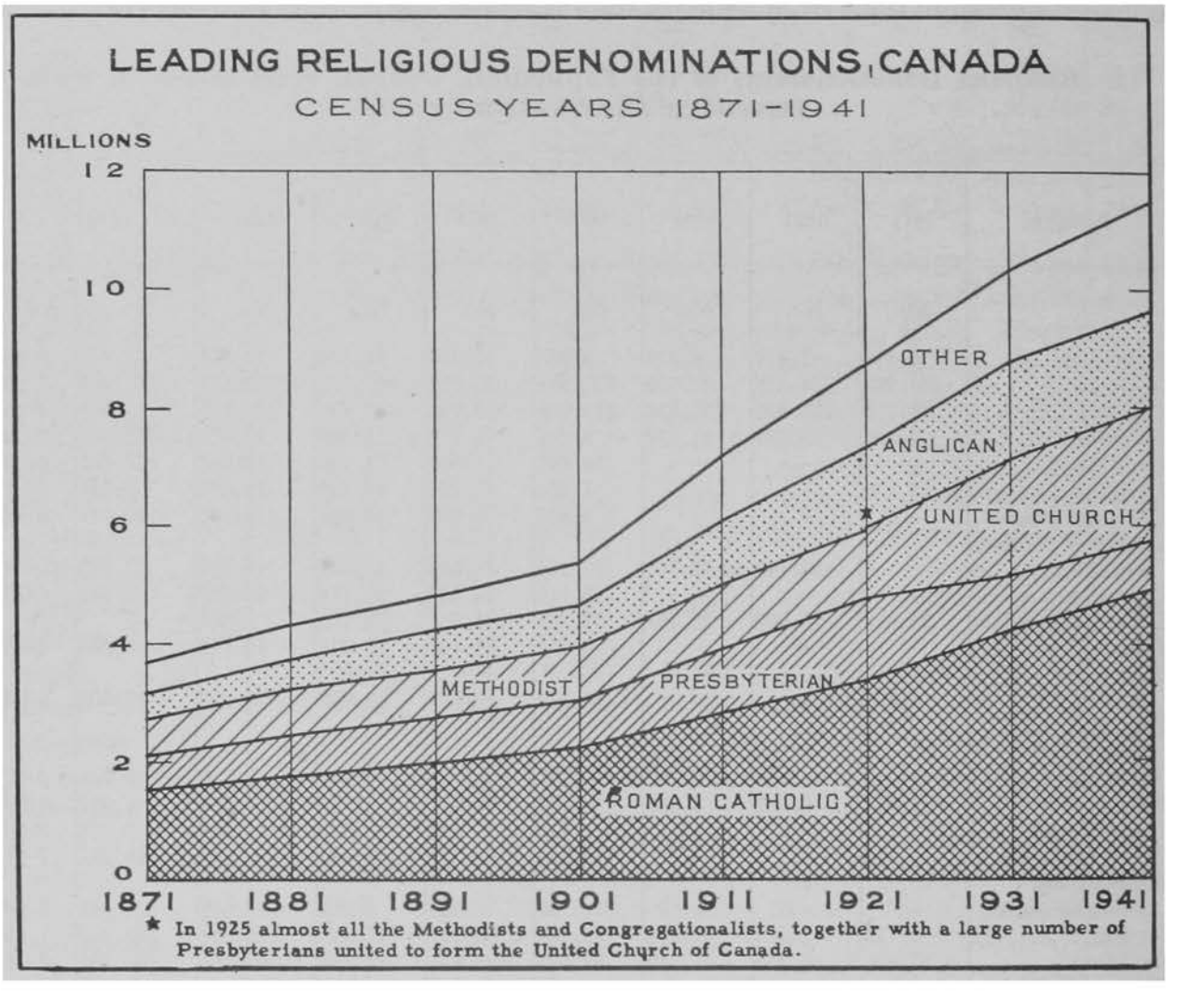
At each census the actual numbers attached to any religious denomination, as reported by the persons enumerated, have been recorded. The growth of the different denominations from an early date is traced statistically in Table **11.**

11.—Religious Denominations of the Population, Census Years 1871-1941, with Percentage Distribution for 1941

Religion	1871	1881	1891	1901	1911	1921	1931	1941	
	No.	No.	No.	No.	No.	No.	No.	No.	p.c.
Adventist	6,179	7,211	6,354	8,058	10,406	14,179	16,026	18,449	0·16
Anglican	501,269	574,818	646,059	681,494	1,043,017	1,407,780	1,635,615	1,751,188	15·22
Baptist	243,714	296,525	303,839	318,005	382,720	421,730	443,341	483,592	4·20
Brethren	2,305	8,831	11,637	8,014	9,278	11,580	13,472	13,767	0·12
Buddhist	–	–	–	10,407	10,012	11,281	15,784	15,635	0·14
Christian	15,153	–	–	7,484	17,421	17,142	11,527	8,515	0·07
Christian Science	–	–	–	2,619	5,073	13,826	18,436	20,222	0·18
Church of Christ, Disciples	–	20,193	12,763	17,164	14,554	13,107	15,811	21,223	0·18
Confucian	–	–	–	5,115	14,562	27,114	24,087	22,233	0·19
Congregationalist	21,829	26,900	28,157	28,293	34,054	30,730	694[1]	[2]	–
Doukhobor	–	–	–	8,775	10,493	12,648	14,913	16,844	0·15
Evangelical Church	4,701	–	–	10,193	10,595	13,905	22,213	37,002	0·32
Free Methodist Church of Canada[3]	–	–	–	–	–	–	7,730	8,788	0·07
Friends	7,353	6,553	4,650	4,100	4,027	3,149	2,424	1,964	0·02
Gospel People	–	–	–	135	512	2,449	6,355	7,005	0·06
Greek Orthodox[4]	18	–	–	15,630	88,507	169,832	102,389	139,629	1·21
International Bible Students	–	–	–	99	925	6,678	13,552	6,994	0·06
Jewish	1,115	2,393	6,414	16,401	74,564	125,197	155,614	168,367	1·46
Lutheran	37,935	46,350	63,982	92,524	229,864	286,458	394,194	401,153	3·49
Mennonite (incl. Hutterite)[5]	–	–	–	31,797	44,625	58,797	88,736	111,380	0·97
Methodist	578,161	742,981	847,765	916,886	1,079,993	1,159,246	[2]	[2]	–
Mormon	534	–	–	6,891	15,971	19,622	22,005	25,284	0·22
No religion	5,146	2,634	[6]	4,810	26,027	21,739	21,071	19,126	0·17
Pagan	1,886	4,478	[6]	15,107	11,840	6,778	5,008	2,908	0·02
Pentecostal	–	–	–	–	513	7,003	26,301	57,646	0·50
Plymouth Brethren	–	–	–	3,040	3,438	6,482	6,983	6,447	0·06
Presbyterian	574,577	676,165	755,326	842,531	1,116,071	1,409,406	870,728[1]	829,147[1]	7·21
Protestant, *n.e.s.*	10,146	6,519	12,253	11,612	30,265	30,753	23,296	10,756	0·09
Roman Catholic	1,532,471	1,791,982	1,992,017	2,229,600	2,833,041	3,389,626	4,285,388[7]	4,986,552[7]	43·34
Salvation Army	–	–	13,949	10,308	18,834	24,733	30,716	33,548	0·29
Unitarian	2,275	2,126	1,777	1,934	3,224	4,926	4,445	5,578	0·05
United Church	–	–	–	–	–	8,728	2,017,375	2,204,875	19·16
Other	15,637	21,382	46,030	19,067	29,727	32,066	44,515	53,679	0·47
Not stated	126,853[8]	86,769	80,267	43,222	32,490	19,259	16,042	17,159	0·15
Totals	**3,689,257**	**4,324,810**	**4,833,239**	**5,371,315**	**7,206,643**	**8,787,949**	**10,376,786**	**11,506,655**	**100·00**

[1] The figures for 1931 entered opposite "Congregationalist" and for 1931 and 1941 opposite "Presbyterian" represent the number not included in the "United Church". [2] Included in "United Church". [3] Reported as Methodist before 1931. [4] Greek Orthodox and Greek Catholic combined under the term "Greek Church" in 1921. In the Censuses of 1931 and 1941, Greek Catholics are included with Roman Catholics. [5] Mennonites were included with Baptists in 1871 and 1881; in 1891 they were included with "other denominations". [6] Included with "other". [7] Includes 186,654 Greek Catholics in 1931 and 185,657 in 1941. [8] Includes 109,475 population in Manitoba, British Columbia and the Northwest Territories who were largely Indian and hence likely pagan.

Details of leading religious denominations by provinces are given at p. 109 of the 1945 edition of the Year Book; those of the population of the nine leading cities are shown in Table 14 of the 1946 Year Book at p. 107.



Section 8.—Birthplaces

The population of Canada by broad nativity groups—Canadian born, other British born, United States born and other foreign born—is shown in Table **12.**

The effects of the large immigration at the beginning of the century are seen in all columns of the percentage figures after 1901. Whereas in 1871, 83·3 p.c. of the total population were Canadian born, 14·1 p.c. other British born, and 2·6 p.c. foreign born, the corresponding proportions in 1941 were 82·5 p.c., 8·7 p.c. and 8·8 p.c., respectively.

The smallest element in the population, viz., the foreign born other than United States born, actually shows the greatest percentage increase. These "other foreign born" increased rapidly from 0·85 p.c. in 1871 to 7·5 p.c. in 1931. The decline of the group indicated for 1941 is attributable to a restricted immigration policy (see Chapter V).

Table 27, p. 113 of the 1943-44 Year Book gives, for 1941, the nativity of the population analysed by sex and province.

12.—Nativity of the Population, Census Years 1871-1941

Year	British Born		Foreign Born		Total Population	Percentages of Total Population			
						British Born		Foreign Born	
	Canadian Born	Other British Born[1]	Born in United States	Born in Other Foreign Countries		Canadian Born	Other British Born	United States Born	Other Foreign Born
	No.	No.	No.	No.	No.	p.c.	p.c.	p.c.	p.c.
1871....	3,003,035	506,721	64,613	30,641	3,605,010[2]	83·30	14·06	1·79	0·85
1881....	3,721,826[3]	478,615	77,753	46,616	4,324,810	86·06	11·07	1·80	1·08
1891....	4,189,368[3]	490,573	80,915	72,383	4,833,239	86·68	10·15	1·67	1·50
1901....	4,671,815	421,051	127,899	150,550	5,371,315	86·98	7·84	2·38	2·80
1911....	5,619,682	834,229	303,680	449,052	7,206,643	77·98	11·58	4·21	6·23
1921....	6,832,224	1,065,448	374,022	516,255	8,787,949	77·75	12·12	4·26	5·87
1931....	8,069,261	1,184,830	344,574	778,121	10,376,786	77·76	11·42	3·32	7·50
1941....	9,487,808	1,003,769	312,473	701,660	11,506,655[3]	82·46	8·72	2·72	6·10

[1] Includes some hundreds of persons born at sea. [2] Includes six provinces only. [3] Includes "birthplace not stated".

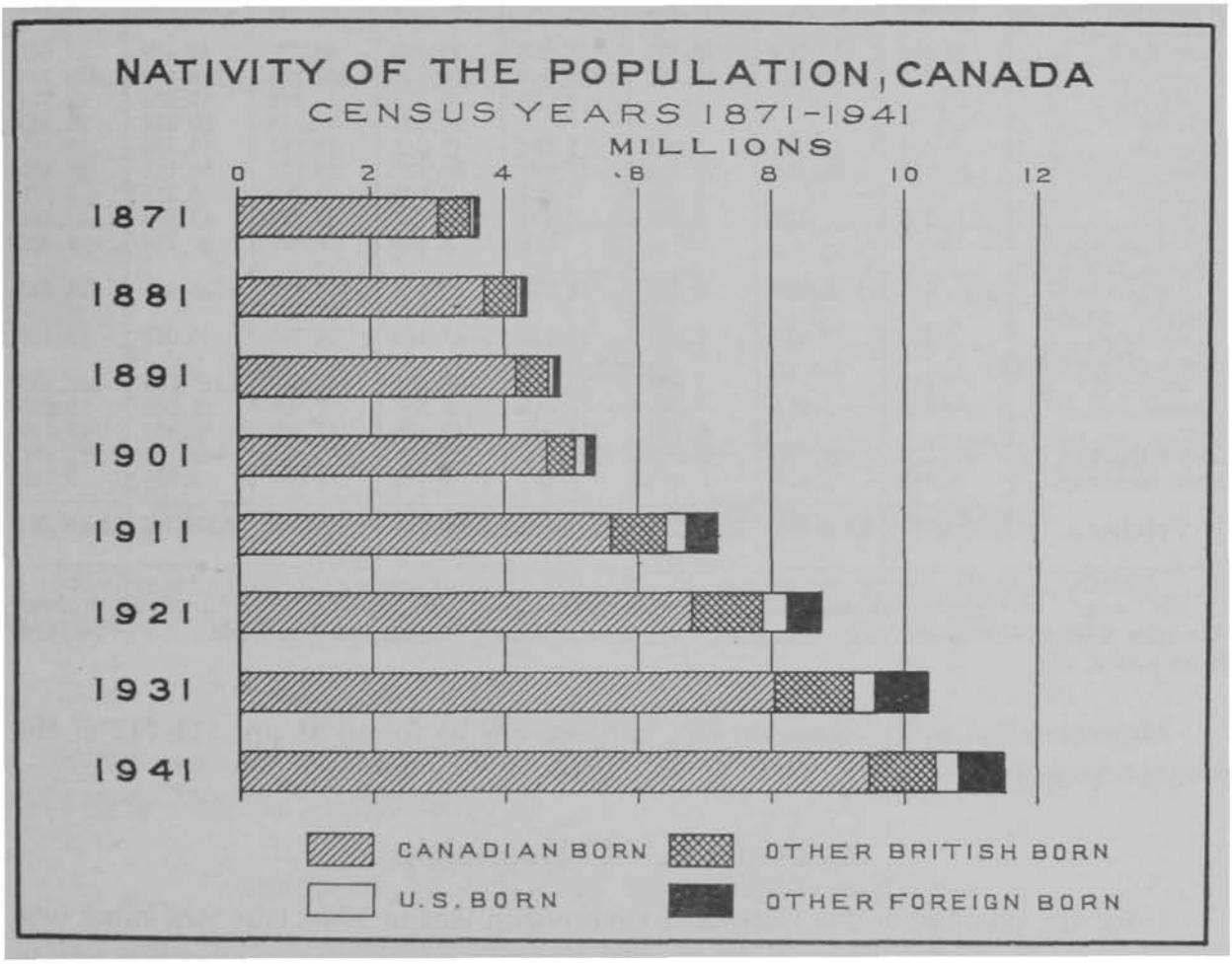


Table 13 gives the total population by country of birth for census years 1871-1941. The census, under birthplace, collects information on both the country of birth of the immigrant arrivals in Canada and the province of birth of the native-born population.

Comparable figures for country of birth for census periods up to 1921 and those taken more recently are difficult to obtain because of the many geographical changes in Europe after the First World War; for instance, a person who, early in the century, migrated to Canada from a certain part of Austria or Hungary might not realize

that in 1931 he should have recorded his birthplace as Poland or Roumania in line with the new national boundaries. In comparing the census figures of several decades these facts should be considered and a regrouping of certain European countries whose boundaries were changed in later censuses is carried back to earlier censuses to maintain comparability. Table 13 is as far as the census can go in supplying strictly comparable figures along these lines. In this table no change has been made affecting the census figures themselves: they have been merely regrouped geographically.

13.—Birthplaces of the Population, Census Years 1871-1941

Birthplace	1871	1881	1891	1901	1911	1921	1931	1941
Canada	3,003,035	3,721,826[1]	4,189,368[1]	4,671,815	5,619,682	6,832,224	8,069,261	9,487,808
British Isles	496,595	470,906	477,735	404,848	804,234	1,025,119	1,138,942	960,125
Other British Empire[2]	10,126	7,709	12,838	16,203	29,995	40,329	45,888	43,644
Europe	28,699	39,161	53,841	125,549	404,941	459,325	714,462	653,705
Belgium	–	–	–	2,280	7,975	13,276	17,033	14,773
Finland	–	–	–	–	10,987	12,156	30,354	24,387
France	2,908	4,389	5,381	7,944	17,619	19,247	16,756	13,795
Germany	24,162	25,328	27,752	27,300	39,577	25,266	39,163	28,479
Greece	–	–	–	213	2,640	3,769	5,579	5,871
Italy	218	777	2,795	6,854	34,739	35,531	42,578	40,432
Netherlands	–	–	–	385	3,808	5,827	10,736	9,923
Russia, Lithuania and Ukraine	416	6,376[3]	9,222	31,231	89,984	112,412	133,869	124,402
Scandinavian countries	588	2,076	7,827	18,388	61,240	64,795	90,042	72,473
Central European countries[4]	102	–	695	29,473	129,421	159,379	317,350	309,360
Other	305	215	169	1,481	6,951	7,667	11,002	9,810
Asia	–	–	9,129	23,580	40,946	53,636	60,608	44,443
United States	64,613	77,753	80,915	127,899	303,680	374,022	344,574	312,473
Other countries	1,942	7,455	9,413	1,421	3,165	3,294	3,051	3,512
Totals	**3,605,010**[5]	**4,324,810**	**4,833,239**	**5,371,315**	**7,206,643**	**8,787,949**	**10,376,786**	**11,506,655**[1]

[1] Includes "birthplace not stated". [2] Includes "born at sea". [3] Includes Poland. [4] Includes Austria, Czechoslovakia, Hungary, Yugoslavia, Poland, Galicia and Roumania. [5] Includes six provinces only.

More detailed information on this subject will be found at pp. 111-117 of the 1943-44 Year Book.

Section 9.—Citizenship

Until the passage of the Canadian Citizenship Act in 1946 (the Act came into force on Jan. 1, 1947), the basic legislation governing Canadian nationality was to be found in the Immigration Act. The present legislation is outlined in the Miscellaneous Administration Chapter of this edition (see Index).

Table 14 shows that, at the Census of 1941, less than 1 p.c. of the total Canadian-born and other British-born population had lost their Canadian citizenship through renunciation or marriage. Over 80 p.c. of the United States-born persons in Canada, who form 2·7 p.c. of the total population, had become Canadian citizens together with 74·7 p.c. of the Continental European-born; of those born in Asiatic countries 72·7 p.c. remained aliens. Of the total population, only 2·4 p.c. were aliens.

14.—Citizenship of the Population, by Nativity, 1941

Birthplace	Canadian Nationals	Aliens	Not Stated	Total
Canada	9,475,252	12,521	35	9,487,808
British Empire (other than Canada)	979,680	2,566	8	1,003,769
United States	250,929	61,427	117	312,473
Continental Europe—				
Austria	40,898	9,803	12	50,713
Belgium	10,847	3,917	9	14,773
Czechoslovakia	14,300	11,262	2	25,564
Denmark	9,422	4,540	12	13,974
Finland	12,647	11,734	6	24,387
France	10,518	3,269	8	13,795
Germany	20,771	7,679	29	28,479
Hungary	21,445	10,359	9	31,813
Italy	33,661	6,764	7	40,432
Netherlands	6,641	3,276	6	9,923
Norway	20,966	5,933	15	26,914
Poland	114,755	40,624	21	155,400
Roumania	22,561	5,889	4	28,454
Russia (U.S.S.R.)	96,236	21,235	127	117,598
Sweden	21,450	5,700	10	27,160
Yugoslavia	11,811	5,601	4	17,416
Other	19,642	7,253	15	26,910
Totals, Continental Europe	488,571	164,838	296	653,705
Asia—				
China	3,306	25,786	3	29,095
Japan	3,694	5,767	1	9,462
Other	5,105	779	2	5,886
Totals, Asia	12,105	32,332	6	44,443
Other	2,993	519	Nil	3,512
Not stated	780	137	28	945
Grand Totals	**11,210,310**	**274,340**	**490**	**11,506,655**[1]

[1] Includes 21,515 British-born persons who had not at the date of the census acquired Canadian domicile

Section 10.—Languages and Mother Tongues

Statistics under this heading for the 1941 Census are given at pp. 122-123 of the 1947 Year Book.

Section 11.—School Attendance

Statistics under this heading for the Census date of 1941 will be found at p. 138 of the 1943-44 Year Book.

Section 12.—Blind and Deaf-Mutes

According to the standards applied by the Census, the blind in the nine provinces in 1941 numbered 9,962 or 8·7 per 10,000 of the population as compared with 3,266 or 6·1 per 10,000 at the beginning of the century. Persons who had lost the sight of one eye only were not regarded as blind.

Deaf-mutism, unlike blindness, is preponderantly an infirmity originating at birth or an early age. The number of deaf-mutes in the nine provinces of Canada increased from 5,368 in 1881 to 7,194 in 1941. The number of blind deaf-mutes in Canada was 158, of whom 63 were in Quebec, 47 in Ontario, 13 in Nova Scotia, 9 in Alberta, 8 in British Columbia, 6 in each of the Provinces of Prince Edward Island and Manitoba, and 3 in each of the Provinces of New Brunswick and Saskatchewan.

Detailed statistics of the blind and of deaf-mutes are given in Vol. IV of the 1941 Census.

15.—Blind and Deaf-Mutes per 10,000 Population, by Provinces, 1881-1941

NOTE.—Blind deaf-mutes are not included in this table.

Province	Blind							Deaf-Mutes						
	1881	1891	1901	1911	1921	1931	1941	1881	1891	1901	1911	1921	1931	1941
Prince Edward Island	6·2	7·5	6·5	6·2	8·5	9·3	11·7	11·2	8·0	9·5	5·0	4·5	5·1	6·7
Nova Scotia	8·1	9·0	10·5	6·7	11·0	14·6	14·5	13·2	11·0	13·6	9·6	8·3	8·9	7·5
New Brunswick	6·6	7·8	8·5	6·6	6·6	9·2	15·9	12·5	11·0	13·4	7·8	7·6	8·5	8·3
Quebec	8·1	8·2	6·3	5·6	5·3	8·0	9·5	16·4	14·2	15·1	8·2	8·0	9·7	8·5
Ontario	5·7	5·8	4·9	4·3	5·3	6·7	8·3	10·2	7·6	9·2	5·6	6·3	5·3	5·2
Manitoba	5·0	2·4	4·1	2·7	2·9	6·6	7·7	7·9	6·7	11·4	6·5	4·5	6·7	5·7
Saskatchewan	–	–	5·9	1·6	2·1	4·2	4·9	–	–	8·0	3·7	3·4	3·9	5·4
Alberta	–	–	8·2	1·9	1·7	3·2	5·0	–	–	6·2	3·9	2·8	4·0	4·3
British Columbia	25·9	13·0	6·4	3·5	4·2	6·5	7·3	5·5	4·5	5·1	2·8	2·5	3·1	3·2
Totals	**7·0**	**7·1**	**6·1**	**4·5**	**5·0**	**7·1**	**8·7**	**12·6**	**10·1**	**11·6**	**6·4**	**6·1**	**6·5**	**6·3**

Section 13.—Occupations

Figures for Canada, excluding Yukon and the Northwest Territories, show that 3,676,563 males and 833,972 females, 14 years or over, or a total of 4,510,535 persons, including members of the Armed Forces, were gainfully occupied at the time of the 1941 Census. Males represented 81·5 p.c. and females 18·5 p.c. of the total gainfully occupied. The population of the nine provinces consisted of 5,890,683 males and 5,599,030 females or a total of 11,489,713 persons. The total gainfully occupied, therefore, accounted for 39·3 p.c. of the total population; gainfully occupied males representing 62·4 p.c. of the total male population and gainfully occupied females 14·9 p.c. of the total female population. Nearly 84 p.c. of the males and about 20 p.c. of the females, 14 years of age or over, were gainfully occupied at the 1941 Census.

A more detailed summary of the occupations of the Canadian people for the 1941 Census is given at pp. 1062-1073 of the 1943-44 Year Book.

16.—Numbers and Percentages of Gainfully Occupied Males and Females, 14 Years of Age or Over, by Sex, Census Years 1921-41

(Exclusive of Yukon and the Northwest Territories)

Year	Gainfully Occupied 14 Years or Over			P.C. of Total Population Gainfully Occupied			P.C. of Population 14 Years or Over Gainfully Occupied		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1921	3,164,348	2,675,290	489,058	36·1	59·2	11·5	53·3	86·6	17·2
1931	3,921,833	3,256,531	665,302	37·8	60·7	13·3	53·8	85·4	19·1
1941 (including Active Service)	4,510,535	3,676,563	833,972	39·3	62·4	14·9	53·0	83·8	20·2
1941 (not including Active Service)	4,195,951	3,363,111	832,840	36·5	57·1	14·9	49·3	76·7	20·2

17.—Numbers and Percentages of the Gainfully Occupied Males and Females, 14 Years of Age or Over, by Occupation Groups, 1941

(Exclusive of Yukon and the Northwest Territories)

Occupation Group	Males			Females	
	Total A[1]	Total B[2]	P.C.[3]	Total	P.C.
Agriculture	1,104,579	1,064,847	31·7	18,969	2·3
Fishing, trapping and logging	138,460	131,374	3·9	326	[4]
Mining, quarrying	77,909	71,861	2·1	25	[4]
Manufacturing	615,284	573,574	17·1	129,588	15·6
Construction	215,333	202,509	6·0	339	[4]
Transportation	278,402	254,591	7·6	14,065	1·7
Trade	292,910	273,059	8·1	82,020	9·8
Finance, insurance	33,104	30,576	0·9	816	0·1
Service	339,307	316,313	9·4	418,111	50·2
Clerical	204,666	182,823	5·4	155,208	18·6
Labourers[5]	273,925	251,889	7·5	11,655	1·4
Not stated	39,166	9,695	0·3	1,718	0·2
All Occupations	**3,613,045**	**3,363,111**	**100·0**	**832,840**	**100·0**
Males on Active Service not gainfully occupied prior to enlistment	63,518	–	–	–	–
Total	**3,676,563**	–	–	–	–

[1] Total "A" includes males on Active Service with a gainful occupation prior to enlistment. [2] Total "B" includes occupied males minus those on Active Service. [3] Based on column 2. There is very little difference in the percentage distribution of males by occupation groups with Active Service included. [4] Less than 0·05 p.c. [5] This group does not include agricultural, fishing, logging, or mining labourers.

Section 14.—Dwellings, Households and Families*

Buildings and Dwellings.—According to Table 18, the number of occupied dwellings in Canada† at the 1941 Census was 2,597,969 as compared with 2,227,000* at the 1931 Census. The number of persons per dwelling was highest in Quebec at 5·1 and lowest in British Columbia at 3·7. In addition, there were 62,008 vacant dwellings in the Dominion on June 2, 1941. It should be explained that the total number of buildings used for habitation—2,181,564—was somewhat less than the number of dwellings since, in the case of apartment buildings, rows and semi-detached structures, each building would contain one or more dwellings.

Definitions of Dwellings and Dwelling Types.—The Census defines a dwelling as "a structurally separate set of self-contained living premises having its own entrance from outside the building containing it or from a common passage or stairway inside". According to this definition a single-dwelling house is a permanent structure in which there is only one self-contained dwelling unit. A semi-detached dwelling house, sometimes known as a "double house", is a two-dwelling structure with separate entrances to each dwelling, and divided by a solid partition extending from attic to cellar. This distinguishes the semi-detached from the "duplex" or two-dwelling apartment house where the division, with upper and lower apartments, is on a horizontal basis. Apartment dwellings or suites are found in apartment blocks, each dwelling having a separate exit to a common hall or landing. A flat is structurally similar to an apartment house except that each dwelling unit has an independent entrance from the outside.

Households and Families.—The number of households in the nine provinces at the 1941 Census was 2,706,089 and the average size of all households was 4·3 persons per household. Private families in Canada totalled 2,525,299, the average

* For 1931 Census figures, see p. 136 of the 1936 Year Book. The figure of 1,984,286 given there represents number of buildings containing dwellings and not the number of dwellings.

† Figures in this Section are exclusive of Yukon and the Northwest Territories.

number of persons per family being 3·9. The average size of households and of families was largest in Quebec and smallest in British Columbia.

Definitions of Household and Family.—In the Census a household is defined as "a person or a group of persons living in one housekeeping community. The persons may or may not be related by ties of kinship, but if they live together with common housekeeping arrangements, they constitute a household". Persons on Active Service were included as members of their family households whether actually living at home or not at the date of the Census.

The family membership is restricted to persons having the husband-wife or parent-child relationship and thus is not always comparable with the group of persons composing the household. The latter often consists of two or more families and very frequently includes persons related to the head, such as uncle, niece, grandmother, and others, but who are not members of his immediate family.

18.—Numbers of Buildings, Dwellings, Households and Families, and Average Numbers of Persons per Dwelling, per Household and per Family, by Provinces, 1941.

Province	Population	Buildings[1]	Dwellings		Households	Families	Persons per Dwelling	Persons per Household	Persons per Family
			Occupied[2]	Vacant					
	No.	No.	No.	No.	No.	No.	No.	No.	No.
P. E. Island	95,047	19,719	20,236	753	20,432	19,590	4·70	4·65	4·19
Nova Scotia	577,962	114,451	124,396	3,840	128,641	123,561	4·65	4·49	4·04
New Brunswick	457,401	83,429	92,703	2,922	94,599	93,479	4·93	4·84	4·32
Quebec	3,331,882	436,012	650,838	14,321	663,426	647,946	5·12	5·02	4·53
Ontario	3,787,655	779,751	916,122	21,464	969,267	909,210	4·13	3·91	3·56
Manitoba	729,744	149,206	164,985	2,342	176,942	166,249	4·42	4·12	3·83
Saskatchewan	895,992	206,291	209,820	6,465	214,939	190,137	4·27	4·17	4·13
Alberta	796,169	185,585	195,574	4,040	201,796	175,744	4·07	3·95	3·91
British Columbia	817,861	207,120	223,295	5,861	236,047	199,383	3·66	3·46	3·36
Totals	**11,489,713**	**2,181,564**	**2,597,969**	**62,008**	**2,706,089**	**2,525,299**	**4·42**	**4·25**	**3·94**

[1] Buildings used for habitation only. [2] Includes dwellings with tenure not stated.

Similar data on buildings, dwellings, households and families for urban centres of 30,000 population or over at the 1941 Census are given at pp. 126-127 of the 1947 Year Book. For further details concerning tenure and kind of dwellings, composition and size of family households, see pp. 121-125 of the 1946 edition.

Section 15.—Quinquennial Census of the Prairie Provinces

The Census and Statistics Act of 1905 and the Statistics Act of 1918 provide for a census of population and agriculture for the Provinces of Manitoba, Saskatchewan and Alberta, to be taken in 1906 and every tenth year thereafter, in addition to the Dominion Decennial Census.

The latest Prairie Provinces Census was taken as of June 1, 1946, and a summary of final results now available (March, 1948) is presented in this Section. These results cover such general population characteristics as sex, age, marital status, birthplace, citizenship, mother tongue, years of schooling, and migration. However, in addition to these topics, the 1946 Census provides data on agriculture, family and household composition, industries and occupations, employment and earnings, and housing. Preliminary figures dealing with these topics are being issued in bulletin form, and final figures covering all phases of the 1946 Census will later be published in the census volumes.

The population of the Prairie Provinces according to the geographic divisions known as Census Divisions is given in Table 19. These divisions have been established as permanent statistical areas, since there are no county areas in the Prairie Provinces (see map on p. 164).

19.—Population of the Prairie Provinces, by Census Divisions, 1946
(For key map of census divisions see p. 164)

Manitoba		Saskatchewan		Alberta	
Census Division	Population	Census Division	Population	Census Division	Population
	No.		No.		No.
No. 1	25,560	No. 1	33,636	No. 1	31,256
No. 2	39,971	No. 2	35,295	No. 2	60,982
No. 3	23,032	No. 3	33,070	No. 3	14,749
No. 4	14,820	No. 4	19,557	No. 4	28,402
No. 5	46,953	No. 5	47,947	No. 5	16,719
No. 6	309,601	No. 6	107,272	No. 6	157,556
No. 7	35,311	No. 7	51,719	No. 7	29,928
No. 8	17,022	No. 8	37,457	No. 8	64,789
No. 9	48,444	No. 9	55,631	No. 9	31,160
No. 10	18,774	No. 10	37,912	No. 10	51,881
No. 11	24,944	No. 11	78,736	No. 11	168,331
No. 12	23,302	No. 12	30,098	No. 12	16,718
No. 13	24,513	No. 13	32,393	No. 13	30,352
No. 14	24,474	No. 14	60,083	No. 14	44,546
No. 15	11,524	No. 15	83,776	No. 15	17,097
No. 16	38,678	No. 16	47,305	No. 16	28,733
		No. 17	28,611	No. 17	10,131
		No. 18	12,190		
Total	**726,923**	**Total**	**832,688**	**Total**	**803,330**

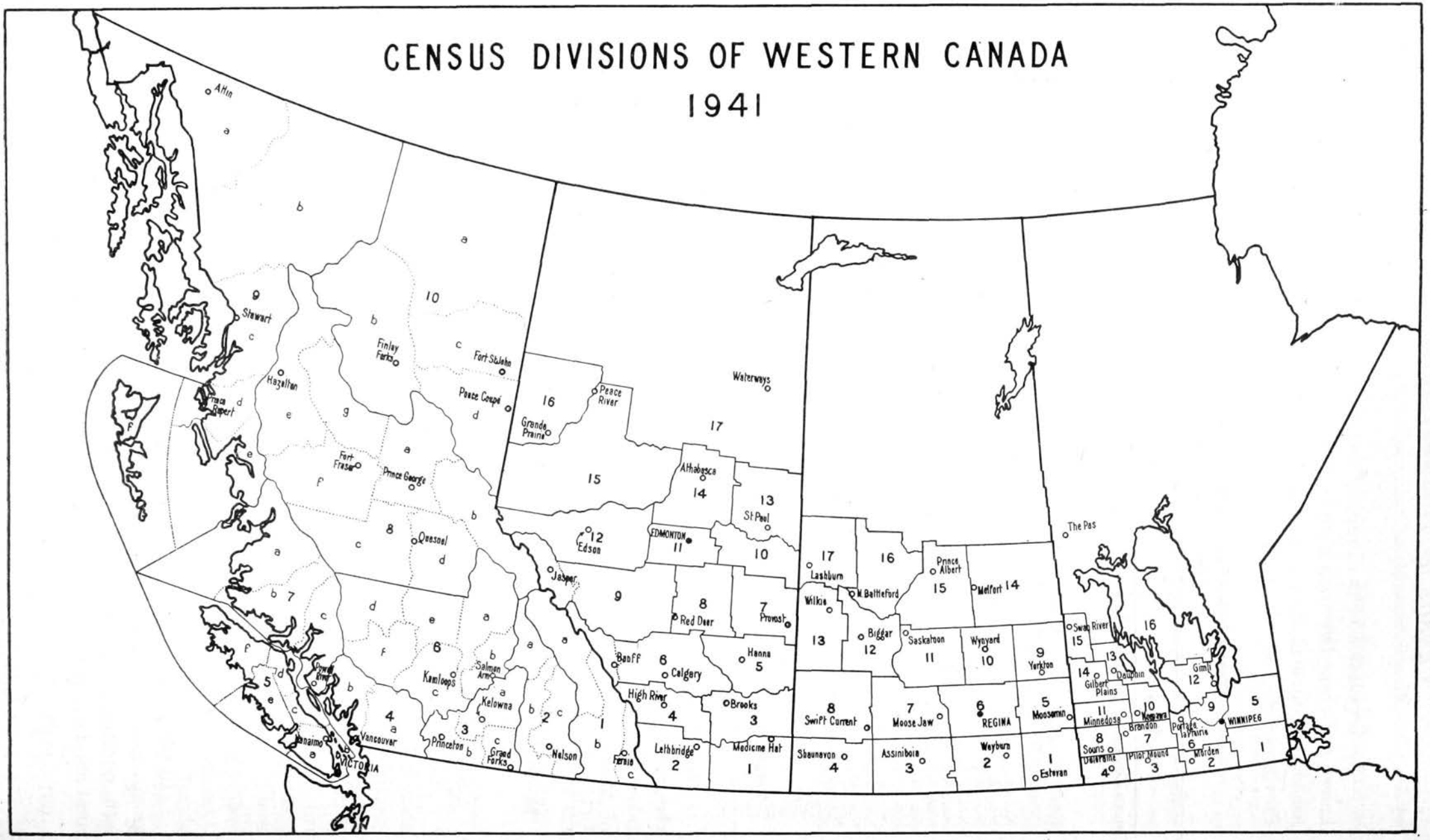
Rural and Urban Population.—Population figures for the Prairie Provinces classified by rural and urban show that a definite trend towards urbanization has taken place since 1936. There has been an actual decline in the rural population of Manitoba and Alberta since 1941, and in that of Saskatchewan since 1936. This movement is partly a development of the Second World War.

20.—Rural and Urban Populations of the Prairie Provinces, 1946, Compared with Census Years 1906-46

Year	Manitoba			Saskatchewan			Alberta		
	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
1906	227,598	138,090	365,688	209,301	48,462	257,763	127,320	57,875	185,195
1911	261,029	200,365	461,394	361,037	131,395	492,432	236,633	137,662	374,295
1916	312,846	241,014	553,860	471,538	176,297	647,835	307,693	188,749	496,442
1921	348,502	261,616	610,118	538,552	218,958	757,510	365,550	222,904	588,454
1926	360,198	278,858	639,056	578,206	242,532	820,738	373,751	233,848	607,599
1931	384,170	315,969	700,139	630,880	290,905	921,785	453,097	278,508	731,605
1936	400,289	310,927	711,216	651,274	280,273	931,547	486,335	286,447	772,782
1941	407,871	321,873	729,744	600,846	295,146	895,992	489,583	306,586	796,169
1946	389,592	337,331	726,923	515,928	316,760	832,688	448,934	354,396	803,330

In the 1946 Census, the practice of classifying the urban communities by size groups was continued and the rural population was separated into farm and non-farm portions. This latter distinction was considered advisable since much of the rural non-farm population is essentially urban in character, including as it does the

CENSUS DIVISIONS OF WESTERN CANADA
1941



unincorporated fringe areas of the larger cities. Table 21 shows the percentages of the total population living on farms, in rural non-farm areas, and in the urban centres according to specified size groups.

21.—Rural and Urban Populations of the Prairie Provinces, by Types and Sizes of Locality, 1946

Locality	Manitoba		Saskatchewan		Alberta	
	No.	p.c.	No.	p.c.	No.	p.c.
Rural—						
Farm	227,808	31·3	443,499	53·3	339,364	42·3
Non-farm	161,784	22·3	72,429	8·7	109,570	13·6
Totals, Rural	389,592	53·6	515,928	62·0	448,934	55·9
Urban—						
Under 1,000	21,039	2·9	107,888	12·9	56,078	7·0
1,000– 4,999	28,923	4·0	40,184	4·8	55,777	6·9
5,000–29,999	58,324	8·0	62,414	7·5	29,381	3·7
30,000 or over	229,045	31·5	106,274	12·8	213,160	26·5
Totals, Urban	337,331	46·4	316,760	38·0	354,396	44·1
Grand Totals	**726,923**	**100·0**	**832,688**	**100·0**	**803,330**	**100·0**

Urban centres of the Prairie Provinces with populations of over 30,000 at the Census of 1946 are shown in Table 4 at p. 144, and those with populations of 1,000 to 30,000 in Table 5 at pp. 148-149.

Movement of Population.—In order to measure the movement of population, persons enumerated at the 1946 Census of the Prairie Provinces were asked to state their place of residence five years previously, that is, on June 1, 1941. The answers were classified as same home, same municipality, same province, other Canadian province (specified), other country (specified). All but the first two of these categories were considered to represent the migrant population. The migrants, with the exception of those who came from other countries, were asked in addition to state the type of locality in which they had lived five years ago, that is, farm, rural non-farm, urban over 30,000, etc. A basis was therefore provided for measuring the population movements (a) by geographic regions, and (b) by type of locality.

Two major limitations to this method of studying migration should be pointed out. First, although this method is suitable for measuring the inward movements of population, the outward flow of population to other provinces and other countries cannot be measured directly. This limitation would not be so serious in a country-wide census. Secondly, the migration figures thus obtained refer to two specific dates, viz., June 1, 1941, and June 1, 1946. A person may have moved several times between those dates, but such movements would not be recorded.

In spite of these limitations, this study of migration undertaken at the 1946 Census has yielded some valuable results. It has shown for instance that there was a general trend away from the farms to urban and rural non-farm areas between 1941 and 1946. The relatively large increase in the rural non-farm population suggests a tendency towards the growth of unincorporated satellite communities

bordering the larger urban centres. It has shown also that approximately one-fifth of the population of the Prairie Provinces five years of age or over on June 1, 1946, were residing in a city, town, village or rural municipality different from that in which they were residing on June 1, 1941. Of this number, 76·6 p.c. had moved within the province, 21·1 p.c. had migrated from another province, and the remaining 2·3 p.c. were immigrants to Canada. The latter were predominantly of the female sex and from the British Isles, a high proportion no doubt representing British wives of returned Canadian service men.

Table **22** shows the different categories of non-migrants and migrants according to the type of locality in which they resided in 1946, while Table **23** provides a summary of the net movement of population to or away from farm areas, rural non-farm areas, and the different sized urban groups between June 1, 1941 and June 1, 1946.

22.—Migrant Status of the Population of the Prairie Provinces, Five Years of Age or Over,[1] According to Locality of Residence on June 1, 1946

Province and Migrant Status	Locality of Residence on June 1, 1946							
	Rural				Urban			
	Farm	Non-Farm	Total		Under 30,000	30,000 or Over	Total	
	No.	No.	No.	p.c.	No.	No.	No.	p.c.
Manitoba—								
Non-migrants[2]	180,178	103,852	284,030	83·0	69,595	177,198	246,793	80·4
Same home	149,010	75,175	224,185	65·5	45,326	92,330	137,656	44·8
Different home	31,168	28,677	59,845	17·5	24,269	84,868	109,137	35·6
Migrants	21,503	36,856	58,359	17·0	27,897	32,173	60,070	19·6
Intra-provincial	16,566	28,426	44,992	13·1	21,990	18,011	40,001	13·0
From other provinces	4,513	7,748	12,261	3·6	5,409	12,671	18,080	5·9
From other countries	424	682	1,106	0·3	498	1,491	1,989	0·7
Totals, Manitoba	**201,681**	**140,708**	**342,389**	**100·0**	**97,492**	**209,371**	**306,863**	**100·0**
Saskatchewan—								
Non-migrants[2]	355,847	43,662	399,509	87·8	118,319	69,148	187,467	66·1
Same home	304,906	30,823	335,729	73·8	76,840	34,578	111,418	39·3
Different home	50,941	12,839	63,780	14·0	41,479	34,570	76,049	26·8
Migrants	38,999	16,564	55,563	12·2	69,283	26,994	96,277	33·9
Intra-provincial	32,469	13,632	46,101	10·1	59,497	20,438	79,935	28·2
From other provinces	5,785	2,719	8,504	1·9	8,756	5,758	14,514	5·1
From other countries	745	213	958	0·2	1,030	798	1,828	0·6
Totals, Saskatchewan	**394,846**	**60,226**	**455,072**	**100·0**	**187,602**	**96,142**	**283,744**	**100·0**
Alberta—								
Non-migrants[2]	264,857	61,986	326,843	83·2	78,204	141,710	219,914	69·6
Same home	223,473	42,478	265,951	67·7	49,738	75,532	125,270	39·6
Different home	41,384	19,508	60,892	15·5	28,466	66,178	94,644	30·0
Migrants	34,903	30,903	65,806	16·8	46,771	49,381	96,152	30·4
Intra-provincial	26,967	23,738	50,705	12·9	37,565	31,583	69,148	21·9
From other provinces	7,118	6,592	13,710	3·5	8,334	16,008	24,342	7·7
From other countries	818	573	1,391	0·4	872	1,790	2,662	0·8
Totals, Alberta	**299,760**	**92,889**	**392,649**	**100·0**	**124,975**	**191,091**	**316,066**	**100·0**

[1] Exclusive of persons whose place of residence on June 1, 1941, was not stated.

[2] A non-migrant is a person who was living in the same municipality on June 1, 1946, as on June 1, 1941.

23.—Net Movement of Migrant Population of the Prairie Provinces, Five Years of Age or Over,[1] from 1941 to 1946 by Types and Sizes of Locality

Locality	Manitoba			Saskatchewan			Alberta		
	Residence in 1941	Residence in 1946	Net Increase	Residence in 1941	Residence in 1946	Net Increase	Residence in 1941	Residence in 1946	Net Increase
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Rural—									
Farm	37,160	20,711	−16,449	71,462	37,438	−34,024	61,658	33,362	−28,296
Non-farm	22,718	35,767	13,049	14,494	15,745	1,251	20,696	29,699	9,003
Totals, Rural	59,878	56,478	−3,400	85,956	53,183	−32,773	82,354	63,061	−19,293
Urban—									
Under 1,000	8,408	4,883	−3,525	25,811	37,563	11,752	21,495	22,002	507
1,000-29,999	15,193	21,918	6,725	15,867	29,742	13,875	21,391	23,485	2,094
30,000 or over	30,131	30,331	200	18,808	25,954	7,146	30,073	46,765	16,692
Totals, Urban	53,732	57,132	3,400	60,486	93,259	32,773	72,959	92,252	19,293
Grand Totals	**113,610**	**113,610**	-	**146,442**	**146,442**	-	**155,313**	**155,313**	-

[1] Exclusive of migrants whose type of locality on June 1, 1941, was not stated.

Age Distribution.—A comparison of Table 24 with corresponding tables based on earlier censuses reveals that the proportion of the population in the older age groups has increased while the proportion in the younger age groups has decreased. This applies to all three provinces as the following percentages indicate. Population under 25 years of age in Manitoba declined from 51·4 p.c. of the total in 1931 to 44·0 p.c. in 1946; in Saskatchewan from 55·3 p.c. to 47·7 p.c.; and in Alberta from 51·7 p.c. to 46·3 p.c. Population 65 years of age or over in Manitoba increased from 4·5 p.c. of the total in 1931 to 7·3 p.c. in 1946; in Saskatchewan from 3·3 p.c. to 6·5 p.c.; and in Alberta from 3·5 p.c. to 6·3 p.c.

24.—Male and Female Populations of the Prairie Provinces by Five-Year Age Groups, 1946

Age Group	Manitoba			Saskatchewan			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Under 5 years	36,577	34,585	71,162	43,295	41,013	84,308	43,623	41,673	85,296
5 - 9 "	30,896	29,859	60,755	39,725	38,413	78,138	37,175	36,292	73,467
10 - 14 "	30,426	29,258	59,684	39,904	38,739	78,643	36,435	35,471	71,906
15 - 19 "	31,194	31,399	62,593	41,322	39,622	80,944	36,148	35,768	71,916
20 - 24 "	31,842	33,495	65,337	39,220	35,601	74,821	34,428	35,023	69,451
25 - 29 "	30,340	30,718	61,058	35,031	32,666	67,697	33,060	33,084	66,144
30 - 34 "	28,601	28,653	57,254	31,362	29,236	60,598	30,746	29,765	60,511
35 - 39 "	25,572	24,885	50,457	28,231	25,470	53,701	29,060	25,989	55,049
40 - 44 "	21,885	20,262	42,147	24,124	20,491	44,615	26,555	21,233	47,788
45 - 49 "	20,171	18,992	39,163	22,010	19,364	41,374	24,081	19,141	43,222
50 - 54 "	19,328	18,104	37,432	22,078	17,888	39,966	21,689	16,834	38,523
55 - 59 "	19,658	16,333	35,991	23,313	16,409	39,722	22,214	15,524	37,738
60 - 64 "	17,227	13,516	30,743	20,609	13,227	33,836	19,462	12,436	31,898
65 - 69 "	12,906	10,035	22,941	14,888	9,759	24,647	13,671	9,253	22,924
70 - 74 "	8,178	6,529	14,707	8,849	6,090	14,939	8,248	5,870	14,118
75 - 79 "	4,682	3,939	8,621	4,876	3,496	8,372	4,479	3,342	7,821
80 - 84 "	2,245	2,160	4,405	2,204	1,892	4,096	1,966	1,697	3,663
85 - 89 "	943	989	1,932	896	877	1,773	762	729	1,491
90 - 94 "	218	221	439	192	219	411	164	183	347
95 - 99 "	35	48	83	32	47	79	29	23	52
100 years or over	11	8	19	6	2	8	2	3	5
Totals	**372,935**	**353,988**	**726,923**	**442,167**	**390,521**	**832,688**	**423,997**	**379,333**	**803,330**

Marital Status.—An analysis of the 1936, 1941 and 1946 Census figures of population 15 years of age or over reveals that the ratio of ever-married persons (including widowed and divorced) to single persons has increased steadily in each of the three Prairie Provinces. The proportion rose from about 60 p.c. of the total population in 1936 to approximately 67 p.c. in 1946. This increase is no doubt partly explained by the rise in the number of marriages during the war years, while the sharp decline in immigration since the 1931 Census was also a contributing factor.

25.—Marital Status of the Population of the Prairie Provinces, 15 Years of Age or Over, by Sex, 1946

Marital Status	Manitoba			Saskatchewan			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Single	97,029	72,474	169,503	125,977	75,105	201,082	112,140	67,585	179,725
Married[1]	167,551	164,537	332,088	182,264	176,828	359,092	183,197	177,033	360,230
Widowed	9,888	22,512	32,400	10,464	19,862	30,326	10,322	20,152	30,474
Divorced	568	763	1,331	538	561	1,099	1,105	1,127	2,232
Totals	**275,036**	**260,286**	**535,322**	**319,243**	**272,356**	**591,599**	**306,764**	**265,897**	**572,661**

[1] Includes married couples living apart for domestic or economic reasons.

Birthplaces.—Of the 2,362,941 people residing in the Prairie Provinces on June 1, 1946, 1,446,487 or 61 p.c. were living in the province of their birth, 6 p.c. were born in other western provinces, 8 p.c. were born in the provinces of Eastern Canada, 9 p.c. were born in other parts of the British Empire, 5 p.c. were born in the United States, and 11 p.c. were born in other foreign countries. A comparison with the 1936 Census figures shows that the percentage of the population born in the province of residence and in other western provinces increased during the decade, while there was a significant decrease in the percentages born in Eastern Canada, in other parts of the British Empire, in the United States and in other foreign countries.

In recording European birthplaces, enumerators were instructed to be guided by the boundary divisions that were in existence in 1936.

26.—Birthplaces of the Population of the Prairie Provinces, by Sex, 1946

Birthplace	Manitoba			Saskatchewan			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
British Born—									
Canada[1]	282,707	275,966	558,673	332,137	305,529	637,666	296,523	281,382	577,905
Maritime Provinces	2,405	2,240	4,645	3,507	2,899	6,406	5,692	4,857	10,549
Quebec	3,683	3,277	6,960	5,504	4,038	9,542	6,019	4,654	10,673
Ontario	20,027	19,050	39,077	29,151	22,844	51,995	24,293	19,596	43,889
Manitoba	239,718	231,921	471,639	15,645	15,056	30,701	8,791	8,239	17,030
Saskatchewan	13,465	15,741	29,206	272,142	254,707	526,849	17,440	18,594	36,034
Alberta	1,990	2,256	4,246	4,527	4,366	8,893	228,388	219,611	447,999
British Columbia	1,379	1,442	2,821	1,607	1,572	3,179	5,792	5,699	11,491
British Isles	37,259	33,582	70,841	32,699	26,586	59,285	40,163	34,186	74,349
Other British born	587	547	1,134	473	442	915	881	771	1,652
Totals, British Born	320,553	310,095	630,648	365,309	332,557	697,866	337,567	316,339	653,906

[1] Includes Yukon and the Northwest Territories.

26.—Birthplaces of the Population of the Prairie Provinces, by Sex, 1946—concluded

Birthplace	Manitoba			Saskatchewan			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Foreign Born—									
United States	6,687	7,266	13,953	24,087	20,961	45,048	30,155	26,883	57,038
Europe	44,366	36,132	80,498	50,830	36,620	87,450	53,316	35,220	88,536
Austria	5,686	4,678	10,364	6,730	5,229	11,959	4,179	2,891	7,070
Poland	13,636	11,456	25,092	9,813	7,332	17,145	13,475	10,215	23,690
Scandinavia	4,159	3,091	7,250	8,169	4,496	12,665	9,755	4,769	14,524
U.S.S.R.	12,798	11,319	24,117	12,972	10,466	23,438	9,361	7,175	16,536
Other European	8,087	5,588	13,675	13,146	9,097	22,243	16,546	10,170	26,716
Asia	1,001	226	1,227	1,650	126	1,776	2,669	658	3,327
All other	328	269	597	291	257	548	290	233	523
Totals, Foreign Born	52,382	43,893	96,275	76,858	57,964	134,822	86,430	62,994	149,424
Grand Totals	**372,935**	**353,988**	**726,923**	**442,167**	**390,521**	**832,688**	**423,997**	**379,333**	**803,330**

Citizenship.—A total of 2,314,715 residents of the Prairie Provinces were recorded at the 1946 Census as British subjects. With the exception of a few hundred British subjects who had not acquired Canadian domicile, this represents the number of Canadian citizens under the terms of the Canadian Citizenship Act, assented to June 27, 1946. Of the 47,912 persons comprising the alien population on June 1, 1946, the majority owed allegiance to the United States, Poland, the U.S.S.R., and China in that order. A comparison of the figures of Table **27** with the figures of Table **26** indicates that a great majority of the foreign-born residents of the Prairie Provinces have now become citizens of this country.

27.—Citizenship of the Population of the Prairie Provinces, by Sex, 1946

Citizenship	Manitoba			Saskatchewan			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
British subjects[1]	366,656	350,106	716,762	432,906	385,619	818,525	408,315	371,113	779,428
Aliens by Country of Allegiance—									
United States	1,526	1,313	2,839	2,795	1,892	4,687	5,504	3,896	9,400
Austria	313	187	500	440	211	651	462	165	627
Czechoslovakia	268	167	435	246	152	398	664	262	926
Germany	251	149	400	543	283	826	647	340	987
Hungary	116	49	165	266	132	398	886	343	1,229
Poland	1,294	834	2,128	1,343	833	2,176	2,205	1,385	3,590
Scandinavia	343	118	461	651	226	877	1,099	360	1,459
U.S.S.R.	906	642	1,548	1,102	753	1,855	1,051	575	1,626
Other European	564	294	858	526	306	832	1,213	521	1,734
China	509	14	523	1,212	37	1,249	1,459	31	1,490
All other countries	144	89	233	47	25	72	425	308	733
Totals, Aliens	6,234	3,856	10,090	9,171	4,850	14,021	15,615	8,186	23,801
Grand Totals[2]	**372,935**	**353,988**	**726,923**	**442,167**	**390,521**	**832,688**	**423,997**	**379,333**	**803,330**

[1] With the exception of a few hundred British subjects who had not acquired Canadian domicile, these figures represent the population having Canadian citizenship under the terms of the Canadian Citizenship Act, assented to June 27, 1946. [2] Includes stateless persons.

Mother Tongues.—Table **28** shows that the English language was the mother tongue of 64·2 p.c. of the population of the Prairie Provinces at the time of the 1946 Census. Persons reporting French, the other official language of Canada, as their mother tongue, comprised 4·9 p.c. of the population.

By mother tongue is meant the language first spoken in childhood, if still understood by the person; for infants it is taken to be the language commonly spoken in the home.

There was a marked decrease in the numbers reporting a foreign mother tongue between 1936 and 1946. The one significant exception was Netherlandish, which showed a pronounced increase, especially in Manitoba. These statistics should be interpreted with some reserve, however, owing to the apparent tendency during and immediately after the War for people of German origin to report Netherlandish rather than German as their mother tongue.

28.—Mother Tongues of the Population of the Prairie Provinces, by Sex, 1946

Mother Tongue	Manitoba			Saskatchewan			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
English	223,754	218,744	442,498	270,939	246,119	517,058	288,410	269,102	557,512
French	25,329	24,499	49,828	19,673	17,354	37,027	14,776	13,439	28,215
German	17,478	16,233	33,711	49,403	43,347	92,750	25,667	22,040	47,707
Indian	9,251	8,703	17,954	9,565	9,386	18,951	9,727	9,435	19,162
Magyar	723	538	1,261	5,187	4,256	9,443	3,447	2,236	5,683
Netherlandish	14,179	13,598	27,777	7,964	7,374	15,338	2,551	2,125	4,676
Norwegian	1,211	887	2,098	8,910	6,051	14,961	6,693	4,359	11,052
Polish	12,503	10,896	23,399	8,531	6,764	15,295	8,449	6,654	15,103
Russian	1,737	1,311	3,048	6,697	5,551	12,248	3,918	2,867	6,785
Swedish	2,244	1,669	3,913	4,708	3,163	7,871	4,593	2,612	7,205
Ukrainian	45,246	40,260	85,506	38,394	33,370	71,764	37,699	33,390	71,089
Yiddish	6,638	6,862	13,500	803	672	1,475	834	731	1,565
Other	12,642	9,788	22,430	11,393	7,114	18,507	17,233	10,343	27,576
Totals	**372,935**	**353,988**	**726,923**	**442,167**	**390,521**	**832,688**	**423,997**	**379,333**	**803,330**

Years of Schooling.—Table 29 presents information on years of schooling for the population of the Prairie Provinces according to the Census of 1946. Since this includes children attending school as well as persons no longer of school age, such information is of no great value unless it is classified by age. For that reason the schooling data in this table are presented for three broad age groupings, the last of which gives a good indication of the schooling attained by the adult population.

Years of schooling is probably the best available yard-stick for measuring educational attainment which is defined as the total number of school years a person attended any kind of educational institution. Persons attending night school or other part-time school, or receiving private tuition, were credited with the number of academic years equivalent to the work done. For children still at school the current school year was counted.

29.—Years of Schooling of the Population of the Prairie Provinces, Five Years of Age or Over, by Age Groups and Sex, 1946

Years of Schooling and Age Groups	Manitoba			Saskatchewan			Alberta		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
0- 4 years of schooling....	74,150	66,274	140,424	91,158	78,845	170,003	78,005	67,155	145,160
5-14 years of age.....	39,196	36,936	76,132	51,324	48,511	99,835	46,817	44,624	91,441
15-24 " "	2,239	1,697	3,936	2,443	1,937	4,380	1,721	1,400	3,121
25+ " "	32,715	27,641	60,356	37,391	28,397	65,788	29,467	21,131	50,598
5- 8 years of schooling....	141,726	119,283	261,009	188,577	143,758	332,335	161,146	120,171	281,317
5-14 years of age.....	21,310	21,073	42,383	27,314	27,389	54,703	25,658	25,584	51,242
15-24 " "	26,336	21,643	47,979	37,277	26,479	63,756	26,549	19,904	46,453
25+ " "	94,080	76,567	170,647	123,986	89,890	213,876	108,939	74,683	183,622
9-12 years of schooling....	104,819	119,662	224,481	103,758	110,462	214,220	122,647	129,629	252,276
5-14 years of age.....	812	1,107	1,919	970	1,244	2,214	1,134	1,551	2,685
15-24 " "	31,699	38,453	70,152	37,764	42,322	80,086	39,335	44,710	84,045
25+ " "	72,308	80,102	152,410	65,024	66,896	131,920	82,178	83,368	165,546
13+ years of schooling....	14,750	13,403	28,153	14,943	16,189	31,132	18,484	20,521	39,005
15-24 " "	2,724	3,065	5,789	3,018	4,447	7,465	2,965	4,773	7,738
25+ " "	12,026	10,338	22,364	11,925	11,742	23,667	15,519	15,748	31,267

PART III.—INTERNATIONAL STATISTICS OF POPULATION

Section 1.—Area and Population of the British Empire

Statistics showing official estimates of the area and population of the British Empire by continents and countries are given in Table 52, pp. 141-142 of the 1943-44 Year Book.

Section 2.—Area and Population of the World

Statistics showing the areas and the populations of the various continents and details of each country, as in 1931, are given in a table at pp. 168-169 of the 1934-35 Year Book. The lack of statistical data and the dislocations caused by the War preclude the compilation of later information.

CHAPTER V.—IMMIGRATION AND EMIGRATION*

CONSPECTUS

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Section 1.—Immigration

General Summary of Immigration

In Canada, as in other young countries which have proved attractive to the immigrant, early immigration showed a recurrence of periods of very rapid growth, usually connected with certain important events in history, e.g.; Royal Government (1663), the American Revolution (1776), the Constitution Act (1791), building and development of Canadian railways (1880-1886) and the opening up of the Canadian West (1896-1911). These events all brought immigrants in substantial numbers to Canada in a period when the movement was unrestricted. Wars and periods of economic depression on the other hand have interfered with these movements.

Canadian immigration in its earliest days was confined, for the most part, to the French and British races. The French settlers, 28 in number, who wintered at the site of Quebec in 1608, were the beginnings of a French immigration movement that extended over the next 50 years and was largely associated with the monopolistic trading companies but by 1661 the population had increased to a mere 2,400 persons. After 1663, however, when King Louis XIV took over the colonization of New France, soldiers sent to protect the settlement from the Indians remained as settlers. They were followed by a systematic immigration of 'brides' and this assured the stability of the Canadian family. By 1701, the population numbered 17,000.

British immigration was very small until the American Revolution, when the movement of United Empire Loyalists at the outbreak of the Revolution established several permanent English-speaking settlements. With the Constitution Act of 1791 dividing Quebec into Upper and Lower Canada, interest in British immigration was increased and, from 1827 to 1832, 170,677 British immigrants arrived. Two-thirds of these were from Ireland, the remainder from England and Scotland: they settled in Upper Canada which then became more populous than Lower Canada.

Within the decade 1851-61, 216,000 immigrants arrived. Toward the latter part of that century the discovery of coal and gold in British Columbia, development of railroads and canals and opening up of the Northwest as with the extension of the boundaries of the Province of Manitoba brought many Continental Europeans and the first Oriental immigrants to Canada. Total immigration during the period 1861-91 amounted to 1,407,000.

* Revised under the direction of A. L. Joliffe, Director of Immigration, Department of Mines and Rescources.

However, commercial depression and other influences between 1897-1900 reduced immigration and caused a large counter-migration to the United States, including for the first time, many emigrants of French origin. Immigrant arrivals between 1891 and 1900 numbered only 257,000.

The opening up of the wheat-producing prairies at the beginning of the twentieth century brought about the most spectacular immigration period in Canadian history, resulting in an increase of population between 1901 and 1911 of 1,847,651, with a steady continuing increase until an all-time high for any single year was reached in 1913 with 400,870 arrivals. After the outbreak of war in 1914, immigration declined. The highest figure recorded between 1913 and 1947 was in 1928 when immigrants numbered 166,783. During the depression from 1930 to 1939, immigrant arrivals were below 20,000 per annum. The War of 1939-45 again brought immigration almost to a standstill, less than 50,000 arrivals entering between 1940 and 1944. The wives and children of Canadian Service men made up most of the immigration during 1945-46, other arrivals numbering only 11,545.

Post-War Immigration Policy.—Immigration to Canada, which is based primarily on the Immigration Act of 1910 as revised in 1927, was, by Order in Council 695, dated Mar. 31, 1931, prohibited, with the exception of a few classes of immigrants. Since 1937, however, there have been a series of Orders passed which have widened the admissible classes to Canada. At the end of the Second World War the Regulations were further broadened to facilitate this end.

The policy of the Government is to foster the growth of the population of Canada by the systematic encouragement of immigration. At present (May, 1948) a Canadian citizen or Canadian resident, may bring to Canada any of the following categories of relatives:—

(1) Husband or wife.
(2) Father or mother.
(3) Son, daughter, brother or sister, together with husband or wife and unmarried children if any.
(4) Orphan nephew or niece, under 21 years of age.

In addition to the relatives mentioned above, agriculturists intending to farm, miners and woods-workers proceeding to assured employment in such industries, fiancés and fiancées of Canadian residents, are also among the admissible classes.

To provide for the necessary servicing of the immigrants, emigration offices are now in operation at London, Glasgow, Paris, Brussels, Rome, The Hague and Hong Kong. In addition, special immigration facilities are available in the Canadian Missions at Prague, Athens, Berne, Warsaw, Stockholm, Oslo, Copenhagen, Moscow, Lisbon, Mexico City, Buenos Aires, Rio de Janeiro and Santiago as well as at the High Commissioner's Office in the various Dominions.

Transportation for immigration purposes was at a premium during the whole of 1947. Up to the beginning of December, 1947, there were only two regular passenger vessels in the Canadian Service on which berths for immigrants could be obtained. In December, another vessel entered the North Atlantic Service and a fourth in February, 1948.

The most notable development in Canada's immigration policy during 1947, was the admission of the first displaced persons (D.P's.) from the refugee camps in Europe. Three United States transports, under charter, are used for the transportation to Canada of these refugees and displaced persons under the care of the International Refugee Organization. The program consisted of two main parts, the Close Relatives Plan and the Group Movement Plan.

Under the Close Relatives Plan special efforts have been made to facilitate the entry of relatives of Canadians whether the former be displaced persons or not.

In co-operation with the International Refugee Organization and other special groups actively engaged in the refugee problem, the relatives for whom application has been made in Canada are sought out, presented to the Immigration Officers for servicing, and transported as quickly as possible to Canada. Up to Mar. 15, 1948, there had been 27,890 applications made for relatives of which 21,743 were approved, resulting in 4,473 arrivals in Canada.

Persons coming under the Group Movement Plan are generally outside the ordinary immigrant categories and are dealt with by special Orders in Council. Three such orders have been passed, P.C. 2180 of June 6, 1947, provided for the admittance of 5,000 persons; P.C. 2856 of July 12, 1947, for another 5,000 persons and P.C. 3926 of Oct. 1, 1947, for an additional 10,000 making a total of 20,000 persons.

Under this Plan immigrants, in place of being nominated individually by Canadian residents, are selected in accordance with the recognized manpower needs of Canadian industry, by Canadian Immigration-Labour Teams, travelling in Europe. Six such travelling Teams, 4 in Germany and 2 in Austria, with headquarters at Karlsruhe, are now operating in the D.P. camps selecting immigrants on the basis of skills and aptitudes. Over 18,000 workers had been approved under the plan by Mar. 15, 1948, and 8,490 persons had arrived in Canada. Of these arrivals 3,599 went to lumber companies, 535 were employed in construction work for the railways and hydro-electric projects, 200 went to textile mills, 200 are employed in foundry and steel works, 778 were miners, 1,671 were assigned to domestic duties in hospitals, service institutions and private homes and 641, who brought 459 dependents with them, were employed in the garment industry.

Special approval was also given for the admission of 2,000 Jewish orphans from the camps in Europe and as of Mar. 15, 1948, 400 of these orphans had arrived in Canada.

During 1947, 4,527 Polish ex-servicemen were admitted to Canada to furnish immediate relief to farmers urgently requiring help. At the end of two years' employment at prevailing rates, consideration will be given to granting them permanent admission.

Approximately 3,000 Dutch agriculturists, consisting of both married and single persons, have been admitted to Canada and plans are under way for the admittance of an additional 10,000 during 1948.

Special mention must be made of the Ontario Government's Plan which was responsible for bringing, by specially arranged air transport, approximately 7,000 British immigrants to live in the Province of Ontario. This Plan was suspended in the spring of 1948.

As a direct result of the Federal Government's immigration policy, a total of 64,127 immigrants entered Canada in 1947. This figure is a 182 p.c. increase over the 22,722 immigrants who entered Canada during 1945 but was a slight decrease from the 1946 total of 71,719.

In April, 1948, the Acting Minister of Mines and Resources announced that arrangements had been completed for the biggest air migration in history. Trans-Canada Air Lines is to fly 10,000 Britons, 40 at a time, to Canada by Mar. 31, 1949. The arrangement with T.C.A., combined with increasing ship facilities that will

become available, will ease the serious shortage of immigrant transportation. The arrangement was the culmination of large-scale immigration plans that had been in progress for many months.

It was also announced that the number of D.P.'s to be admitted to Canada would be increased from the 20,000, authorized in the autumn of 1947, to 30,000.

Full information regarding the immigration regulations may be obtained from the Immigration Branch, Department of Mines and Resources, Ottawa. (See also p. 110 of the 1941 Year Book.)

Subsection 1.—Immigration Statistics

The following Tables **1** and **2** give a picture of immigration to Canada from 1894 to 1947. For more recent years, analyses are presented by sex, age, birthplace, racial origin, nationality, destination and occupation in Tables **4** to **9**. Tables **12** and **13** deal with Canadians returning from the United States and Newfoundland and Table **14** shows oriental immigration.

1.—Immigrant Arrivals in Canada, 1894-1947

NOTE.—Statistics for 1852-93 will be found at p. 153 of the 1942 Year Book.

Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals	Year	Arrivals
	No.		No.		No.		No.		No.		No.
1894....	20,829	1903..	138,660	1912..	375,756	1921..	91,728	1930..	104,806	1939..	16,994
1895....	18,790	1904..	131,252	1913..	400,870	1922..	64,224	1931..	27,530	1940..	11,324
1896....	16,835	1905..	141,465	1914..	150,484	1923..	133,729	1932..	20,591	1941..	9,329
1897....	21,716	1906..	211,653	1915..	36,665	1924..	124,164	1933..	14,382	1942..	7,576
1898....	31,900	1907..	272,409	1916..	55,914	1925..	84,907	1934..	12,476	1943..	8,504
1899....	44,543	1908..	143,326	1917..	72,910	1926..	135,982	1935..	11,277	1944..	12,801
1900....	41,681	1909..	173,694	1918..	41,845	1927..	158,886	1936..	11,643	1945..	22,722
1901....	55,747	1910..	286,839	1919..	107,698	1928..	166,783	1937..	15,101	1946..	71,719
1902....	89,102	1911..	331,288	1920..	138,824	1929..	164,993	1938..	17,244	1947..	64,127

2.—Immigrant Arrivals in Canada from the United Kingdom, the United States and Other Countries, 1922-47

NOTE.—The 1936 edition of the Year Book shows, at p. 186, statistics of immigration on this basis, by calendar years from 1881 to 1900 and by fiscal years from 1901 to 1935. Calendar-year figures are given for 1908 to 1921 at p. 153 of the 1942 edition.

Year	Immigrant Arrivals from—			Total	Year	Immigrant Arrivals from—			Total
	United Kingdom	United States	Other Countries			United Kingdom	United States	Other Countries	
	No.	No.	No.	No.		No.	No.	No.	No.
1922.....	31,005	17,534	15,685	64,224	1935.....	2,103	5,291	3,883	11,277
1923.....	70,110	16,716	46,903	133,729	1936.....	2,197	4,876	4,570	11,643
1924.....	57,612	16,042	50,510	124,164	1937.....	2,859	5,555	6,687	15,101
1925.....	35,362	17,717	31,828	84,907	1938.....	3,389	5,833	8,022	17,244
1926.....	48,819	20,944	66,219	135,982	1939.....	3,544	5,649	7,801	16,994
1927.....	52,940	23,818	82,128	158,886	1940.....	3,021	7,134	1,169	11,324
1928.....	55,848	29,933	81,002	166,783	1941.....	2,300	6,594	435	9,329
1929.....	66,801	31,852	66,340	164,993	1942.....	2,259	5,098	219	7,576
1930.....	31,709	25,632	47,465	104,806	1943.....	3,834	4,401	269	8,504
1931.....	7,678	15,195	4,657	27,530	1944.....	7,713	4,509	579	12,801
1932.....	3,327	13,709	3,555	20,591	1945.....	14,677	6,394	1,651	22,722
1933.....	2,304	8,500	3,578	14,382	1946.....	51,408	11,469	8,842	71,719
1934.....	2,166	6,071	4,239	12,476	1947.....	38,747	9,440	15,940	64,127

3.—Number of Immigrant Arrivals at Air and Ocean Ports, 1946-47

Port of Arrival	1946		1947	
	By Air	By Boat	By Air	By Boat
Boston, U.S.A.	6	77	46	99
Dartmouth, N.S.	Nil	Nil	29	Nil
Dorval, Que.	518	"	4,463	"
Ellis Island, N.Y., U.S.A.	1,444	3,118	4,695	9,252
Halifax, N.S.	3	48,164	Nil	18,649
Louisburg, N.S.	Nil	18	"	44
Malton, Ont.	"	Nil	5,598	Nil
Moncton, N.B.	62	"	90	"
Montreal, Que.	3	843	7	1,827
Newcastle, N.B.	Nil	13	Nil	9
New Westminster, B.C.	"	19	1	9
North Sydney, N.S.	14	1,847	7	2,381
Philadelphia, U.S.A.	7	470	4	55
Pictou, N.S.	Nil	Nil	Nil	21
Port Alfred, Que.	"	8	"	39
Quebec, Que.	"	1,040	"	2,250
Sorel, Que.	"	3	"	27
Saint John, N.B.	"	377	1	506
Sydney (Louisburg), N.S.	362	101	2,147	121
Three Rivers, Que.	Nil	23	Nil	4
United States ports[1]	279	697	589	891
Vancouver, B.C.	14	327	53	434
Victoria, B.C.	Nil	14	Nil	122
Others[2]	6	15	6	3
Not given	11	347	3	205
Totals	**2,729**	**57,521**	**17,739**	**36,948**

[1] Other than Boston, Ellis Island and Philadelphia. [2] Includes Charlottetown, P.E.I., Bathurst, N.B., Windsor, N.S., Dalhousie, N.S., Pointe du Chemin, Que., Rimouski, Que., Boucherville, Que., Chatham, Ont., Uplands, Ont., and Alberni, B.C.

Sex, Age and Marital Status.—In 1947, for the first time since 1941, male immigrant arrivals in Canada numbered more than females. In 1946, females constituted 71 p.c. of total immigrant arrivals for that year; in 1947, the distribution was more even, male arrivals being 52 p.c., and females 48 p.c. Adult male arrivals showed an increase of 17,347 over the 1946 figure while female adults decreased by 16,031.

In 1946, over twice as many or 66 p.c. single males arrived in Canada as married males, but in 1947 the rate was 56 p.c. married and 41 p.c. single. Of total females in 1946, 71 p.c. were married and 25 p.c. were single; the percentages for married and single females in 1947 were 43 p.c. and 46 p.c., respectively.

In 1946, children under 18 years numbered 20,967 of total immigrants and 93 p.c. were under 15 years of age. Immigrant arrivals under 18 years in 1947 numbered 12,059 of total immigrants and of these 83 p.c. were under 15 years of age. These figures show that adult immigrants in the two years mentioned represented 71 p.c. and 81 p.c., respectively, of the total.

4.—Sex and Marital Status of Immigrant Arrivals, by Age Groups, 1946 and 1947

Year and Age Group	Males					Females				
	Single	Married	Widowed	Divorced	Total	Single	Married	Widowed	Divorced	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1946										
0–14 years	9,998	Nil	Nil	Nil	9,998	9,465	1	Nil	Nil	9,466
15–19 "	793	14	"	"	807	1,109	3,504	12	"	4,625
20–24 "	992	669	"	5	1,666	1,043	17,022	194	12	18,271
25–29 "	692	1,467	4	6	2,169	515	8,326	187	36	9,064
30–39 "	591	2,055	9	37	2,692	455	5,118	130	84	5,787
40–49 "	226	1,313	31	43	1,613	193	1,566	161	65	1,985
50 years or over	135	1,176	197	30	1,538	223	921	856	38	2,038
Totals, 1946	**13,427**	**6,694**	**241**	**121**	**20,483**	**13,003**	**36,458**	**1,540**	**235**	**51,236**
1947										
0–14 years	5,162	Nil	Nil	Nil	5,162	4,907	Nil	Nil	Nil	4,907
15–19 "	1,599	18	"	1	1,618	1,946	369	3	"	2,318
20–24 "	4,686	1,021	1	4	5,712	2,977	2,189	54	30	5,250
25–29 "	3,685	2,698	20	29	6,432	1,659	2,498	101	161	4,419
30–39 "	3,055	4,817	70	96	8,038	1,423	3,639	227	278	5,567
40–49 "	444	3,037	98	43	3,622	669	2,638	384	199	3,890
50 years or over	209	2,208	399	35	2,851	531	1,829	1,890	91	4,341
Totals, 1947	**18,840**	**13,799**	**588**	**208**	**33,435**	**14,112**	**13,162**	**2,659**	**759**	**30,692**

5.—Sex Distribution of Immigrants as Adult Males, Adult Females, and Children, 1935-47

NOTE.—Figures for the years 1930-34 will be found at p. 183 of the 1946 Year Book.

Year	Adult Males	Adult Females	Under 18 Years		Total
			Males	Females	
	No.	No.	No.	No.	No.
1935	2,550	4,593	2,106	2,028	11,277
1936	2,691	4,830	2,127	1,995	11,643
1937	3,573	6,126	2,727	2,675	15,101
1938	4,142	6,800	3,274	3,028	17,244
1939	4,866	6,820	2,815	2,493	16,994
1940	3,939	4,517	1,432	1,436	11,324
1941	3,851	3,489	940	1,049	9,329
1942	2,280	3,429	928	939	7,576
1943	2,113	4,064	1,177	1,150	8,504
1944	2,391	6,253	2,103	2,054	12,801
1945	4,259	11,620	3,442	3,401	22,722
1946	9,934	40,818	10,549	10,418	71,719
1947	27,281	24,787	6,154	5,905	64,127

Birthplace of Immigrants.—The figures of Table 6 show that about 95 p.c. of total immigrant arrivals in Canada during 1942-1945 were British or United States born.

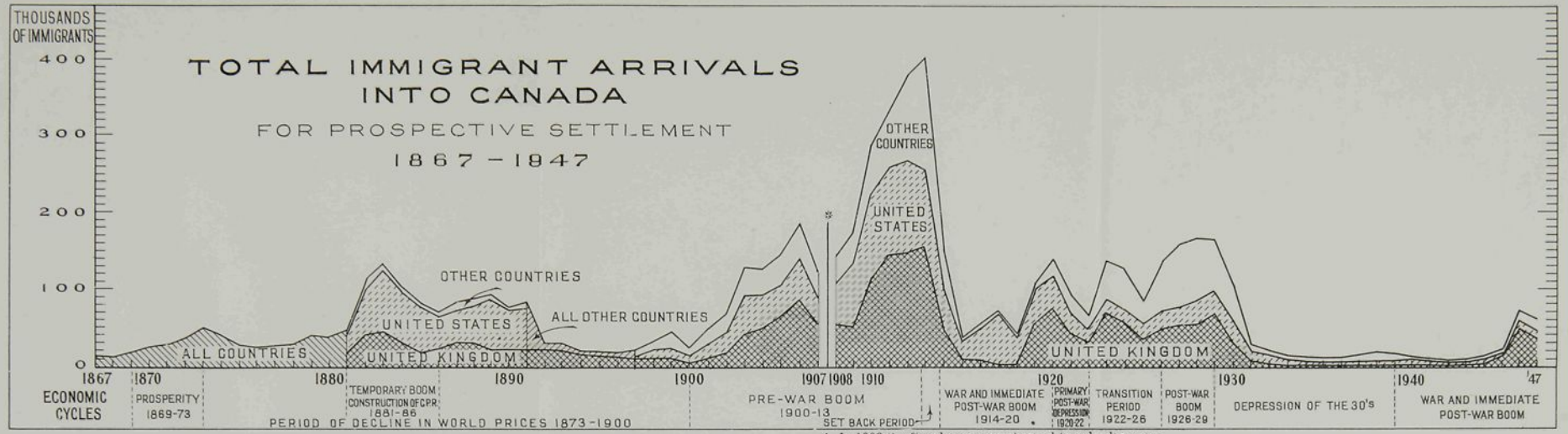
British born, mainly born in England, Scotland and Newfoundland showed an increase from 1942 to 1946 of 45 p.c. to 78 p.c. during these years; United States born, however, showed a steady decline, during the same period, from 49 p.c. in 1942 to 13 p.c. in 1946. The percentage of Continental European born which had been negligible during the years 1942-45, almost doubled in 1946 from 4·5 p.c. to

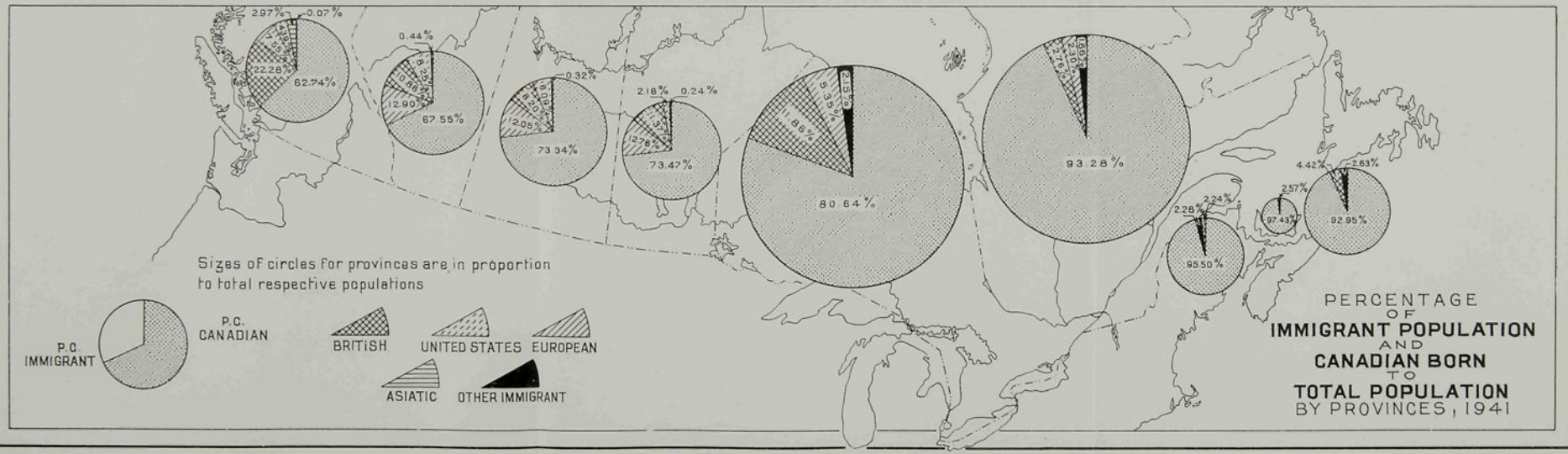
8·7 p.c. and by 1947 arrivals showed a greater percentage than United States born; the figures in 1947 were: Continental European born arrivals 24 p.c., United States born, 11 p.c., and British born 65 p.c. Of other foreign born, China with 137 arrivals showed the largest number from any other country.

6.—Birthplace of Immigrant Arrivals, 1942-47

Country of Birth	1942	1943	1944	1945	1946	1947
The British Empire—						
British Isles—						
Eire	46	64	148	199	983	1,049
England	934	1,209	4,068	9,028	38,991	24,832
Ireland (Northern)	52	65	67	134	761	1,183
Scotland	321	326	640	1,522	8,473	7,350
Wales	27	46	121	274	1,455	1,060
Lesser Isles	8	1	8	21	77	80
Other British Empire—						
Africa (British)	17	19	21	50	129	113
Australia	27	25	16	42	250	344
Canada	450	443	549	828	1,354	1,214
India	27	27	44	91	353	598
Newfoundland	1,397	2,625	3,140	4,207	2,580	2,949
New Zealand	13	8	18	21	99	195
West Indies (British)	58	86	124	187	391	323
Others	34	25	43	85	151	165
The Continent of Africa	5	4	13	17	53	47
The Continent of North America—						
Central America	6	4	9	16	23	16
Mexico	4	6	3	19	28	24
United States	3,688	3,135	3,343	4,741	8,958	7,075
Others	10	16	10	27	46	37
The Continent of South America—						
Argentina	16	4	2	4	35	27
Brazil	4	5	6	11	20	35
Peru	16	12	6	14	16	20
Others	11	20	16	22	40	28
The Continent of Asia—						
China	40	19	34	79	118	137
Japan	13	2	Nil	8	14	34
Others	11	21	11	41	85	146
Continental Europe—						
Austria	7	11	22	75	302	150
Belgium	6	11	10	36	817	926
Czechoslovakia	20	23	21	45	221	383
France	37	18	28	60	310	404
Germany	47	33	32	184	758	445
Greece	7	6	6	19	53	652
Hungary	7	18	16	30	123	167
Italy	10	12	11	22	98	131
Latvia	1	4	5	1	8	451
Lithuania	5	4	2	4	6	1,235
Netherlands	15	7	5	19	2,191	2,718
Norway	36	9	6	58	174	177
Poland	46	28	57	291	688	5,169
Roumania	5	16	12	15	41	135
Russia	44	31	38	76	133	870
Switzerland	13	9	9	18	53	151
Yugoslavia	5	10	12	16	39	180
Others	30	37	49	65	221	702
Total Immigrants	**7,576**	**8,504**	**12,801**	**22,722**	**71,719**	**64,127**

Racial Origins of Immigrants.—In 1947, over 44,083 or 69 p.c. of the immigrant arrivals were of British stock; 47 p.c. of these were English, 14 p.c. Scottish, 6 p.c. Irish and 2 p.c. Welsh. From the remainder of Europe the bulk of immigration has come, as formerly, from countries whose races are either ethnically close to the British stock or are assimilable with the basic races of Canada; this is


THOUSANDS OF IMMIGRANTS
400
300
200
100
0
TOTAL IMMIGRANT ARRIVALS INTO CANADA
FOR PROSPECTIVE SETTLEMENT
1867 – 1947
OTHER COUNTRIES
UNITED STATES
ALL OTHER COUNTRIES
ALL COUNTRIES
UNITED KINGDOM
1867
1870
1880
1890
1900
1907
1908
1910
1920
1930
1940
47
ECONOMIC CYCLES
PROSPERITY 1869-73
TEMPORARY BOOM CONSTRUCTION OF C.P.R. 1881-86
PERIOD OF DECLINE IN WORLD PRICES 1873-1900
PRE-WAR BOOM 1900-13
SET BACK PERIOD
WAR AND IMMEDIATE POST-WAR BOOM 1914-20
PRIMARY POST-WAR DEPRESSION 1920-22
TRANSITION PERIOD 1922-26
POST-WAR BOOM 1926-29
DEPRESSION OF THE 30's
WAR AND IMMEDIATE POST-WAR BOOM
* In 1908 the fiscal year was changed to calendar year.


2.97%
0.07%
22.28
62.74%
0.44%
12.90
67.55%
0.32%
2.05
73.34%
2.18%
0.24%
12.78
73.47%
5.39%
80.64%
93.28%
4.42%
2.63%
97.43%
92.95%
2.28%
2.24%
95.50%
Sizes of circles for provinces are in proportion to total respective populations
P.C. IMMIGRANT
P.C. CANADIAN
BRITISH
UNITED STATES
EUROPEAN
ASIATIC
OTHER IMMIGRANT
PERCENTAGE OF IMMIGRANT POPULATION AND CANADIAN BORN TO TOTAL POPULATION BY PROVINCES, 1941

seen in the immigration of 3,499 Netherlanders, 2,735 Polish, 2,424 Jewish, 1,523 French and 1,186 of German origin. These origins have long been the main races emigrating to Canada although, in later years, there has been an increasing immigration of Slavs. In 1947, the latter group was represented by 2,081 Ruthenians, 1,295 Lithuanians and 293 Russians. Oriental immigration and non-European immigration in 1947 accounted for only 452 immigrants; of these Negroes numbered 197.

7.—Racial Origins of Immigrants into Canada, 1943-47

NOTE.—Dashes in this table indicate that no immigrants were reported for the corresponding stub items. Figures for 1926-42 will be found in the corresponding table of previous Year Books beginning with the 1939 edition.

Origin	1943	1944	1945	1946	1947
British—					
English	4,661	7,888	13,831	42,197	30,346
Irish	896	1,112	1,878	4,632	4,006
Scottish	902	1,254	2,469	10,209	8,696
Welsh	88	127	273	1,294	1,035
Totals, British	6,547	10,381	18,451	58,332	44,083
Continental European—					
Albanian	–	–	–	2	4
Belgian	17	20	33	751	865
Bohemian	7	3	15	31	27
Bulgarian	2	1	1	3	9
Corsican	–	–	–	–	1
Croatian	4	2	3	10	42
Czech	9	20	42	207	193
Dalmatian	–	–	–	1	2
Estonian	2	1	8	8	287
Finnish	18	8	26	56	81
French	701	860	1,295	3,229	1,523
German	314	320	584	1,298	1,186
Greek	15	16	38	108	711
Italian	76	74	132	320	298
Jewish	203	310	654	2,100	2,424
Lettish	2	1	2	6	450
Lithuanian	6	7	11	28	1,295
Magyar	33	39	58	152	164
Maltese	1	1	6	12	24
Moravian	1	–	3	1	7
Netherlander	124	155	268	2,431	3,499
Polish	72	106	332	730	2,735
Portuguese	2	7	13	47	35
Roumanian	8	9	14	44	50
Russian	27	49	86	213	293
Continental European—conc.					
Ruthenian	29	26	33	171	2,081
Scandinavian—					
Danish	28	51	65	168	263
Icelandic	3	9	12	24	11
Norwegian	57	70	169	456	310
Swedish	60	89	115	231	232
Serbian	5	5	5	18	59
Slovak	25	5	17	19	92
Spanish	10	11	22	49	26
Swiss[1]	12	23	33	120	184
Yugoslavic	3	11	25	34	81
Totals, Continental European	1,876	2,309	4,120	13,078	19,544
Non-European—					
Arabian	–	–	–	–	2
Armenian	2	2	6	12	10
Chinese	–	–	–	8	21
East Indian	–	–	1	5	149
Indian (American)	17	22	18	37	19
Japanese	1	–	–	3	2
Mexican	1	1	3	3	4
Negro	38	54	97	173	197
Persian	–	1	–	3	5
Spanish American	2	11	4	21	44
Syrian	19	20	22	37	38
Turkish	1	–	–	7	6
Totals, Non-European	81	111	151	309	500
Grand Totals	**8,504**	**12,801**	**22,722**	**71,719**	**64,127**

[1] Reported as "Swiss" origin but are evidently one of the constituent races such as German, French, Italian, etc.

Nationalities of Immigrants.—The nationality of 65 p.c. of total immigrants in 1947 was British; 13 p.c. of the immigrants owed allegiance to the United States, 8 p.c. to Poland and 4 p.c. to the Netherlands. (See Table 8.)

8.—Nationalities of Immigrants into Canada, 1943-47

NOTE.—Dashes in this table indicate that no immigrants were reported for the corresponding stub items. Figures for 1930-42 will be found in the corresponding table of previous Year Books beginning with the 1936 edition.

Nationality	1943	1944	1945	1946	1947	Nationality	1943	1944	1945	1946	1947
African (not Br.)	–	–	–	–	1	Latvian	–	–	1	2	454
Albanian	–	–	–	–	1	Liechtenstein	–	3	–	–	9
Argentinian	–	3	–	2	3	Lithuanian	2	–	1	2	1,265
Austrian	–	–	–	25	72	Luxemburger	–	–	–	2	2
Belgian	4	3	5	79	817	Mexican	2	–	17	6	21
Brazilian	–	1	–	7	14	Netherlander	3	1	11	178	2,636
British	5,141	9,105	16,892	59,511	41,653	Norwegian	3	–	52	183	194
Bulgarian	–	–	–	2	10	Peruvian	–	1	–	1	4
Central American	–	3	–	7	4	Polish	7	21	257	629	5,256
Chilean	–	–	–	4	1	Portuguese	–	–	1	4	4
Chinese	–	–	–	–	2	Roumanian	6	1	4	28	97
Cuban	3	3	7	1	11	Russian	4	4	5	23	701
Czechoslovakian	10	7	42	216	356	South American	–	1	–	2	7
Danish	12	1	9	36	165	Spanish	1	2	2	6	4
East Indian (not British)	–	–	–	–	1	Swedish	1	2	5	12	37
Estonian	2	1	6	3	281	Swiss	6	3	10	13	141
Finnish	1	1	2	7	40	Syrian	1	–	–	2	22
French	7	17	23	101	337	Turkish	–	1	2	–	4
German	20	8	196	844	139	Ukrainian	–	–	–	1	26
Greek	1	1	6	37	645	United States	3,258	3,594	5,140	9,623	8,344
Haitian	–	–	–	1	Nil	West Indian (not British)	–	–	–	1	1
Hungarian	2	1	4	61	131	Yugoslavic	6	10	10	22	157
Icelandic	1	1	6	–	5						
Italian	–	1	6	35	52	**Totals**	8,504	12,801	22,722	71,719	64,127

Intended Destination and Occupation.—Past experience shows that not all immigrants reach the province of intended destination. Of the total male immigrants 84 p.c. were classed as skilled workers, of the females about 15 p.c. of the arrivals were skilled workers and approximately 40 p.c. were wives. (See Table 9.)

Farm and clerical workers accounted for 38 p.c. of the total number of skilled workers. Unskilled labour for operations in the woods accounted for 45 p.c. of the unskilled immigrants arriving in 1947.

Rejections and Deportations.—The Immigration Act provides for the rejection and deportation of immigrants belonging to prohibited classes, and also for the deportation of those who become undesirables within five years after legal entry.

The results of the operation of the above regulations are shown in Tables **10** and **11**, p. 182, which give the numbers of immigrants rejected on arrival and those deported after admission, the causes of such rejection or deportation, and the nationality of those deported for the years 1937-1947.

In 1947, of the 369 immigrants rejected, 205 were of British nationality, 20 French, 16 Spanish, 9 Greek and the remainder owed their allegiance to 34 other countries.

9.—Immigration by Intended Destination and Occupation, 1947

Intended Occupation	Intended Destination																					
	P.E.I.		N.S.		N.B.		Que.		Ont.		Man.		Sask.		Alta.		B.C.		Yukon and N.W.T.		Canada		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals
Skilled Workers—	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Farming class	19	1	114	3	73	1	257	12	2,264	124	307	66	296	16	440	27	471	58	1	–	4,242	308	4,550
Clerical class	7	1	41	54	27	22	329	248	1,113	1,273	81	76	44	38	84	58	231	336	3	–	1,960	2,106	4,066
Professional class	9	2	42	44	22	28	260	99	521	323	62	34	39	16	91	32	203	121	5	1	1,254	700	1,954
Merchant class	7	1	56	26	46	13	412	72	1,167	363	72	14	41	7	87	19	385	107	5	–	2,278	622	2,900
Barbers	–	1	2	6	2	2	7	13	39	67	1	6	1	2	5	3	9	13	–	–	66	113	179
Butchers	1	–	4	–	6	1	16	–	96	–	6	–	4	–	8	–	23	–	–	–	164	1	165
Carpenters and woodworkers	2	–	37	–	18	–	93	–	555	–	25	–	20	–	33	–	105	–	–	–	888	–	888
Dressmakers	–	–	–	1	–	1	2	25	3	94	–	8	–	4	–	9	–	20	–	–	5	162	167
Engineers, marine	1	–	27	–	6	–	76	–	51	–	1	–	–	–	4	–	45	–	–	–	211	–	211
Electricians	2	–	10	–	9	–	59	–	452	–	18	–	7	–	28	–	68	–	1	–	654	–	654
Machinists	–	–	6	–	4	–	44	–	241	–	19	–	5	–	17	–	24	–	–	–	360	–	360
Masons and bricklayers	–	–	1	–	–	–	9	–	130	–	4	–	2	–	4	–	14	–	–	–	164	–	164
Painters and glaziers	1	–	11	–	8	–	22	–	168	–	8	–	4	–	11	–	16	–	–	–	249	–	249
Plumbers	–	–	4	–	3	–	12	–	110	–	7	–	2	–	5	–	18	–	–	–	161	–	161
Printers, pressmen and printing trades	–	–	2	–	2	–	24	–	111	9	4	–	2	–	4	–	12	2	1	–	162	11	173
Sheet metal workers	1	–	1	–	1	–	16	–	110	1	2	–	1	–	2	–	8	–	–	–	142	1	143
Tailors	–	–	2	–	–	1	72	21	99	45	6	5	1	2	10	5	7	6	–	–	197	85	282
Textile workers, including weavers and spinners	–	–	1	1	4	3	46	126	126	148	2	5	3	3	–	6	6	11	–	–	188	303	491
Automobile mechanics	2	–	13	–	11	–	30	–	406	1	16	–	6	–	15	–	49	1	–	–	548	2	550
Skilled workers, *n.e.s.*	8	–	111	2	55	3	596	27	2,539	94	100	8	65	3	129	6	441	16	1	–	4,045	159	4,204
Apprentices to skilled trades	2	–	6	–	7	1	57	9	101	13	5	2	2	–	7	–	12	2	–	–	199	27	226
Unskilled and Semi-Skilled Workers for the Following Classes—																							
Lumbermen	1	–	14	–	13	–	12	–	3,799	–	3	–	2	–	6	–	160	–	–	–	4,010	–	4,010
Miners	–	–	8	–	2	–	206	–	169	–	2	–	2	–	9	–	31	–	1	–	430	–	430
General labourers	–	–	49	–	28	–	95	–	407	–	12	–	5	–	18	–	39	–	–	–	653	–	653
Manufacturing	2	1	3	4	6	1	38	9	340	203	4	4	4	3	5	1	17	5	–	–	419	231	650
Construction	–	–	8	–	6	–	134	1	426	–	3	–	9	–	14	–	68	–	–	–	668	1	669
Transportation	6	–	145	1	34	–	150	1	385	2	17	–	17	–	27	–	141	1	1	–	923	5	928
Unskilled and semi-skilled, *n.e.s.*	2	2	88	25	16	15	98	84	312	516	20	35	7	31	21	28	75	115	–	–	639	851	1,490
Other Classes—																							
Domestic servants	–	10	–	183	–	38	–	370	–	910	–	246	–	49	–	76	–	107	–	–	–	1,989	1,989
Dependent children	25	22	187	215	126	111	730	726	2,939	2,829	288	295	217	185	393	335	981	823	6	5	5,892	5,546	11,438
Dependent wives	–	42	–	430	–	305	–	1,573	–	6,259	–	507	–	413	–	740	–	1,957	–	7	–	12,233	12,233
Aircraft	–	–	4	–	4	–	60	1	168	4	10	–	5	–	3	–	19	–	–	–	273	5	278
Commercial pilot	–	–	1	–	–	–	45	–	42	–	5	–	2	–	5	–	11	–	–	–	111	–	111
Miscellaneous and not stated	16	26	63	238	23	140	205	643	551	2,325	43	283	29	285	50	381	300	909	–	1	1,280	5,231	6,511
Totals	114	109	1,061	1,233	562	686	4,212	4,060	19,940	15,603	1,153	1,594	844	1,057	1,535	1,726	3,989	4,610	25	14	33,435	30,692	64,127

10.—Rejections of Immigrants and Others from Overseas, by Principal Causes and Nationalities and Total Rejections from the United States, 1937-47

Item	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
From Overseas											
CAUSE											
Medical	9	9	9	10	16	18	16	16	18	29	51
Civil	217	166	168	235	118	121	163	156	237	410	318
NATIONALITY											
British	94	90	120	101	76	95	127	133	189	276	-
United States	4	7	4	7	Nil	2	1	5	Nil	6	-
Other	128	78	53	137	58	42	51	34	66	157	-
Totals from Overseas	**226**	**175**	**177**	**245**	**134**	**139**	**179**	**172**	**255**	**439**	**369**
Totals from United States	**11,222**	**10,633**	**9,973**	**11,862**	**7,734**	**3,693**	**2,730**	**2,801**	**5,787**	**8,753**	**7,925**
Grand Totals	**11,448**	**10,808**	**10,150**	**12,107**	**7,868**	**3,832**	**2,909**	**2,973**	**6,042**	**9,192**	**8,294**

11.—Deportations of Immigrants and Others, including Accompanying Persons, by Principal Causes and Nationalities, 1937-47

Item	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
CAUSE											
Medical	44	38	33	14	12	20	17	17	28	16	33
Public charges	51	45	29	8	2	Nil	2	3	1	10	8
Criminality	106	101	113	96	74	85	107	104	92	114	143
Misrepresentation and stealth.	154	181	188	241	414	129	109	45	123	198	180
Other causes	33	62	45	32	9	8	9	12	12	5	4
Accompanying deported persons	33	12	5	1	5	2	2	Nil	Nil	Nil	Nil
Totals	**421**	**439**	**413**	**392**	**516**	**244**	**246**	**181**	**256**	**343**	**368**
NATIONALITY											
British	140	139	123	113	140	82	82	61	132	163	176
United States	124	144	162	117	122	98	98	86	64	83	97
Other	157	156	128	162	254	64	66	34	60	97	95

Subsection 2.—Returning Canadians

Since 1924, immigration officers have recorded the number of Canadians returning to Canada from the United States after having left Canada to reside in that country. Statistics of that movement are given in Table 12.

12.—Canadians[1] Returned from the United States, 1926-47

Year	Canadian-Born Citizens	British Born Who Had Acquired Canadian Domicile	Naturalized Canadian Citizens	Total	Year	Canadian-Born Citizens	British Born Who Had Acquired Canadian Domicile	Naturalized Canadian Citizens	Total
1926	53,736	5,792	2,765	62,293	1937	4,443	377	347	5,167
1927	36,838	3,560	1,680	42,078	1938	4,016	333	310	4,659
1928	30,436	2,674	1,010	34,120	1939	3,572	565	473	4,610
1929	27,328	2,265	886	30,479	1940	4,705	207	78	4,990
1930	28,230	2,176	1,202	31,608	1941	3,372	133	59	3,564
1931	18,503	1,135	714	20,352	1942	3,269	170	28	3,467
1932	16,801	809	610	18,220	1943	2,225	93	15	2,333
1933	9,330	457	422	10,209	1944	2,070	120	20	2,210
1934	5,926	739	607	7,272	1945	2,484	172	33	2,689
1935	4,961	632	785	6,378	1946	4,535	558	84	5,177
1936	4,649	297	222	5,168	1947	6,746	1,972	252	8,970

[1] Not including aliens with Canadian domicile.

Statistics of the permanent migration between Canada and the United Kingdom published by the British Board of Trade are given at p. 169 of the 1942 Year Book

Commencing Apr. 1, 1938, enumeration was made of returning Canadians and other non-immigrants entering the Dominion from Newfoundland.

13.—Returning Canadians and Other Non-Immigrants Entering Canada from Newfoundland, 1945-47

Item	1945	1946	1947
Canadians returning after an absence of more than one year..	705	526	409
Canadian born	*199*	*188*	*308*
Other British born	*499*	*329*	*99*
Naturalized with Canadian domicile	*6*	*7*	*Nil*
Aliens with Canadian domicile	*1*	*2*	*2*
Canadians returning after an absence of less than one year....	9,970	7,909	7,741
Other Non-Immigrants	12,368	15,738	14,179
Totals	**23,043**	**24,173**	**22,329**

Subsection 3.—Juvenile Immigration

Juvenile immigration, apart from children accompanying their parents, has not been a large factor since 1931, when the Federal Government ceased to grant financial assistance for this particular form of immigration. There were 33 juvenile immigrants in 1941, 23 in 1942, 28 in 1946, 6 in 1947 and 28 in 1948.* An outline of juvenile immigration, including those children brought to Canada under the British Empire Settlement Agreement, is given at p. 121 of the 1941 Year Book.

Subsection 4.—Oriental Immigration

Under wartime conditions, Oriental immigration ceased to be a problem and the economic effect of the presence of persons of Oriental origin can best be studied from census figures. The Chinese Immigration Act was repealed on May 14, 1947. Chinese immigration has been controlled under the Immigration Act subsequent to that date. An outline of the background and legislation connected with the immigration of Orientals into Canada is given at pp. 122-124 of the 1941 edition of the Year Book, and Table **14**, below, presents statistics of Oriental immigration since 1906, the earliest year for which figures are available. These figures are given by sex at pp. 175-176 of the 1945 Year Book.

*See p. 174 for orphans arriving by special permission during 1948.

14.—Oriental Immigration to Canada, 1906-47

Year	Chinese	Japanese	East Indian	Total	Year	Chinese	Japanese	East Indian	Total
1906.....	70	2,996	2,326	5,392	1927....	2	511	56	569
1907.....	1,542	8,196	2,423	12,161	1928....	1	535	56	592
1908.....	2,163	869	309	3,341	1929....	1	180	49	230
1909.....	1,883	264	24	2,171	1930....	Nil	218	80	298
1910.....	4,667	429	16	5,112	1931....	"	174	52	226
1911.....	6,660	735	7	7,402	1932....	1	119	61	181
1912.....	6,995	682	5	7,682	1933....	1	106	36	143
1913.....	6,227	901	88	7,216	1934....	1	126	33	160
1914.....	1,600	684	Nil	2,284	1935....	Nil	70	26	96
1915.....	82	384	1	467	1936....	"	103	13	116
1916.....	313	555	Nil	868	1937....	1	146	11	158
1917.....	547	890	"	1,437	1938....	Nil	57	9	66
1918.....	2,988	1,039	"	4,027	1939....	"	44	19	63
1919.....	2,084	894	"	2,978	1940....	"	44	6	50
1920.....	1,329	526	9	1,864	1941....	"	4	1	5
1921.....	2,732	483	11	3,226	1942....	"	Nil	3	3
1922.....	810	395	22	1,227	1943....	"	1	Nil	1
1923.....	811	405	30	1,246	1944....	"	Nil	"	-
1924.....	7	511	49	567	1945....	"	"	1	1
1925.....	Nil	424	58	482	1946....	8	3	5	16
1926.....	"	443	70	513	1947....	21	2	149	172

Section 2.—Emigration

Emigration from Canada is an important factor tending to offset the immigration activities of the past and has attained considerable proportions at certain periods. The two main factors have been the migration to the United States of Europeans originally immigrating to Canada and the emigration of native-born Canadians.

A question of considerable interest to Canadians is that of the permanent movement of population between Canada and the United States. In view of the lack of Canadian statistics on emigration, Table **15** has been compiled from figures supplied by the Immigration and Naturalization Service of the United States Department of Justice. Not all of the statistics are available by months, so that it has not been possible to present the figures on a calendar-year basis; they are, therefore, shown on that of the United States fiscal year, July 1-June 30. The column headed "Deportable Aliens Destined to Canada" covers persons permitted to return to Canada in lieu of deportation proceedings.

15.—Presumed Permanent Movement of Population Between Canada and the United States, Years Ended June 30, 1935-47

Year Ended June 30—	From United States to Canada				
	U. S. Citizens Entering Canada	Aliens Entering Canada	Aliens Deported to Canada	Deportable Aliens Destined to Canada	Totals[1]
1935	3,049	1,324	1,554	2,471	8,398
1936	2,872	1,272	1,784	2,721	8,649
1937	2,862	1,027	1,833	3,463	9,185
1938	3,306[2]	1,018	1,941	3,695	9,960[2]
1939	2,933	965	1,915	3,604	9,417
1940	2,695	769	1,503	3,981	8,948
1941	3,331	835	957	2,453	7,576
1942	3,413	595	631	2,187	6,826
1943	2,053	439	464	2,350[2]	5,306
1944	2,282	451	665	3,500[2]	6,898
1945	2,260	567	474	2,600[2]	5,901
1946	4,624	745	672	2,800[2]	8,841[2]
1947	5,386	861	954	3,600[2]	10,801[2]

Year Ended June 30—	From Canada to United States				Net Movement into (+) or from (−) Canada
	Immigrant Aliens from Canada	U.S. Citizens Returning from Canada	Persons Deported from Canada	Totals	
1935	7,695	4,453	224	12,372	−3,974
1936	8,018	4,524	206	12,748	−4,099
1937	11,799	5,211	214	17,224	−8,039
1938	14,070	5,032	153	19,255	−9,295[2]
1939	10,501	4,233	153	14,887	−5,470
1940	10,806	4,264	113	15,183	−6,235
1941	11,280	3,572	79	14,931	−7,355
1942	10,450	4,725	107	15,282	−8,456
1943	9,571	4,892	78	14,541	−9,235
1944	9,821	4,743	69	14,633	−7,735
1945	11,079	5,138	188	16,405	−10,504
1946	20,434	6,769	414	27,617	−18,776
1947	23,467	5,003	589	29,059	−18,258

[1] Figures do not include U.S.A. citizens who have entered Canada on permits and have applied for permission to remain in the country. Total U.S.A. immigrants arriving in Canada given in Table 2, p. 175, include this class. [2] Estimated.

CHAPTER VI.—VITAL STATISTICS*

CONSPECTUS

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Section 1.—Historical Sketch of the Collection of Vital Statistics in Canada

The collection of vital statistics began in Canada, as in England, with the registration of baptisms, marriages, and burials by the ecclesiastical authorities. These registers, maintained by the priests from the first settlement of the country, have made it possible for the vital statistics of the French colony to be compiled from the year 1610†. The system of registration by the Roman Catholic clergy was continued after the cession of the country to the British, and was extended to the newly-formed Protestant congregations of Lower Canada by an Act of 1795, but the registration, particularly of births, among these latter remained seriously defective, both in Lower Canada and in the new Province of Upper Canada, the pioneers often settling far from the authority of government and the ministrations of religion.

In English-speaking Canada, the earlier scheme of registration of baptisms, burials, and marriages by the clergy was later succeeded by Acts for the enforcement of registration of births, marriages, and deaths with the civil authorities. Such Acts were passed in Nova Scotia in 1864, Ontario in 1869, British Columbia in 1872, Manitoba in 1881, New Brunswick in 1887, and Prince Edward Island in 1906. The Provinces of Saskatchewan and Alberta were not established until 1905 and, until provincial Acts were passed after this date, civil registration in these Provinces was governed by ordinances for the Northwest Territories, the first of which was passed in 1888. Registration, particularly of births, was at first very defective in the various provinces.

Prior to 1920 it was impossible to compile satisfactory series of vital statistics figures for Canada as a whole. Obstacles to such a national compilation were: variations in the Vital Statistics legislation as between provinces, incompleteness of registration, lack of uniformity in classification and method of presentation, omission of important data, choice of the fiscal instead of the calendar year as the time unit, and the fact that, for some of the provinces within comparatively recent years, the series of publications is incomplete. In New Brunswick no vital statistics were published from 1895 until 1920.

* This Chapter has been revised by J. T. Marshall, Acting Director, Vital Statistics Division, Dominion Bureau of Statistics.

† For a summary of the vital statistics of the Roman Catholic population from 1610 to 1883, see the Statistical Year Book of Quebec, 1921, English or French edition, p. 51. For details, by years, of this movement of population, see Vol. V of the Census of Canada, 1871, pp. 160-265, and Vol. IV of the Census of Canada, 1881, pp. 134-145.

Two attempts were made in the past to remedy this situation. In the year 1882 the Federal Government instituted a plan for recording annually the mortuary statistics of cities of 25,000 and over, by subsidizing local boards of health to supply the necessary information under special regulations. By 1891, twenty-five cities were included in this plan. With the organization of provincial records, the work of the Federal Government in this connection was abandoned.

The other attempt to meet the situation was through the medium of the Census. In the earlier censuses of the Dominion questions were included in the schedules requiring the number of births and the number and causes of deaths occurring during the preceding year. This method was followed until 1911 when the obviously unreliable character of the results led to the elimination of the questions from the census schedules.

As provided under the Statistics Act of 1918, which established the Dominion Bureau of Statistics, and as the result of two Dominion-Provincial Conferences on vital statistics held at Ottawa, in June and December, 1918, a plan was devised whereby the Dominion Bureau of Statistics and the Vital Statistics offices in each province would co-operate in the production of national vital statistics. Under this national system, while registration of births, stillbirths, marriages and deaths was to be carried out as heretofore by the provincial authorities, the legislation of each province conformed in essential features to a Model Vital Statistics Act—one of the features of which was compulsory registration—adopted by the 1918 Conferences.

An essential part of this scheme of co-operation was that the registration of births, deaths, and marriages be made on standard registration forms to be supplied to the provinces by the Dominion Bureau of Statistics. Copies of the completed forms were to be forwarded to the Dominion Bureau of Statistics. From these were compiled the national statistics and the main tabulations required by the provinces for insertion in the Annual Reports made to their respective Legislatures, thus ensuring uniformity in the treatment of the material. The operation of the arrangement did not in any way prevent provinces or cities from making such additional compilations as they might desire.

On Jan. 1, 1920, eight provinces entered into the co-operative system for the production of national vital statistics. A summary report covering these eight provinces was issued for that year but the first detailed report published by the Dominion Bureau of Statistics was for the year 1921. For reasons connected with its system of registration, Quebec, the oldest province in Canada, found it impossible to enter into the national system at the time it was established. Later the difficulties were overcome and this Province entered the Registration Area from the beginning of the year 1926.

Through the close co-operation of the Provincial Registration Offices and the Dominion Bureau of Statistics, very material progress was made subsequent to the initiation of the national system in modifying and improving registration techniques and procedures. Of particular interest in this regard was the revision in 1935 of the medical certificate of death which is an integral part of the death registration form. There has always been one main objective in the collaborative effort of these early years of the national system—the complete and accurate registration of all 'vital' events in Canada, which in turn is reflected in the availability of more complete and accurate vital statistics data.

Conferences on vital statistics, held in 1943 and 1944, were attended by provincial and Federal officials, by representatives of departments of government, and other interested national agencies. Topics discussed at these conferences

covered such widely diversified problems as: registration affecting Indians, interprovincial exchange of vital records, establishment of standards for delayed registration of birth, definition of vital statistics terms, standards of certification, divorce and adoption records, preliminary study of uniform provincial Marriage Acts—to name but a few.

At the Dominion-Provincial Vital Statistics Conference of 1944 the implications, for vital statistics, of impending social security legislation were studied. The immediate objective of this Conference was the formulation of an arrangement for a relatively speedy, accurate and efficient method of verification of the facts of birth of all children under the age of 16 in Canada. It was imperative that this procedure be accomplished: (a) within the provisions of the provincial vital statistics legislation; (b) without disrupting the normal operation of the Provincial Registration Offices, and (c) with the maximum of speed. This verification process was required in connection with the implementation, on July 1, 1945, of a national scheme of Family Allowances whereby the Federal Government was to pay a monthly allowance on behalf of each child.

The plan recommended by this Conference was approved by individual agreement between the Dominion and the Provinces and provided, among other terms:

(a) that in lieu of transcript copies as heretofore, of all births, stillbirths, marriages and deaths, the Provincial Registration Offices would transmit, currently, to the Dominion Bureau of Statistics, microfilms of the original registrations as well as microfilm copies of all births registered in the Provincial Registration Offices since Jan. 1, 1925;

(b) for the processing, by the Bureau of Statistics, of Hollerith punch cards from these records and the preparation of indexes for governmental and other purposes approved by the provinces;

(c) for the production as heretofore, of national tabulations on vital statistics for the use of the provinces and other agencies;

(d) for the production of an index, showing the births of children in each province and each year of birth and covering all persons born in Canada since Jan. 1, 1925.

Although the National Index is now being used as a posting medium for Family Allowance purposes, its use may be extended to meet other needs, as they may arise, and as approved by the provinces on the recommendation of the Vital Statistics Council for Canada.

The agreement arising out of the Conference of 1944 went into effect on July 1, 1945.

The Order in Council ratifying this Dominion-Provincial Agreement also provided for the establishment of a Vital Statistics Council made up of one representative from each of the Provincial Registration Offices and the Federal administration responsible for registration in Yukon and the Northwest Territories, the Dominion Statistician, as Chairman, and the Directors of the Vital Statistics and Census Divisions of the Bureau of Statistics.

This Council is a representative national body whose primary functions are:

(a) to discuss problems of registration procedure and legislation;

(b) to determine and advise their respective governments of such changes in registration techniques as appear useful or necessary;

(c) to improve, as one of its main objectives, the statistical quality of vital statistics tabulations, and

(d) to make recommendations as to the future use of the National Index.

In short, the Council has become the clearing-house for problems of registration, vital statistics and the National Index, and has been the means of increasing and consolidating that close co-operation between the provincial and national offices

of vital statistics, which has existed since the inauguration of the national system. Its constitution calls for at least one annual meeting and for more frequent meetings when required.

During recent years, the registration of vital events in the several provinces may be considered virtually complete. This is attributable in large measure, not only to the impetus of rationing requirements during the war years, and the implementation of national family allowances, but in addition to an increasing need for birth certification. It is, however, primarily the direct result of the unrelenting efforts to this end, over the years, of the Provincial Registration Offices.

By 1947, it became apparent that the Model Bill of 1918 no longer fully met present day requirements of an adequate registration system, and that the study of new uniform legislation was essential. Accordingly, at the request of several of the provinces, the Minister of Trade and Commerce called a Conference in 1947 at Ottawa for the specific purpose of studying the technical provisions of a new Model Vital Statistics Act.

This Conference was attended by officials in charge of the Provincial Registration Offices, the Legislative Councils of several provinces, and by representatives of national organizations. A final bill, which will incorporate the technical requirements, as laid down by this Conference, will be framed by the *Conference of Commissioners on Uniformity of Legislation in Canada* and will form the basis of any recommendation which may be made to the several Provincial Governments.

Classification of Vital Statistics.—Until recently, vital statistics were all classified by place of occurrence. In 1944, however, the classification of births and deaths by residence was begun; births being classified by the residence of the mother. A number of special tabulations by residence have been made for a few years before 1944; in Tables **1** to **4** the figures for 1941-46 are given by residence. In all other tables of this Chapter, figures for 1944 to 1946 are given by residence, except in Tables **5, 9, 10, 11** and **22**. Headnotes of the tables throughout show the classification used.

For most provincial figures and rates, the change in classification makes comparatively little difference but, for individual localities, the differences may be quite large. In such cases, the figures for the years 1941 and after are not comparable with the five-year averages for the earlier years.

Section 2.—Summary of Vital Statistics

Tables **1** to **5** give a summary of the vital statistics of Canada and the provinces for the years 1926 to 1946.

In comparing the birth, death and marriage rates of the provinces, it is useful to bear in mind that part of the differences observed may be due to differences in the sex and age distribution of their populations. Similarly, changes in these rates may be due partly to changes in this distribution. These remarks also apply to international comparisons of birth, death and marriage rates. For example, in Canada the birth rate of Quebec is approximately the same as that of New Brunswick, and considerably higher than that of Prince Edward Island. Yet the fertility of the female population is highest in New Brunswick and approximately equal in the other two provinces. Over the past 15 years, the death rate in British Columbia has been rising, while in Ontario it has been more or less stable, with the result that, though 15 years ago the death rate in Ontario was considerably higher than in

British Columbia, at present their rates are about equal. This does not mean, however, that the mortality rates at each age have risen in British Columbia. On the contrary, they have been falling. The death rate for the population as a whole has been rising because the increasing proportion of population in the higher age groups has more than outweighed the fall in the mortality rates at each age.

1.—Live Births and Birth Rates, per 1,000 Population, by Provinces, 1944-46, with Five-Year Averages, 1926-46

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]
	LIVE BIRTHS									
Av. 1926-30....	1,735	11,016	10,327	82,771	68,704	14,392	21,298	15,924	10,355	236,521
Av. 1931-35....	1,961	11,486	10,440	78,888	65,000	13,690	20,325	16,557	10,005	228,352
Av. 1936-40....	2,054	12,060	11,105	78,509	64,461	13,515	18,675	16,282	12,106	228,767
Av. 1941-45....	2,187	15,082	12,961	98,153	77,506	15,782	18,492	18,908	17,685	276,756
1944.....	2,286	15,598	13,467	102,262	78,090	16,008	18,138	19,372	18,999	284,220
1945.....	2,258	15,527	13,693	104,283	78,974	16,253	18,926	19,939	18,877	288,730
1946.....	2,793	17,914	16,274	111,285	97,446	18,794	21,433	22,184	22,609	330,732
	RATES PER 1,000 POPULATION									
Av. 1926-30....	19·7	21·4	25·8	30·5	21·0	21·7	24·7	24·2	16·2	24·1
Av. 1931-35....	21·8	21·9	24·9	26·6	18·5	19·4	21·9	22·1	14·0	21·5
Av. 1936-40....	21·9	21·7	25·1	24·6	17·5	18·8	20·4	20·8	15·6	20·5
Av. 1941-45....	23·8	25·1	28·0	28·5	19·8	21·6	21·6	23·6	19·8	23·5
1944.....	25·1	25·5	29·1	29·2	19·7	21·9	21·4	23·7	20·4	23·8
1945.....	24·5	25·0	29·3	29·3	19·7	22·1	22·4	24·1	19·9	23·9
1946.....	29·7	29·3	33·9	30·7	23·8	25·9	25·7	27·6	22·5	26·9

[1] Exclusive of the Territories.

2.—Deaths and Death Rates, per 1,000 Population, by Provinces, 1944-46, with Five-Year Averages, 1926-46

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]
	DEATHS									
Av. 1926-30....	969	6,362	5,019	36,645	36,650	5,507	6,256	5,530	5,986	108,925
Av. 1931-35....	1,001	6,073	4,710	32,796	35,782	5,413	6,037	5,447	6,344	103,602
Av. 1936-40....	1,080	6,126	5,040	33,221	37,794	6,136	6,366	6,054	7,697	109,514
Av. 1941-45[2]....	967	6,313	5,009	34,312	39,715	6,601	6,504	6,346	9,330	115,097
1944.....	926	6,229	5,131	34,813	39,781	6,701	6,454	6,320	9,697	116,052
1945.....	888	5,625	4,865	33,348	39,499	6,550	6,429	6,454	9,756	113,414
1946.....	874	6,046	4,866	33,690	39,758	6,537	6,422	6,601	10,137	114,931
	RATES PER 1,000 POPULATION									
Av. 1926-30....	11·0	12·4	12·5	13·5	11·2	8·3	7·3	8·4	9·3	11·1
Av. 1931-35....	11·1	11·6	11·3	11·0	10·2	7·7	6·5	7·3	8·9	9·8
Av. 1936-40....	11·5	11·0	11·4	10·4	10·3	8·5	7·0	7·7	9·9	9·8
Av. 1941-45....	10·5	10·5	10·8	10·0	10·2	9·0	7·6	7·9	10·4	9·8
1944.....	10·2	10·2	11·1	9·9	10·0	9·2	7·6	7·7	10·4	9·7
1945.....	9·7	9·1	10·4	9·4	9·9	8·9	7·6	7·8	10·3	9·4
1946.....	9·3	9·9	10·1	9·3	9·7	9·0	7·7	8·2	10·1	9·4

[1] Exclusive of the Territories. [2] See headnote.

3.—Infant Mortality[1] and Rates per 1,000 Live Births, by Provinces, 1944-46, with Five-Year Averages, 1926-45

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[2]
	INFANT DEATHS									
Av. 1926-30....	122	934	1,040	10,518	5,091	1,031	1,560	1,195	571	22,063
Av. 1931-35....	131	840	857	7,757	3,962	835	1,260	997	463	17,101
Av. 1936-40....	142	782	913	6,470	3,196	773	1,025	869	532	14,701
Av. 1941-45[3]....	114	870	956	6,705	3,265	807	862	829	686	15,094
1944.....	102	838	1,035	6,918	3,346	786	858	889	767	15,539
1945.....	102	823	966	6,464	3,209	781	824	862	792	14,823
1946.....	97	822	1,066	6,110	3,653	885	1,004	945	852	15,434
	RATES PER 1,000 LIVE BIRTHS									
Av. 1926-30....	70	85	101	127	74	72	73	75	55	93
Av. 1931-35....	67	73	82	98	61	61	62	60	46	75
Av. 1936-40....	69	65	82	82	50	57	55	53	44	64
Av. 1941-45....	52	58	74	68	42	51	47	44	39	55
1944.....	45	54	77	68	43	49	47	46	40	55
1945.....	45	53	71	62	41	48	44	43	42	51
1946.....	35	46	66	55	37	47	47	43	38	47

[1] Under one year of age. [2] Exclusive of the Territories. [3] See headnote.

4.—Natural Increase and Rates per 1,000 Population, by Provinces, 1944-46, with Five-Year Averages, 1926-45

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]
	EXCESS OF BIRTHS OVER DEATHS									
Av. 1926-30....	766	4,653	5,308	46,126	32,054	8,885	15,042	10,393	4,369	127,596
Av. 1931-35....	960	5,414	5,730	46,092	29,218	8,277	14,288	11,110	3,661	124,750
Av. 1936-40....	974	5,934	6,065	45,288	26,668	7,379	12,310	10,228	4,408	119,253
Av. 1941-45[2]....	1,220	8,769	7,952	63,841	37,791	9,181	11,988	12,562	8,355	161,659
1944.....	1,360	9,369	8,336	67,449	38,309	9,307	11,684	13,052	9,302	168,168
1945.....	1,370	9,902	8,828	70,935	39,475	9,703	12,497	13,485	9,121	175,316
1946.....	1,919	11,868	11,408	77,595	57,688	12,257	15,011	15,583	12,472	215,801
	RATES PER 1,000 POPULATION									
Av. 1926-30....	8·7	9·0	13·2	17·0	9·8	13·4	17·5	15·8	6·8	13·0
Av. 1931-35....	10·7	10·3	13·6	15·6	8·3	11·7	15·4	14·8	5·1	11·7
Av. 1936-40....	10·4	10·7	13·7	14·2	7·2	10·3	13·4	13·1	5·7	10·7
Av. 1941-45....	13·3	14·6	17·2	18·5	9·6	12·6	14·0	15·7	9·4	13·7
1944.....	14·9	15·3	18·0	19·3	9·7	12·7	13·8	16·0	10·0	14·1
1945.....	14·8	15·9	18·9	19·9	9·8	13·2	14·8	16·3	9·6	14·5
1946.....	20·4	19·4	23·8	21·4	14·1	16·9	18·0	19·4	12·4	17·5

[1] Exclusive of the Territories [2] See headnote.

5.—Marriages and Rates per 1,000 Population, by Provinces, 1944-46, with Five-Year Averages, 1926-45

NOTE.—Marriages are classified by place of occurrence.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]
	MARRIAGES									
Av. 1926-30....	473	3,224	2,970	18,731	25,449	4,951	6,036	5,265	4,786	71,886
Av. 1931-35....	496	3,522	2,737	17,089	24,260	5,015	5,680	5,530	4,267	68,594
Av. 1936-40....	623	4,796	3,801	27,111	32,719	6,931	6,599	7,192	7,053	96,824
Av. 1941-45....	686	6,302	4,433	33,126	38,042	7,295	6,541	7,977	9,535	113,936
1944.....	646	5,942	3,813	31,922	31,227	6,294	5,919	7,299	8,434	101,496
1945.....	680	5,992	4,491	33,211	34,137	6,579	6,369	7,310	9,262	108,031
1946.....	837	6,549	5,866	36,650	46,073	8,594	8,279	9,478	11,762	134,088
	RATES PER 1,000 POPULATION									
Av. 1926-30....	5·4	6·3	7·4	6·9	7·8	7·5	7·0	8·0	7·5	7·3
Av. 1931-35....	5·5	6·7	6·5	5·8	6·9	7·1	6·1	7·4	6·0	6·5
Av. 1936-40....	6·6	8·6	8·6	8·5	8·9	9·6	7·2	9·2	9·1	8·7
Av. 1941-45....	7·5	10·5	9·6	9·6	9·7	10·0	7·6	10·0	10·7	9·7
1944.....	7·1	9·7	8·3	9·1	7·9	8·6	7·0	8·9	9·0	8·5
1945.....	7·4	9·6	9·6	9·3	8·5	8·9	7·5	8·8	9·8	8·9
1946.....	8·9	10·7	12·2	10·1	11·2	11·8	9·9	11·8	11·7	10·9

[1] Exclusive of the Territories.

Canadian Life Tables.—Life tables have been calculated on the basis of the population of 1941 and the deaths of 1940-42. These are the second official life tables for Canada to be published, the first having been calculated on the basis of the deaths of 1930-32 and the population of 1931. The life table for 1941 is given in abbreviated form in Table 6.

Life tables give a summary of the health and general conditions of survival of the population in a conventional, standard form. A hypothetical number (100,000) births of each sex is assumed. The life tables show how, on the basis of the mortality rates at each age in the given years, these 100,000 of each sex are reduced in number by death. Thus, for example, in 1940-42, of 100,000 males born, 6,250 died in their first year, so that 93,750 survived to one year of age; 676 died in their second year, so that 93,074 survived to two years of age; and so on. At 100 years of age, only 50 of the original 100,000 would have survived. The probability of death at each age is the ratio between the number of deaths and the population at each age. Finally, the expectation of life is the average number of years which a person might expect to live if the mortality rates in the given years remained constant.

6.—Canadian Life Tables, 1941, Based on Population, 1941, and Deaths, 1940-42

Age	Males				Females			
	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying at Each Age	Expectation of Life	Number Living at Each Age	Number Dying Between Each Age and the Next	Probability of Dying at Each Age	Expectation of Life
Under 1 year	100,000	6,250	·06250	62·95	100,000	4,931	·04931	66·29
1 year	93,750		·00721	66·14	95,069		·00634	68·73
2 years	93,074	676	·00398	65·62	94,466	603	·00326	68·16
3 "	92,704	370	·00294	64·88	94,158	308	·00262	67·38
4 "	92,431	273	·00234	64·07	93,911	247	·00194	66·56
5 "	92,215	216	·00198	63·22	93,729	182	·00157	65·69
10 "	91,486	729	·00122	58·70	93,152	577	·00090	61·08
15 "	90,901	585	·00163	54·06	92,703	449	·00122	56·36
20 "	90,014	887	·00241	49·51	92,030	673	·00180	51·76
25 "	88,867	1,147	·00257	45·18	91,107	923	·00231	47·26
30 "	87,741	1,126	·00260	40·73	89,995	1,112	·00260	42·81
35 "	86,533	1,208	·00317	36·26	88,760	1,235	·00314	38·37
40 "	84,992	1,541	·00428	31·87	87,242	1,518	·00386	33·99
45 "	82,925	2,067	·00598	27·60	85,393	1,849	·00504	29·67
50 "	80,051	2,874	·00895	23·49	82,959	2,434	·00701	25·46
55 "	75,882	4,169	·01346	19·64	79,606	3,353	·01042	21·42
60 "	70,015	5,867	·02029	16·06	74,830	4,776	·01528	17·62
65 "	61,943	8,072	·03090	12·81	68,211	6,619	·02426	14·08
70 "	51,294	10,649	·04759	9·94	58,711	9,500	·03812	10·93
75 "	38,121	13,173	·07547	7·48	46,172	12,539	·06358	8·19
80 "	23,635	14,486	·11738	5·54	30,724	15,448	·10196	6·03
85 "	11,183	12,452	·17404	4·05	15,978	14,746	·15776	4·35
90 "	3,596	7,587	·25042	2·93	5,676	10,302	·23391	3·13
95 "	652	2,944	·35167	2·09	1,170	4,506	·32852	2·26
100 "	50	602	·48197	1·46	114	1,056	·44010	1·64
		50				114		

Mortality rates for males are higher at all ages than for females, particularly in infancy. Infant mortality in 1940-42 was 62 per 1,000 live births for males compared to 49 per 1,000 for females. Because infant mortality is still so high, the expectation of life at birth is less for both sexes than at age 1. Males who have survived their first year have an expectation of life of 66 years and females of 69 years. The expectation of life of a boy at age 15 is 54 years, and of a girl 56 years. At age 25, it is 45 years for men and 47 for women. At age 70, when people become eligible for old age pensions, it is 10 years for men and 11 years for women. In 1930-32 mortality rates for females from 25 to 40 years of age were higher than those for males. In 1940-42, however, because of the reduction in maternal mortality, this was not so.

Section 3.—Births

International Comparisons.—A comparison of the birth rates in Canada and the provinces with those in other countries is shown in Table **7**. For Germany, Italy and most countries that were occupied by the enemy, the figures are given for 1939. Later figures, even when available, cannot be considered reliable. This also applies to later tables showing international comparisons, i.e., Tables **20**, **21** and **35**.

7.—Birth Rates per 1,000 Population of Various Countries of the World Compared with Canada and the Provinces for Recent Years

(Sources: Monthly Bulletin of Statistics of the United Nations and other official sources. In certain cases final figures are not available and provisional data are shown.)

Country or Province	Year	Birth Rate	Country	Year	Birth Rate
Palestine (excluding Bedouins)	1946	44·4	Bulgaria	1946	25·7
Costa Rica	1946	41·7	Japan	1946	25·3
Panama	1946	39·1	New Zealand (excluding Maoris)	1946	25·2
Ceylon	1945	36·8	Iceland	1944	25·1
Salvador	1946	36·1	Roumania	1946	23·8
Newfoundland and Labrador	1945	34·9	Australia	1946	23·6
Chile	1946	32·4	Denmark	1946	23·4
Jamaica	1946	30·8	United States	1946	23·3
Netherlands	1946	30·2	Eire	1946	22·9
British India	1946	27·9	Northern Ireland	1946	22·6
Union of South Africa (Whites)	1946	27·7	Italy	1946	22·5
Finland	1946	27·6	Norway	1946	22·5
Canada	**1946**	**26·9**	Spain	1946	21·4
New Brunswick	1946	33·9	France	1946	20·6
Quebec	1946	30·7	Scotland	1946	20·3
Prince Edward Island	1946	29·7	Switzerland	1946	20·0
Nova Scotia	1946	29·3	Sweden	1946	19·6
Alberta	1946	27·6	England and Wales	1946	19·1
Manitoba	1946	25·9	Hungary[1]	1946	18·4
Saskatchewan	1946	25·7	Belgium[2]	1946	18·2
Ontario	1946	23·8	Austria	1946	15·9
British Columbia	1946	22·5			

[1] Trianon Territory. [2] Adjusted.

In Canada, in 1921, the birth rate was 29·4 per 1,000. Since a rate of 35 per 1,000 is very high for countries of modern western civilization, the Canadian birth rate had probably not fallen far or for long before then. But it fell continuously until 1937, when it was 20·0 per 1,000. Since then, owing to economic recovery and the War it rose to 21·5 in 1940, to 24·0 in 1943 and to 26·9 in 1946. The birth rate in the provinces followed the same general trend, though in the Maritimes the fall stopped before 1930.

Sex of Live Births.—Wherever birth statistics have been collected, they have shown an excess of male over female births. No conclusive explanation of this excess has yet been given. Nevertheless it is so much of an accepted statistical fact that a proper ratio of male to female births has become one of the criteria of complete registration. The number of males to every 1,000 females born in Canada in 1941-46 has varied between 1,057 and 1,067.

Hospitalization and medical attendance at birth have increased in Canada. In 1926-30, only 22 p.c. of live births occurred in hospitals, while in 1940-42 the proportion was 49·5 p.c. and in 1946, 68 p.c. The provinces still differ greatly in this respect. In 1946 the proportions of births which occurred in hospitals were Quebec 36 p.c., New Brunswick 54 p.c., Nova Scotia 74 p.c., Ontario 85 p.c., Manitoba and Saskatchewan 87 p.c., Alberta 93 p.c., and British Columbia 95 p.c.

8.—Live Births by Sex, Birth Rates, and Ratio of Males to Females, by Provinces, 1944-46

NOTE.—Figures are by place of residence.

Province and Year	Total Live Births	Rate per 1,000 Population	Males		Females		Males to 1,000 Females
			Number	P.C. of Total	Number	P.C. of Total	
Prince Edward Island....1944	2,286	25·1	1,158	50·7	1,128	49·3	1,027
1945	2,258	24·5	1,167	51·7	1,091	48·3	1,070
1946	2,793	29·7	1,444	51·7	1,349	48·3	1,070
Nova Scotia....1944	15,598	25·5	8,060	51·7	7,538	48·3	1,069
1945	15,527	25·0	8,086	52·1	7,441	47·9	1,087
1946	17,914	29·3	9,133	51·0	8,781	49·0	1,040
New Brunswick....1944	13,467	29·1	6,949	51·6	6,518	48·4	1,066
1945	13,693	29·3	6,999	51·1	6,694	48·9	1,046
1946	16,274	33·9	8,293	51·0	7,981	49·0	1,039
Quebec....1944	102,262	29·2	52,673	51·5	49,589	48·5	1,062
1945	104,283	29·3	53,582	51·4	50,701	48·6	1,057
1946	111,285	30·7	57,280	51·5	54,005	48·5	1,061
Ontario....1944	78,090	19·7	40,455	51·8	37,635	48·2	1,075
1945	78,974	19·7	40,817	51·7	38,157	48·3	1,070
1946	97,446	23·8	50,385	51·7	47,061	48·3	1,071
Manitoba....1944	16,008	21·9	8,324	52·0	7,684	48·0	1,083
1945	16,253	22·1	8,425	51·8	7,828	48·2	1,076
1946	18,794	25·9	9,645	51·3	9,149	48·7	1,054
Saskatchewan....1944	18,138	21·4	9,330	51·4	8,808	48·6	1,059
1945	18,926	22·4	9,794	51·7	9,132	48·3	1,072
1946	21,433	25·7	10,974	51·2	10,459	48·8	1,049
Alberta....1944	19,372	23·7	9,978	51·5	9,394	48·5	1,062
1945	19,939	24·1	10,315	51·7	9,624	48·3	1,072
1946	22,184	27·6	11,302	50·9	10,882	49·1	1,039
British Columbia....1944	18,999	20·4	9,725	51·2	9,274	48·8	1,049
1945	18,877	19·9	9,727	51·5	9,150	48·5	1,063
1946	22,609	22·5	11,489	50·8	11,120	49·2	1,033
Canada (Exclusive of the Territories)....**1944**	**284,220**	**23·8**	**146,652**	**51·6**	**137,568**	**48·4**	**1,066**
1945	**288,730**	**23·9**	**148,912**	**51·6**	**139,818**	**48·4**	**1,065**
1946	**330,732**	**26·9**	**169,945**	**51·4**	**160,787**	**48·6**	**1,057**

Births in Urban Centres.—Table 9 shows the number of live births in the urban centres of Canada with 10,000 population or over in 1941. The five-year averages for 1936-40 show births by place of occurrence. Many of these births were to women who lived elsewhere. The figures for 1944-46 are by the residence of the mother, and show the number of births, wherever occurring, to residents of each centre. The two sets of figures are thus not comparable.

9.—Live Births in Urban Centres of 10,000 Population or Over, 1944-46, with Five-Year Averages, 1936-45

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years they are by place of residence.

Province and Urban Centre	Census Populations		Average, 1936-40	Average, 1941-45	1944	1945	1946
	1931	1941					
Prince Edward Island—	No.	No.	No.	No.	No.	No.	No.
Charlottetown	12,361	14,821	440	385	407	395	479
Nova Scotia—							
Dartmouth	9,100	10,847	122	405	430	430	476
Glace Bay	20,706	25,147	892	729	718	718	863
Halifax	59,275	70,488	1,772	2,027	2,094	2,044	2,352
Sydney	23,089	28,305	640	930	953	940	1,035
Truro	7,901	10,272	226	292	303	274	342
New Brunswick—							
Fredericton	8,830	10,062	241	228	237	287[1]	395[1]
Moncton	20,689	22,763	550	644	721	667	774
Saint John	47,514	51,741	1,294	1,364	1,445	1,322	1,682

[1] Includes Devon.

9.—Live Births in Urban Centres of 10,000 Population or Over, 1944-46, with Five-Year Averages, 1936-45—concluded

Province and Urban Centre	Census Populations		Average, 1936-40	Average, 1941-45	1944	1945	1946
	1931	1941					
	No.	No.	No.	No.	No.	No.	No.
Quebec—							
Cap-de-la-Madeleine	8,748	11,961	281	371	363	388	449
Chicoutimi	11,877	16,040	551	890	1,091	904	936
Drummondville	6,609	10,555	253	370	403	385	448
Granby	10,587	14,197	335	464	451	515	606
Hull	29,433	32,947	842	1,174	1,209	1,229	1,383
Joliette	10,765	12,749	298	407	411	406	438
Jonquière	9,448	13,769	477	862	968	861	729
Lachine	18,630	20,051	394	501	504	534	609
Lévis	11,724	11,991	231	328	350	339	386
Montreal	818,577	903,007	17,993	21,356	22,225	22,775	24,099
Outremont	28,641	30,751	52	331	353	316	404
Quebec	130,594	150,757	3,976	4,315	4,605	4,402	4,457
St. Hyacinthe	13,448	17,798	409	419	459	417	487
St. Jean	11,256	13,646	311	415	446	457	4[illegible]3
St. Jérôme	8,967	11,329	257	429	458	454	530
Shawinigan Falls	15,345	20,325	528	850	896	957	867
Sherbrooke	28,993	35,965	872	1,141	1,166	1,256	1,309
Sorel	10,320	12,251	240	480	572	550	454
Thetford Mines	10,701	12,716	342	417	423	409	437
Three Rivers	35,450	42,007	1,144	1,235	1,199	1,199	1,255
Valleyfield	11,411	17,052	350	665	703	631	660
Verdun	60,745	67,349	827	1,520	1,579	1,588	1,826
Westmount	24,235	26,047	260	251	305	275	345
Ontario—							
Belleville	13,790	15,710	478	383	369	391	469
Brantford	30,107	31,948	626	765	757	797	1,016
Brockville	9,736	11,342	303	260	271	276	297
Chatham	14,569	17,369	735	412	362	413	472
Cornwall	11,126	14,117	606	506	526	516	701
Forest Hill	5,207	11,757	7	158	183	188	143
Fort William	26,277	30,585	520	648	653	668	872
Galt	14,006	15,346	303	312	342	299	460
Guelph	21,075	23,273	294	469	466	456	580
Hamilton	155,547	166,337	2,928	3,462	3,676	3,489	4,623
Kingston	23,439	30,126	763	844	875	842	1,081
Kitchener	30,793	35,657	788	711	659	743	936
London	71,148	78,264	1,589	1,689	1,735	1,774	2,266
Niagara Falls	19,046	20,589	422	540	533	527	654
North Bay	15,528	15,599	407	362	385	383	455
Oshawa	23,439	26,813	545	584	579	593	675
Ottawa	126,872	154,951	3,178	3,357	3,492	3,609	4,518
Owen Sound	12,839	14,002	348	315	324	282	402
Pembroke	9,368	11,159	296	299	303	302	374
Peterborough	22,327	25,350	675	680	682	759	970
Port Arthur	19,818	24,426	606	558	538	560	691
St. Catharines	24,753	30,275	648	734	790	757	895
St. Thomas	15,430	17,132	398	382	382	368	433
Sarnia	18,191	18,734	464	447	465	509	605
Sault Ste. Marie	23,082	25,794	595	725	726	744	828
Stratford	17,742	17,038	393	288	314	265	399
Sudbury	18,518	32,203	1,317	1,324	1,282	1,237	1,230
Timmins	14,200	28,790	855	833	683	751	851
Toronto	631,207	667,457	10,441	11,163	11,336	11,360	15,448
Welland	10,709	12,500	356	357	369	323	375
Windsor	98,179	105,311	2,173	2,383	2,426	2,248	2,907
Woodstock	11,395	12,461	283	267	236	265	342
Manitoba—							
Brandon	17,082	17,383	278	356	389	355	395
St. Boniface	16,305	18,157	1,290	425	471	448	603
Winnipeg	218,785	221,960	3,785	4,087	4,165	4,276	5,291
Saskatchewan—							
Moose Jaw	21,299	20,753	496	462	470	454	591
Prince Albert	9,905	12,508	508	340	365	368	437
Regina	53,209	58,245	1,331	1,172	1,155	1,205	1,572
Saskatoon	43,291	43,027	928	843	899	907	1,251
Alberta—							
Calgary	83,761	88,904	1,720	2,058	2,190	2,231	2,559
Edmonton	79,197	93,817	2,731	2,379	2,565	2,793	3,431
Lethbridge	13,489	14,612	638	372	409	421	483
Medicine Hat	10,300	10,571	355	287	332	300	356
British Columbia—							
New Westminster	17,524	21,967	789	493	504	504	564
Vancouver	246,593	275,353	4,039	5,397	5,827	5,711	6,979
Victoria	39,082	44,068	854	1,150	1,383	1,130	1,211

Illegitimacy.—Less than 5 p.c. of live births in Canada are illegitimate. This percentage is comparatively low. The apparent increase since 1926 is partly due to the more complete registration of illegitimate births, brought about by the co-operation of provincial registration officials and social welfare agencies, and by their more sensible and sympathetic treatment of illegitimacy.

10.—Illegitimate Live Births, and Percentages of Total Live Births, by Provinces, 1944-46, with Five-Year Averages, 1926-45

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Item		P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada [1]
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Totals—Illegitimate Live Births—	Av. 1926-30	42	558	299	2,334	2,196	501	489	479	240	7,138
	Av. 1931-35	74	652	373	2,431	2,707	501	651	613	330	8,333
	Av. 1936-40	83	766	415	2,539	2,939	506	663	643	475	9,030
	Av. 1941-45	115	1,067	619	3,001	3,712	595	697	849	879	11,534
	1944	101	1,165	698	3,098	3,764	653	703	849	1,048	12,079
	1945	138	1,228	761	3,058	4,075	677	829	1,050	1,121	12,937
	1946	149	1,288	773	3,031	4,165	750	959	1,218	1,262	13,595
Percentages—Illegitimate to Total Live Births—											
	Av. 1926-30	2·4	5·1	2·9	2·8	3·2	3·5	2·3	3·0	2·3	3·01
	Av. 1931-35	3·8	5·7	3·6	3·1	4·2	3·7	3·2	3·7	3·3	3·65
	Av. 1936-40	4·0	6·4	3·7	3·2	4·6	3·7	3·6	3·9	3·9	3·95
	Av. 1941-45	5·3	7·1	4·8	3·1	4·8	3·8	3·8	4·5	5·0	4·17
	1944	4·4	7·5	5·2	3·0	4·8	4·1	3·9	4·4	5·5	4·25
	1945	6·1	7·9	5·6	2·9	5·2	4·2	4·4	5·3	5·9	4·48
	1946	5·3	7·2	4·7	2·7	4·3	4·0	4·5	5·5	5·6	4·11

[1] Exclusive of the Territories.

Stillbirths.—Table **11** shows the number of stillbirths in Canada and the provinces, together with the rates per 1,000 live births. The rate of stillbirths has been falling since 1926, though not equally in all provinces. The rate of illegitimate stillbirths per 1,000 illegitimate live births is considerably higher than the rate of legitimate stillbirths, and consequently higher than the over-all rate.

11.—Stillbirths, and Rates per 1,000 Live Births, by Provinces, 1944-46 with Five-Year Averages, 1926-45

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Item		Born to All Mothers										Born to Unmarried Mothers	
		P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]	No.	P.C. of Total
Totals—	Av. 1926-30	43	365	283	2,212	2,761	479	551	467	297	7,458	356	4·77
	Av. 1931-35	67	401	302	2,337	2,284	383	488	421	247	6,930	381	5·50
	Av. 1936-40	61	334	282	2,386	2,008	340	393	359	248	6,410	337	5·26
	Av. 1941-45	50	385	291	2,797	1,982	344	349	329	308	6,835	355	5·20
	1944	42	405	283	2,814	1,866	315	344	335	301	6,705	369	5·50
	1945	40	327	267	2,880	1,844	327	334	312	337	6,668	336	5·04
	1946	63	378	321	2,927	2,016	360	372	363	321	7,121	353	4·96
												Per 1,000 Illegitimate Live Births	
Rates per 1,000 Live Births—	Av. 1926-30	24·8	33·1	27·4	26·7	40·2	33·3	25·9	29·3	28·7	31·5	49·9	
	Av. 1931-35	34·2	34·9	28·9	29·6	35·1	28·0	24·0	25·4	24·7	30·3	45·7	
	Av. 1936-40	29·7	27·7	25·4	30·4	31·2	25·2	21·0	22·0	20·5	28·0	37·3	
	Av. 1941-45	23·0	25·5	22·4	28·5	25·6	21·8	18·9	17·4	17·4	24·7	30·8	
	1944	18·4	26·0	21·0	27·5	23·9	19·7	19·0	17·3	15·8	23·6	30·5	
	1945	17·7	21·1	19·5	27·6	23·3	20·1	17·6	15·6	17·9	23·1	26·0	
	1946	22·6	21·1	19·7	26·3	20·7	19·2	17·4	16·4	14·2	21·5	26·0	

[1] Exclusive of the Territories.

Multiple Births.—Approximately one confinement in 85 in Canada results in the birth of more than one child. In 1926-46, there have been 61,444 such confinements, of which 60,878 were twins and 559 were triplets. There have been six sets of quadruplets. The Dionne quintuplets were born in 1934.

Table 12 shows that the proportion of stillbirths is higher among multiple than among single births. It is about twice as high for twins and between two and six times as high for triplets.

12.—Single and Multiple Births, Live and Stillborn, 1944-46, with Five-Year Averages, 1936-45

NOTE.—Figures for 1944 to 1946 are by residence; for previous years by place of occurrence.

Confinements and Births	Average 1936-40	Average 1941-45	1944	1945	1946
	NUMBERS				
Confinements—					
Single	229,778	277,398	284,563	288,734	330,405
Twin	2,667	3,096	3,140	3.283	3,664
Triplet	21	26	[2]6	30	40
Quadruplet	[1]	[1]	1	2	Nil
Totals, Confinements	**232,466**	**280,520**	**287,730**	**292,049**	**334,109**
Births—					
Single—					
Live	223,668	270,857	278,144	282,330	323,586
Stillborn	6,110	6,540	6,419	6,404	6,819
Twin—					
Live	5,041	5,902	6,003	6,310	7,034
Stillborn	293	289	277	256	294
Triplet—					
Live	56	70	69	83	112
Stillborn	7	8	9	7	8
Quadruplet—					
Live	[1]	[1]	4	7	–
Stillborn	Nil	[1]	Nil	1	–
Totals, Births	**235,177**	**283,670**	**290,925**	**295,398**	**337,853**
Live	228,767	276,832	284,220	288,730	330,732
Stillborn	6,410	6,838	6,705	6,668	7,121
	PERCENTAGES				
Confinements—					
Single	98·8	98·9	98·9	98·9	98·9
Twin	1·1	1·1	1·1	1·1	1·1
Triplet	[2]	[2]	[2]	[2]	[2]
Quadruplet	[2]	[2]	[2]	[2]	[2]
Totals, Confinements	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Births—					
Single—					
Live	97·3	97·6	97·7	97·8	97·9
Stillborn	2·7	2·4	2·3	2·2	2·1
Twin—					
Live	94·5	95·3	95·6	96·1	96·0
Stillborn	5·5	4·7	4·4	3·9	4·0

[1] Two quadruplet confinements occurred in 1937, one in 1944 and two in 1945. [2] Less than one-tenth of one per cent.

12.—Single and Multiple Births, Live and Stillborn, 1944-46, with Five-Year Averages, 1936-45—concluded

NOTE.—Figures for 1944 to 1946 are by residence; for previous years by place of occurrence.

Confinements and Births	Average 1936-40	Average 1941-45	1944	1945	1946
	PERCENTAGES—concluded				
Births—concluded					
Triplet—					
Live	88·9	89·7	88·5	92·2	93·3
Stillborn	11·1	10·3	11·5	7·8	6·7
Quadruplet—					
Live	[1]	[1]	100·0	87·5	–
Stillborn	–	[1]	–	12·5	–
Totals, Births	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Live	97·3	97·6	97·7	97·7	97·9
Stillborn	2·7	2·4	2·3	2·3	2·1

[1] Less than one-tenth of one per cent.

Fertility Rates.—The sex and age distribution of the population is an important factor in determining birth, death and marriage rates. Since more than 95 p.c. of children are born to women between the ages of 15 and 50, differences in the proportion of women of these ages to the population as a whole will cause differences in the birth rates of different countries or regions, even though the fertility of women at each age may be the same. Measures of fertility which are independent of the sex and age distribution of the population have, therefore, been devised. The best known of these are age-specific fertility rates and reproduction rates.

Further details on this subject may be found at pp. 153-154 of the 1947 edition of the Year Book or from the report "Gross and Net Reproduction Rates, Canada and the Provinces," published by the Dominion Bureau of Statistics, Ottawa.

Age of Parents.—The numerical and percentage distribution of legitimate live births by the ages of the parents, is given in Table **13**, of illegitimate live births by the age of the mother, in Table **14**, and of stillbirths by the age of the mother in Table **15**. The average ages of the parents are also given.

It will be seen that the average age of parents is now slightly lower than it was in 1930-32. Besides the fertility rates at each age, two other factors help to determine the average age of parents having children; first, the average age of potential parents, that is, of the population between the ages of 15 and 50 and secondly, the proportions of first and second births to the total. The average age of men between 15 and 50 was 30·9 years in 1931 and 30·7 in 1941; the average age of women was 30·4 in 1931 and again 30·4 in 1941. The changes are thus very small. Other things being equal, a high proportion of first and second births will result in a lower average age of parents. In 1930-32, first births were slightly less than one-quarter of all births, and second births less than one-fifth. First and second births thus were 43 p.c. of the total. In 1940-42, first births were over one-third of all births, and second births nearly one-quarter. First and second births together thus were 56 p.c. of the total. These changes are very great and account for the lower average age of parents.

A number of other facts are shown in Tables **13, 14** and **15.** In the first place, the average age of fathers of legitimate children is about 4 years greater than the average age of mothers. Secondly, the average age of mothers of illegitimate children is about 5 years less than the average age of mothers of legitimate children; in 1930-32 the difference was 6 years. The fact that over two-thirds of illegitimate children are born to mothers under 25 years of age accounts for this difference. Thirdly, the average age of mothers of stillborn children is higher than that of live born. Table **15** shows that the rate of stillbirths per 1,000 live births increases with age of the mother. It is more than twice as high among mothers of 40-44 years as it is among mothers of 20-24, and over three times as high among mothers of 45-49.

13.—Legitimate Live Births, by Age of Parents, 1945 and 1946, with Three-Year Averages, 1930-32 and 1940-42

NOTE.—Figures for 1945 and 1946 are by place of residence; for previous years by place of occurrence.

Age Group	Averages 1930-32		Averages 1940-42		1945		1946	
	FATHERS							
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Under 20 years	960	0·4	1,228	0·5	2,020	0·7	2,278	0·7
20-24 "	25,811	11·1	29,655	12·0	34,301	12·4	43,530	13·7
25-29 "	57,254	24·7	69,053	28·0	69,491	25·2	85,111	26·8
30-34 "	55,661	24·1	64,180	26·0	72,314	26·2	81,656	25·8
35-39 "	43,698	18·9	43,224	17·5	51,866	18·8	56,308	17·8
40-44 "	28,364	12·3	23,132	9·4	27,748	10·1	29,619	9·3
45-49 "	13,362	5·8	10,645	4·3	11,897	4·3	12,375	3·9
50 years or over	6,158	2·7	5,734	2·3	6,003	2·2	6,133	1·9
Totals, Stated Ages	231,268	100·0	246,851	100·0	275,640	100·0	317,010	100·0
Ages not stated	315	–	198	–	153	–	127	–
Totals, All Ages	**231,583**	–	**247,049**	–	**275,793**	–	**317,137**	–
Average Ages of Fathers	33·7		32·8		32·9		32·5	
	MOTHERS							
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Under 20 years	12,460	5·4	14,062	5·7	13,361	4·8	15,535	4·9
20-24 "	58,003	25·1	67,077	27·2	73,534	26·7	87,624	27·6
25-29 "	64,204	27·7	74,897	30·3	80,613	29·2	95,400	30·1
30-34 "	48,567	21·0	50,376	20·4	60,467	21·9	67,573	21·3
35-39 "	33,478	14·5	29,032	11·8	35,074	12·7	37,660	11·9
40-44 "	13,173	5·7	10,383	4·2	11,440	4·2	12,021	3·8
45-49 "	1,382	0·6	1,055	0·4	1,103	0·4	1,168	0·4
50 years or over	24	[1]	20	[1]	20	[1]	9	[1]
Totals, Stated Ages	231,291	100·0	246,902	100·0	275,612	100·0	316,990	100·0
Ages not stated	292	–	147	–	181	–	147	–
Totals, All Ages	**231,583**	–	**247,049**	–	**275,793**	–	317,137	–
Average Ages of Mothers	29·3		28·6		28·8		28·6	

[1] Less than one-tenth of one per cent.

14.—Illegitimate Live Births, by Age of the Mother, 1945 and 1946, with Three-Year Averages, 1930-32 and 1940-42

NOTE.—Figures for 1945 and 1946 are by place of residence; for previous years by place of occurrence.

Age Group	Averages 1930-32		Averages 1940-42		1945		1946	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
Under 20 years	2,648	37·3	2,866	30·7	3,573	29·2	3,892	30·1
20-24 "	2,727	38·4	3,683	39·5	4,896	40·0	5,213	40·3
25-29 "	958	13·5	1,594	17·1	2,105	17·2	2,135	16·5
30-34 "	416	5·9	694	7·4	968	7·9	958	7·4
35-39 "	250	3·5	355	3·8	526	4·3	554	4·3
40-44 "	86	1·2	125	1·3	158	1·3	167	1·3
45-49 "	13	0·2	12	0·1	17	0·1	15	0·1
50 years or over	Nil	-	1	[1]	Nil	-	3	[1]
Totals, Stated Ages	7,098	100·0	9,330	100·0	12,243	100·0	12,937	100·0
Ages not stated	1,197	-	936	-	694	-	658	-
Totals, All Ages	**8,295**	-	**10,266**	-	**12,937**	-	**13,595**	-
Average Ages of Mothers	23·2		23·8		24·0		23·9	

[1] Less than one-tenth of one per cent.

15.—Stillbirths by Age of the Mother, Together with Rates per 1,000 Live Births, 1945 and 1946, with Three-Year Averages, 1930-32 and 1940-42

NOTE.—Figures for 1945 and 1946 are by place of residence, for previous years by place of occurrence.

Age Group	Stillbirths								Rates per 1,000 Live Births			
	Averages 1930-32		Averages 1940-42		1945		1946		Averages 1930-32	Averages 1940-42	1945	1946
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.				
Under 20 years	472	6·4	378	5·5	332	5·0	404	5·7	31·3	22·3	19·6	20·8
20-24 "	1,574	21·2	1,482	21·7	1,431	21·6	1,614	22·8	25·9	20·9	18·2	17·4
25-29 "	1,704	23·0	1,804	26·4	1,609	24·3	1,833	25·9	26·1	23·6	19·5	18·8
30-34 "	1,517	20·5	1,465	21·5	1,502	22·7	1,511	21·3	31·0	28·7	24·4	22·0
35-39 "	1,327	17·9	1,104	16·2	1,132	17·1	1,105	15·6	39·3	37·6	31·8	28·9
40-44 "	712	9·6	520	7·6	547	8·3	541	7·6	53·7	49·5	47·2	44·4
45-49 "	99	1·3	72	1·1	74	1·1	76	1·1	70·7	67·5	66·1	64·2
50 years or over	3	[1]	2	[1]	1	[1]	1	[1]	[2]	[2]	[2]	[2]
Totals, Stated Ages	7,408	100·0	6,827	100·0	6,628	100·0	7,085	100·0	-	-	-	-
Ages not stated	129	-	56	-	40	-	36	-	-	-	-	-
Totals, All Ages	**7,537**	-	**6,883**	-	**6,668**	-	**7,121**	-	**31·4**	**26·7**	**23·1**	**21·5**
Average Ages of Mothers	30·4		30·0		30·3		29·9		-	-	-	-

[1] Less than one-tenth of one per cent.

[2] The number of cases in this age group is too small to justify the calculation of a rate.

Order of Birth.—Tables **16** and **17** show the order of birth of legitimate and illegitimate live-born children according to the age of the mother. In 1946 the proportion of first-born children was 31 p.c. of legitimate live births and 70 p.c. of illegitimate live births.

16.—Order of Birth of Legitimate Live Children Born in Canada, by Age and Residence of Mother, 1946

Order of Birth of Child	All Ages	Age of Mother								
		Under 15 Years	15-19	20-24	25-29	30-34	35-39	40-44	45 Years and Over	Age Not Stated
1st child.....	98,310	19	12,175	44,169	26,941	10,904	3,367	660	33	42
2nd "	78,758	1	2,788	26,283	27,815	15,622	5,353	829	39	28
3rd "	48,185	-	481	10,785	17,818	12,591	5,460	969	59	22
4th "	28,751	-	57	4,258	10,413	8,575	4,401	986	45	16
5th "	18,787	-	8	1,477	6,088	6,292	3,842	992	78	10
6th "	12,430	-	1	464	3,375	4,642	2,982	897	62	7
7th "	8,742	-	2	128	1,722	3,315	2,616	876	73	10
8th "	6,434	-	-	34	785	2,385	2,280	860	87	3
9th "	4,658	-	-	6	290	1,453	2,009	826	74	-
10th "	3,665	-	-	2	82	909	1,729	859	83	1
11th "	2,710	-	-	4	42	458	1,318	801	86	1
12th "	2,001	-	-	2	12	231	965	700	90	1
13th "	1,384	-	-	-	2	108	613	575	86	-
14th "	898	-	-	-	2	48	345	435	68	-
15th "	608	-	-	-	1	15	201	314	77	-
16th "	357	-	-	-	-	10	92	200	55	-
17th "	188	-	-	-	-	4	41	113	30	-
18th "	110	-	-	-	-	2	17	63	28	-
19th "	63	-	-	-	-	-	15	38	10	-
20th and over..	49	-	-	-	-	-	10	25	14	-
Not stated.....	49	-	3	12	12	9	4	3	-	6
Total.....	**317,137**	**20**	**15,515**	**87,624**	**95,400**	**67,573**	**37,660**	**12,021**	**1,177**	**147**

17.—Order of Birth of Illegitimate Live Children Born in Canada, by Age and Residence of Mother, 1946

Order of Birth of Child	All Ages	Age of Mother								
		Under 15 Years	15-19	20-24	25-29	30-34	35-39	40-44	45 Years and Over	Age Not Stated
1st child.....	9,582	85	3,500	3,801	1,073	316	149	36	7	615
2nd "	1,849	5	248	932	427	161	56	15	1	4
3rd "	797	-	28	308	258	134	55	10	1	3
4th "	422	-	2	97	172	95	45	9	1	1
5th "	272	-	-	19	95	81	62	11	2	2
6th "	174	-	-	8	54	53	38	20	1	-
7th "	130	-	-	3	30	39	49	7	2	-
8th "	72	-	-	2	8	29	26	6	1	-
9th "	69	-	-	-	6	22	28	12	1	-
10th "	44	-	-	-	3	11	14	16	-	-
11th "	27	-	-	-	-	7	16	4	-	-
12th "	17	-	-	-	-	3	6	8	-	-
13th "	14	-	-	-	-	-	9	5	-	-
14th "	3	-	-	-	-	-	-	2	1	-
15th "	2	-	-	-	-	-	1	1	-	-
16th "	-	-	-	-	-	-	-	-	-	-
17th "	1	-	-	-	-	-	-	1	-	-
18th "	2	-	-	-	-	-	-	2	-	-
19th "	-	-	-	-	-	-	-	-	-	-
20th and over..	-	-	-	-	-	-	-	-	-	-
Not stated.....	118	-	24	43	9	7	-	2	-	33
Total.....	**13,595**	**90**	**3,802**	**5,213**	**2,135**	**958**	**554**	**167**	**18**	**658**

Birthplace of Parents.—Table 18 shows the numbers and percentages of children whose parents were born in Canada or in different countries abroad. The proportion of children born to British-born and to foreign-born parents is decreasing. This is the result of the smaller immigration of recent years.

18.—Numbers and Percentages of Live Births by Nativity of Parents, 1944-46, with Five-Year Averages, 1936-45

NOTE.—Figures for 1944 to 1946 are by place of residence; for previous years by place of occurrence.

Country of Birth of Parents and Year	Numbers			Percentages		
	Father	Mother	Both Parents	Father	Mother	Both Parents
Canada.....Av. 1936-40	174,282	193,423	162,129	76·2	84·6	70·9
Av. 1941-45	226,901	248,910	213,996	82·0	89·9	77·3
1944	234,488	257,638	221,865	82·5	90·7	78·0
1945	240,868	262,008	226,931	83·4	90·7	78·6
1946	280,169	297,886	259,953	84·7	90·1	78·6
British Empire (other than Canada).....Av. 1936-40	18,052	13,790	4,209	7·9	6·0	1·8
Av. 1941-45	15,619	11,351	2,379	5·6	4·1	0·9
1944	15,185	10,625	2,170	5·4	3·7	0·8
1945	13,828	11,544	1,871	4·8	4·0	0·6
1946	16,106	17,261	2,204	4·9	5·2	0·7
United States.....Av. 1936-40	8,107	7,692	1,760	3·6	3·4	0·8
Av. 1941-45	7,300	6,436	1,182	2·6	2·3	0·4
1944	7,211	6,273	1,073	2·5	2·2	0·4
1945	6,827	6,035	988	2·4	2·1	0·3
1946	7,089	6,574	843	2·1	2·0	0·3
Other foreign countries.....Av. 1936-40	19,163	12,922	8,880	8·3	5·6	3·9
Av. 1941-45	15,330	9,487	5,301	5·5	3·4	1·9
1944	15,112	9,102	4,852	5·3	3·2	1·7
1945	14,112	8,529	4,265	4·9	3·0	1·5
1946	13,639	8,503	3,790	4·1	2·6	1·1
Birthplace unspecified.....Av. 1936-40	9,163	940	63	4·0	0·4	[1]
Av. 1941-45	11,683	648	48	4·2	0·2	[1]
1944	12,224	582	39	4·3	0·2	[1]
1945	13,095	614	34	4·5	0·2	[1]
1946	13,729	508	15	4·2	0·2	[1]
Totals.....**Av. 1936-40**	**228,767**	**228,767**	**177,041**[2]	**100·0**	**100·0**	**77·4**[3]
Av. 1941-45	**276,832**	**276,832**	**222,906**[2]	**100·0**	**100·0**	**80·5**[3]
1944	**284,220**	**284,220**	**229,999**[2]	**100·0**	**100·0**	**80·9**[3]
1945	**288,730**	**288,730**	**234,089**[2]	**100·0**	**100·0**	**81·1**[3]
1946	**330,732**	**330,732**	**266,805**[2]	**100·0**	**100·0**	**80·7**[3]

[1] Less than one-tenth of one per cent. [2] This figure gives the number of children whose fathers and mothers were born in the same country. The difference between this figure and the total number of births represents the number of children whose parents were born in different countries. [3] This is the percentage of children whose fathers and mothers were born in the same country.

Origin of Parents.—Table **19** shows the numbers and percentages of children born to parents of the principal racial or ethnic groups in Canada. A person's origin is usually traced through the father. For example, if the father is English and the mother French, the person's origin is said to be English. Illegitimate children, however, are usually classified by the origin of their mother, since the origin of the father is seldom known.

Table **19** shows that about two-thirds of Canadian children are born to parents who are both of the same origin; one-third are born to parents of different origins. A certain amount of this inter-mixture has no doubt been going on for many years. It is clear that, in addition to biological factors, geography, language, religion and economic resources contribute to the formation of different ethnic or cultural groups.

19.—Numbers and Percentages of Live Births to Parents of Specified Origins, 1944-46, with Five-Year Averages, 1936-45

NOTE.—Figures for 1944 to 1946 are by place of residence; for previous years by place of occurrence.

Origin of Parents and Year	Numbers			Percentages		
	Father	Mother	Both Parents	Father	Mother	Both Parents
English.....Av. 1936-40	45,985	48,724	28,889	20·1	21·3	12·
Av. 1941-45	55,231	58,617	32,491	20·0	21·2	11·7
1944	56,138	59,551	32,908	19·8	21·0	11·6
1945	54,711	59,412	31,522	18·9	20·6	10·9
1946	69,421	75,423	40,130	21·0	22·8	12·1
Irish.....Av. 1936-40	20,603	20,192	7,569	9·0	8·8	3·3
Av. 1941-45	24,988	25,137	8,325	9·0	9·1	3·0
1944	25,438	25,631	8,492	9·0	9·0	3·0
1945	25,871	26,069	8,521	9·0	9·0	3·0
1946	31,953	31,863	9,879	9·7	9·6	3·0
Scottish.....Av. 1936-40	21,148	21,141	7,778	9·2	9·2	3·4
Av. 1941-45	26,071	26,409	8,716	9·4	9·5	3·1
1944	26,263	27,058	8,787	9·2	9·5	3·1
1945	26,575	27,490	8,851	9·2	9·5	3·1
1946	33,874	34,138	10,963	10·2	10·3	3·3
French.....Av. 1936-40	87,238	91,251	81,888	38·1	39·9	35·8
Av. 1941-45	107,883	113,085	100,635	39·0	40·8	36·4
1944	112,087	117,576	104,672	39·4	41·4	36·8
1945	115,218	120,212	107,431	39·9	41·6	37·2
1946	123,555	128,591	113,235	37·4	38·9	34·2
Other origins.....Av. 1936-40	44,309	46,114	28,951	19·4	20·2	12·7
Av. 1941-45	50,693	52,624	28,854	18·3	19·0	10·4
1944	51,764	53,402	28,861	18·2	18·8	10·2
1945	53,156	54,839	29,272	18·4	19·0	10·1
1946	58,088	60,078	29,745	17·6	18·2	9·0
Origin unspecified.....Av. 1936-40	9,484	1,345	268	4·2	0·6	0·1
Av. 1941-45	11,966	960	190	4·3	0·3	0·1
1944	12,530	1,002	226	4·4	0·4	0·1
1945	13,199	708	70	4·6	0·2	[3]
1946	13,841	639	69	4·2	0·2	[3]
Totals.....Av. 1936-40	**228,767**	**228,767**	**155,343[1]**	**100·0**	**100·0**	**67·9[2]**
Av. 1941-45	**276,832**	**276,832**	**179,211[1]**	**100·0**	**100·0**	**64·7[2]**
1944	**284,220**	**284,220**	**183,946[1]**	**100·0**	**100·0**	**64·7[2]**
1945	**288,730**	**288,730**	**185,667[1]**	**100·0**	**100·0**	**64·3[2]**
1946	**330,732**	**330,732**	**204,021[1]**	**100·0**	**100·0**	**61·7[2]**

[1] This figure gives the number of children whose fathers and mothers are of the same origin. The difference between this figure and the total number of births represents the number of children whose parents are of different origins. [2] This is the percentage of children whose fathers and mothers are of the same origin. [3] Less than one-tenth of one per cent.

Section 4.—Deaths

Except for wars and their after-effects—military and civilian deaths in the First and Second World Wars must be counted in tens of millions—impressive declines in the death rate have been recorded during the past century in many countries of the world.

Another way of measuring mortality is by life tables and the expectation of life that they show. Expectation of life in Canada in 1940-42 was 63·0 years for males and 66·3 years for females.

Subsection 1.—General Mortality

International Comparisons.—A comparison of the death rates in Canada and the provinces with those of other countries is shown in Table 20.

20.—Death Rates per 1,000 Population of Various Countries of the World Compared with Canada and the Provinces for Recent Years

(Sources: Monthly Bulletin of Statistics of the United Nations and other official sources. In certain cases final figures are not available and provisional data are shown.)

Country or Province	Year	Death Rate	Country	Year	Death Rate
Netherlands	1946	8·5	England and Wales	1946	11·5
Union of South Africa (Whites)	1946	8·8	Finland	1946	11·7
Norway	1946	9·2	Italy	1946	11·9
Canada	**1946**	**9·4**	Palestine (excluding Bedouins)	1946	12·3
Saskatchewan	1946	7·7	Northern Ireland	1946	12·5
Alberta	1946	8·2	Costa Rica	1946	12·9
Manitoba	1946	9·0	Spain	1946	12·9
Prince Edward Island	1946	9·3	Scotland	1946	13·1
Quebec	1946	9·3	France	1946	13·3
Ontario	1946	9·7	Jamaica	1946	13·3
Nova Scotia	1946	9·9	Austria	1946	13·4
British Columbia	1946	10·1	Belgium	1946	13·6
New Brunswick	1946	10·1	Bulgaria	1946	13·7
Iceland	1944	9·4	Eire	1946	14·0
New Zealand (excluding Maoris)	1946	9·7	Hungary[1]	1946	14·7
Australia	1946	10·0	Salvador	1946	15·5
United States	1946	10·0	Chile	1946	17·2
Denmark	1946	10·3	British India	1946	17·5
Newfoundland and Labrador	1945	10·4	Japan	1946	17·6
Sweden	1946	10·5	Roumania	1946	18·0
Switzerland	1946	11·3	Ceylon	1945	22·1
Panama	1946	11·4			

[1] Trianon Territory.

The number of deaths in Canada fell steadily from 113,515 in 1929 to 101,582 in 1934. The high number of deaths in 1937 (113,824) and in 1943 (118,635) was partly due to higher mortality from influenza, bronchitis and pneumonia.

Since 1931, the Canadian death rate has fluctuated between 10·3 and 9·4 per 1,000. It has been more or less stable in Ontario, has been falling in the Maritimes and Quebec and has been rising slightly in the Prairie Provinces and British Columbia. The exceptionally low death rates in the Prairie Provinces are partly due to their younger average population but the apparent slow rise in the death rates of the Prairie Provinces and British Columbia, is due to the increasing proportion of people in the older age groups. In all parts of Canada, however, the 1941 life tables show that public health and general living conditions have improved.

Throughout Table **21**, with one exception (Prince Edward Island death rates of 1945) the death rate is higher for males than for females.

21.—Deaths and Death Rates, by Sex and by Provinces, 1944-46

NOTE.—Figures are by place of residence.

Province and Year	Total Deaths	Rate per 1,000 Population	Males		Females	
			Number of Deaths	Rate per 1,000 Males	Number of Deaths	Rate per 1,000 Females
Prince Edward Island....1944	926	10·2	488	10·4	438	10·0
1945	888	9·7	455	9·5	433	9·∞
1946	874	9·3	476	9·8	398	8·
Nova Scotia....1944	6,229	10·2	3,362	10·7	2,867	9·6
1945	5,625	9·1	3,090	9·8	2,535	8·3
1946	6,046	9·9	3,266	10·5	2,780	9·3
New Brunswick....1944	5,131	11·1	2,772	11·7	2,359	10·5
1945	4,865	10·4	2,635	11·0	2,230	9·8
1946	4,866	10·1	2,611	10·7	2,255	9·6
Quebec....1944	34,813	9·9	18,569	10·6	16,244	9·3
1945	33,348	9·4	18,002	10·1	15,346	8·6
1946	33,690	9·3	18,062	9·9	15,628	8·6
Ontario....1944	39,781	10·0	21,629	10·8	18,152	9·3
1945	39,499	9·9	21,563	10·7	17,936	9·0
1946	39,758	9·7	21,849	10·6	17,909	8·8
Manitoba....1944	6,701	9·2	3,837	10·1	2,864	8·1
1945	6,550	8·9	3,775	9·9	2,775	7·8
1946	6,537	9·0	3,735	10·0	2,802	7·9
Saskatchewan....1944	6,454	7·6	3,830	8·4	2,624	6·7
1945	6,429	7·6	3,867	8·5	2,562	6·5
1946	6,422	7·7	3,866	8·7	2,556	6·5
Alberta....1944	6,320	7·7	3,823	8·7	2,497	6·6
1945	6,454	7·8	3,907	8·9	2,547	6·6
1946	6,601	8·2	4,049	9·5	2,552	6·7
British Columbia....1944	9,697	10·4	6,003	12·4	3,694	8·3
1945	9,756	10·3	6,057	12·3	3,699	8·1
1946	10,137	10·1	6,245	12·0	3,892	8·1
Canada (Exclusive of the Territories)....**1944**	**116,052**	**9·7**	**64,313**	**10·5**	**51,739**	**8·9**
1945	**113,414**	**9·4**	**63,351**	**10·3**	**50,063**	**8·4**
1946	**114,931**	**9·4**	**64,159**	**10·3**	**50,772**	**8·4**

Deaths in Urban Centres.—In Table 22 deaths are classified by place of residence, the death rate in urban centres varies only slightly from the death rate of their respective provinces. However, due to the influx of people from the rural areas, the age distribution of the population in urban centres is often more favourable to a low death rate than that of a province as a whole.

22.—Deaths in Urban Centres of 10,000 Population or Over, 1944-46, with Five-Year Averages, 1936-45

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Province and Urban Centre	Census Populations		Average 1936-40	Average 1941-45	1944	1945	1946
	1931	1941					
	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island—							
Charlottetown	12,361	14,821	299	202	221	223	162
Nova Scotia—							
Dartmouth	9,100	10,847	65	120	129	132	108
Glace Bay	20,706	25,147	258	231	238	227	232
Halifax	59,275	70,488	895	786	775	655	773
Sydney	23,089	28,305	185	306	317	283	326
Truro	7,901	10,272	113	107	95	112	112
New Brunswick—							
Fredericton	8,830	10,062	158	121	112	150[1]	116[1]
Moncton	20,689	22,763	272	223	212	209	222
Saint John	47,514	51,741	681	645	700	579	627

[1] Includes Devon.

22.—Deaths in Urban Centres of 10,000 Population or Over, 1944-46, with Five-Year Averages, 1936-45—concluded

Province and Urban Centre	Census Populations		Average 1936-40	Average 1941-45	1944	1945	1946
	1931	1941					
	No.	No.	No.	No.	No.	No.	No.
Quebec—							
Cap-de-la-Madeleine	8,748	11,961	71	97	95	117	114
Chicoutimi	11,877	16,040	268	184	165	192	191
Drummondville	6,609	10,555	88	91	105	99	100
Granby	10,587	14,197	111	132	129	148	157
Hull	29,433	32,947	355	355	362	385	383
Joliette	10,765	12,749	177	157	163	134	171
Jonquière	9,448	13,769	97	157	150	174	143
Lachine	18,630	20,051	205	230	242	237	232
Lévis	11,724	11,991	211	125	119	118	119
Montreal	818,577	903,007	9,715	9,885	10,059	9,480	9,786
Outremont	28,641	30,751	170	287	287	287	294
Quebec	130,594	150,757	2,057	1,899	1,956	1,990	1,827
St. Hyacinthe	13,448	17,798	318	256	283	264	264
St. Jean	11,256	13,646	179	136	151	130	142
St. Jérôme	8,967	11,329	88	118	122	139	135
Shawinigan Falls	15,345	20,325	160	176	161	175	180
Sherbrooke	28,993	35,965	477	381	445	401	414
Sorel	10,320	12,251	126	168	152	170	163
Thetford Mines	10,701	12,716	172	148	165	134	143
Three Rivers	35,450	42,007	606	414	408	403	394
Valleyfield	11,411	17,052	164	184	189	179	175
Verdun	60,745	67,349	521	532	591	555	524
Westmount	24,235	26,047	264	275	261	290	279
Ontario—							
Belleville	13,790	15,710	253	178	171	197	195
Brantford	30,107	31,948	405	419	438	402	374
Brockville	9,736	11,342	199	158	161	162	149
Chatham	14,569	17,369	330	219	214	242	214
Cornwall	11,126	14,117	247	204	197	201	192
Forest Hill	5,207	11,757	38	62	72	78	70
Fort William	26,277	30,585	226	244	253	234	289
Galt	14,006	15,346	183	172	159	175	194
Guelph	21,075	23,273	214	271	268	276	263
Hamilton	155,547	166,337	1,621	1,769	1,763	1,716	1,637
Kingston	23,439	30,126	515	377	823	374	396
Kitchener	30,793	35,657	386	331	329	333	347
London	71,148	78,264	1,123	930	948	946	983
Niagara Falls	19,046	20,589	216	217	222	217	206
North Bay	15,528	15,599	168	141	142	178	129
Oshawa	23,439	26,813	219	218	206	217	213
Ottawa	126,872	154,951	1,825	1,718	1,719	1,695	1,729
Owen Sound	12,839	14,002	197	185	181	182	167
Pembroke	9,368	11,159	178	127	126	142	108
Peterborough	22,327	25,350	367	317	325	335	326
Port Arthur	19,818	24,426	242	250	271	274	268
St. Catharines	24,753	30,275	323	314	306	319	338
St. Thomas	15,430	17,132	254	237	248	254	212
Sarnia	18,191	18,734	239	219	207	237	228
Sault Ste. Marie	23,082	25,794	247	252	262	236	279
Stratford	17,742	17,038	226	209	181	196	235
Sudbury	18,518	32,203	302	268	286	267	242
Timmins	14,200	28,790	196	181	174	182	186
Toronto	631,207	667,457	7,110	7,534	7,629	7,565	7,883
Welland	10,709	12,500	160	123	114	127	136
Windsor	98,179	105,311	903	953	936	954	1,013
Woodstock	11,395	12,461	217	174	172	169	133
Manitoba—							
Brandon	17,082	17,383	264	165	169	152	181
St. Boniface	16,305	18,157	536	187	195	195	179
Winnipeg	218,785	221,960	1,947	2,155	2,148	2,189	2,185
Saskatchewan—							
Moose Jaw	21,299	20,753	231	212	212	222	214
Prince Albert	9,905	12,508	195	114	134	121	117
Regina	53,209	58,245	564	439	463	462	498
Saskatoon	43,291	43,027	506	353	354	370	438
Alberta—							
Calgary	83,761	88,904	853	878	913	921	996
Edmonton	79,197	93,817	1,091	830	879	910	1,022
Lethbridge	13,489	14,612	201	144	132	159	154
Medicine Hat	10,300	10,571	148	123	143	168	133
British Columbia—							
New Westminster	17,524	21,967	344	233	254	207	252
Vancouver	246,593	275,353	2,842	3,377	3,434	3,560	3,641
Victoria	39,082	44,068	730	688	782	716	742

Sex and Age Distribution of Deaths.—Despite reductions in infant mortality, more deaths still occur in the first year of life than in any other year. The number of children who die under five years of age has been reduced from an average of 25,174 in 1930-32 to 17,949 in 1940-42. In 1946, owing to the exceptionally large number of births—15 p.c. over 1945—the number rose slightly to 18,334.

Table 23 shows that the percentage distribution of deaths has changed greatly since 1930-32. The percentages of deaths at all ages up to 50 years have declined, and the percentages at ages over 50 have increased. The average age at death has gradually risen. The reduction in mortality rates in the early and middle years of life increases the number of people in the older age groups and raises the average age of the population as a whole. In 1931, 16·6 p.c. of the population was 50 years of age or over. The average age of all males was 29·0 years and of all females 28·1 years. In 1941, 19·7 p.c. of the population was 50 years of age or over, and the average age of all males had risen to 30·7 years and of all females to 30·2 years. Compared to most European countries, however, the Canadian population is still young.

23.—Deaths, by Sex and Age Groups, 1945 and 1946, with Three-Year Averages, 1930-32 and 1940-42

NOTE.—Figures for 1945 and 1946 are by place of residence; for previous years by place of occurrence.

Age Groups	Males				Females			
	Average 1930-32	Average 1940-42	1945	1946	Average 1930-32	Average 1940-42	1945	1946
	NUMBERS OF DEATHS							
Under 1 year	11,272	8,341	8,427	8,824	8,516	6,215	6,396	6,610
1 year	1,391	843	681	724	1,225	715	548	610
2 years	681	447	326	375	549	353	299	269
3 "	463	316	294	276	406	274	231	237
4 "	355	247	204	235	316	198	166	174
Totals, Under 5 Years of Age	14,162	10,194	9,932	10,434	11,012	7,755	7,640	7,900
5- 9 years	1,269	829	701	738	979	641	532	559
10-14 "	860	707	570	576	811	538	436	406
15-19 "	1,325	1,110	964	895	1,210	811	662	691
20-24 "	1,534	1,339	1,124	1,127	1,466	1,036	905	964
25-29 "	1,388	1,240	1,012	1,034	1,443	1,182	931	952
30-34 "	1,304	1,190	1,041	1,059	1,401	1,131	1,083	1,006
35-39 "	1,572	1,421	1,336	1,265	1,572	1,252	1,178	1,108
40-44 "	1,892	1,712	1,629	1,689	1,630	1,396	1,267	1,265
45-49 "	2,312	2,334	2,273	2,221	1,803	1,750	1,665	1,703
50-54 "	2,836	3,368	3,161	3,095	2,047	2,259	2,202	2,153
55-59 "	3,095	4,400	4,430	4,441	2,301	2,861	2,862	2,904
60-64 "	3,614	5,300	5,743	5,814	2,808	3,447	3,665	3,537
65-69 "	4,363	6,052	6,685	6,877	3,491	4,325	4,419	4,579
70-74 "	5,028	6,470	6,877	6,880	4,170	4,988	5,313	5,331
75-79 "	4,575	6,276	6,677	6,627	4,097	5,480	5,643	5,569
80-89 "	5,249	7,693	7,963	8,082	5,457	7,732	8,091	8,449
90 years or over	815	1,085	1,180	1,251	1,095	1,499	1,552	1,678
Totals, Stated Ages	**57,193**	**62,720**	**63,298**	**64,105**	**48,793**	**50,083**	**50,046**	**50,754**
Ages not stated	70	35	53	54	10	10	17	18
Totals, All Ages	**57,263**	**62,755**	**63,351**	**64,159**	**48,803**	**50,093**	**50,063**	**50,772**

23.—Deaths, by Sex and Age Groups, 1945 and 1946, with Three-Year Averages, 1930-32 and 1940-42—concluded

Age Groups	Males				Females			
	Average 1930-32	Average 1940-42	1945	1946	Average 1930-32	Average 1940-42	1945	1946
	PERCENTAGES							
Under 1 year	19·7	13·3	13·3	13·8	17·5	12·4	12·8	13·0
1–4 years	5·1	3·0	2·4	2·5	5·1	3·1	2·5	2·5
Totals, Under 5 Years of Age	24·8	16·3	15·7	16·3	22·6	15·5	15·3	15·6
5– 9 years	2·2	1·3	1·1	1·2	2·0	1·3	1·1	1·1
10–19 "	3·8	2·9	2·4	2·3	4·1	2·7	2·2	2·2
20–29 "	5·1	4·1	3·4	3·4	6·0	4·4	3·7	3·8
30–39 "	5·0	4·2	3·8	3·6	6·1	4·8	4·5	4·2
40–49 "	7·4	6·5	6·2	6·1	7·0	6·3	5·9	5·8
50–59 "	10·4	12·4	12·0	11·8	8·9	10·2	10·1	10·0
60–69 "	13·9	18·1	19·6	19·8	12·9	15·5	16·2	16·0
70–79 "	16·8	20·3	21·4	21·1	16·9	20·9	21·9	21·5
80–89 "	9·2	12·3	12·6	12·6	11·2	15·4	16·2	16·6
90 years or over	1·4	1·7	1·9	2·0	2·2	3·0	3·1	3·3
Totals, Stated Ages	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Average Age at Death—All Ages	43·8	52·0	53·5	53·2	45·4	53·7	54·9	54·9
Over 1 Year	54·5	60·0	61·7	61·7	55·0	61·3	62·9	63·1

Causes of Death.—About 90 p.c. of the deaths in Canada are due to the 28 specified causes given in Table 24. About 75 p.c. are due to the 10 leading causes: diseases of the heart, cancer, intracranial lesions, violent deaths, nephritis, diseases of early infancy, pneumonia, tuberculosis, influenza and diseases of the arteries.

The classification of the causes of death is according to the revision of the International List of 1938, which was first used in Canada in 1941. Each revision of the International List makes continuity of classification difficult. This applies especially to diseases of the heart, intracranial lesions (cerebral hæmorrhage) and diseases of the arteries.

The rise in the average age at death has been noted on p. 207. Causes of death that affect mainly children and young adults have declined. Diphtheria, for example, has almost been wiped out. Tuberculosis has also been greatly reduced. On the other hand, the ageing of the population increases the proportion of deaths from the causes that affect mainly older people. Thus, cancer, nephritis and diseases of the heart now account for a substantially larger proportion of all deaths, than formerly.

24.—Deaths and Death Rates per 100,000 Population, by Principal Causes, 1944-46

NOTE.—Figures are by place of residence.

International List No.[1]	Cause of Death	Numbers of deaths			Rates per 100,000 Population		
		1944	1945	1946	1944	1945	1946
1, 2	Typhoid fever, including paratyphoid	131	101	91	1·1	0·8	0·7
8	Scarlet fever	115	79	58	1·0	0·7	0·5
9	Whooping cough	337	470	231	2·8	3·9	1·9
10	Diphtheria	309	271	227	2·6	2·2	1·8
13	Tuberculosis, respiratory system	4,705	4,565	4,818	39·3	37·7	39·2
14-22	Tuberculosis, other organs	1,019	981	1,003	8·5	8·1	8·2
33	Influenza	1,864	1,087	1,601	15·6	9·0	13·0
35	Measles	239	97	235	2·0	0·8	1·9
45-55	Cancer and other malignant tumours	14,271	14,439	14,767	119·3	119·3	120·2
61	Diabetes mellitus	2,362	2,417	2,409	19·8	20·0	19·6
73	Anæmias	355	355	311	3·0	2·9	2·5
83	Intracranial lesions of vascular origin	9,089	9,421	9,486	76·0	77·8	77·2
86	Convulsions (under 5 years of age)	155	134	119	1·3	1·1	1·0
90-95	Diseases of the heart	29,148	29,705	29,854	243·8	245·5	243·1
96, 97, 99, 102	Diseases of the arteries	2,349	2,210	2,230	19·6	18·3	18·2
106	Bronchitis	431	394	378	3·6	3·3	3·1
107-109	Pneumonia	5,940	5,549	5,657	49·7	45·9	46·1
119, 120	Diarrhœa and enteritis	2,695	2,019	1,873	22·5	16·7	15·2
121	Appendicitis	809	677	551	6·8	5·6	4·5
122	Hernia, intestinal obstruction	911	863	854	7·6	7·1	7·0
130-132	Nephritis	7,124	6,926	6,822	59·6	57·2	55·5
137	Diseases of the prostate	951	847	820	8·0	7·0	6·7
140-150	Puerperal causes	776	660	595	6·5	5·5	4·8
157	Congenital malformations	2,004	2,134	2,338	16·8	17·6	19·0
158-161	Diseases peculiar to the first year of life	6,655	6,394	7,053	55·7	52·8	57·4
162	Senility	1,690	1,624	1,584	14·1	13·4	12·9
163, 164	Suicides	731	764	1,002	6·1	6·3	8·2
166-198	Violent deaths (suicides excepted)	6,957	7,047	7,195	58·2	58·2	58·6
	Other specified causes	11,121	10,305	9,995	93·0	85·2	81·4
	Totals, Specified Causes	**115,243**	**112,535**	**114,157**	**963·7**	**929·9**	**929·4**
199, 200	Unspecified or ill-defined causes	809	879	774	6·8	7·3	6·3
	Totals, All Causes	**116,052**	**113,414**	**114,931**	**970·5**	**937·2**	**935·7**

[1] The numbers given in this column refer to the International List of Causes of Death, as revised in 1938 by the International Commission on the Classification of Diseases and Causes of Death. This classification, in its detailed, intermediate or abridged form, is accepted by almost all civilized countries.

Subsection 2.—Infant Mortality

The energy devoted in recent years to reducing infant mortality has brought about large reductions in many countries. In Canada, the Federal, provincial and municipal health authorities, together with private welfare agencies, have all taken part in the effort, with the result that the figures from 1926 to 1946, show a striking improvement. To illustrate, of the children born in 1942-46, approximately 60,000 lived to their first birthday who would have died at the rate prevailing in 1926-30.

Infant mortality of males is 25 to 30 p.c. higher than that of females. It was pointed out earlier that there were between 1,057 and 1,067 males born to every 1,000 females. Because male infant mortality is higher, the excess of males is much less at the end of the first year. For example, in 1940-42, 397,038 male children were born, compared with 374,908 female children, an excess of 22,130 or 5·9 p.c.; 25,024 male children died during their first year compared with 18,646 female children, that is 6,378 more. The excess of males at one year of age is thus 15,752, or 4·4 p.c. By the age of 52, according to the life table, p. 192, the number of males and females will have become equal.

Infant mortality figures and rates per 1,000 live births by sex are given for Canada and the provinces in Table 25. The rates vary considerably between the provinces. One of the principal causes of these variations appears to be the different proportions of births which take place in hospitals under proper medical care. Examples of these differences have been given earlier on p. 193. Along with this increased hospitalization has come better and more wide-spread pre-natal and post-natal care. Other factors, particularly the supervision of water supplies, improved sanitation and the pasteurization of milk have also been important. Further extension of public-health services to provide for all the population will, no doubt, further reduce infant mortality, particularly in the areas where it is still high.

25.—Infant Mortality and Rates per 1,000 Live Births, by Sex and by Provinces, 1944-46

NOTE.—Figures are by place of residence.

Province and Year	Total Infant Deaths	Rate per 1,000 Live Births	Males		Females	
			Number of Infant Deaths	Rate per 1,000 Live Male Births	Number of Infant Deaths	Rate per 1,000 Live Female Births
Prince Edward Island....1944	102	45	58	50	44	39
1945	102	45	54	46	48	44
1946	97	35	64	44	33	24
Nova Scotia....1944	838	54	480	60	358	47
1945	823	53	479	59	344	46
1946	822	46	460	50	362	41
New Brunswick....1944	1,035	77	593	85	442	68
1945	966	71	527	75	439	66
1946	1,066	66	581	70	485	61
Quebec....1944	6,918	68	3,936	75	2,982	60
1945	6,464	62	3,659	68	2,805	55
1946	6,110	55	3,517	61	2,593	48
Ontario....1944	3,346	43	1,933	48	1,413	38
1945	3,209	41	1,813	44	1,396	37
1946	3,653	37	2,109	42	1,544	33
Manitoba....1944	786	49	425	51	361	47
1945	781	48	445	53	336	43
1946	885	47	474	49	411	45
Saskatchewan....1944	858	47	484	52	374	42
1945	824	44	489	50	335	37
1946	1,004	47	581	53	423	40
Alberta....1944	889	46	517	52	372	40
1945	862	43	511	50	351	36
1946	945	43	542	48	403	37
British Columbia....1944	767	40	445	46	322	35
1945	792	42	450	46	342	37
1946	852	38	496	43	356	32
Canada (Exclusive of the Territories)....**1944**	**15,539**	**55**	**8,871**	**60**	**6,668**	**48**
1945	**14,823**	**51**	**8,427**	**57**	**6,396**	**46**
1946	**15,434**	**47**	**8,824**	**52**	**6,610**	**41**

International Comparisons.—New Zealand for many years has had the lowest rate of infant mortality. In 1946 the rate was 26 per 1,000 live births, compared with 68 in 1905, 51 in 1920 and 34 in 1930. Sweden, Iceland and

Australia also have very low rates. In England and Wales the rate has been reduced from 128 per 1,000 in 1905 to 60 in 1930 and 43 in 1946. In the United States the rate has been reduced from 162 in 1900 to 47 in 1940 and 34 in 1946.

26.—Infant Mortality per 1,000 Live Births in Various Countries of the World Compared with Canada and the Provinces for Recent Years

(Sources: Monthly Bulletin of Statistics of the United Nations and other official sources. In certain cases final figures are not available and provisional data are shown.)

Country or Province	Year	Infant Mortality Rate	Country	Year	Infant Mortality Rate
New Zealand (excluding Maoris)...	1946	26	Northern Ireland.....	1946	54
Sweden.....	1946	26	Scotland.....	1946	54
Australia.....	1946	29	Finland.....	1946	56
Iceland.....	1945	34	Panama.....	1946	60
United States.....	1946	34	Eire.....	1946	63
Union of South Africa (Whites)....	1946	36	France.....	1946	67
Norway.....	1945	36	Newfoundland and Labrador	1945	74
Netherlands.....	1946	39	Belgium[1].....	1946	75
Switzerland.....	1946	39	Palestine (excluding Bedouins)...	1946	76
England and Wales.....	1946	43	Austria.....	1946	81
Denmark.....	1946	46	Italy.....	1946	84
Canada.....	**1946**	**47**	Jamaica.....	1946	90
Prince Edward Island.....	1946	35	Spain.....	1946	92
Ontario.....	1946	37	Costa Rica.....	1946	102
British Columbia.....	1946	38	Salvador.....	1946	113
Alberta.....	1946	43	Hungary[2].....	1946	114
Nova Scotia.....	1946	46	Bulgaria.....	1946	124
Manitoba.....	1946	47	Ceylon.....	1946	141
Saskatchewan.....	1946	47	British India.....	1945	151
Quebec.....	1946	55	Chile.....	1946	160
New Brunswick.....	1946	66	Roumania.....	1945	187

[1] Adjusted. [2] Trianon Territory.

Infant Mortality in Urban Centres.—Infant mortality rates in individual cities and towns usually vary widely from year to year. Many cities and towns have, however, maintained consistently low rates. Vancouver has a splendid record; Calgary, Toronto and Winnipeg have exceptionally low rates and Montreal has shown steady improvement.

27.—Deaths and Death Rates of Children under One Year of Age (Exclusive of Stillbirths), in Urban Centres of 10,000 Population or Over, 1944-46

NOTE.—Figures are by place of residence.

Province and Urban Centre	Infant Deaths			Rates per 1,000 Live Births		
	1944	1945	1946	1944	1945	1946
Prince Edward Island—						
Charlottetown.....	26	28	9	64	71	19
Nova Scotia—						
Dartmouth.....	15	31	15	35	72	32
Glace Bay.....	60	34	46	84	47	53
Halifax.....	93	98	95	44	48	40
Sydney.....	51	52	56	54	55	54
Truro.....	16	15	17	53	55	50
New Brunswick—						
Fredericton.....	11	15	10	46	52[1]	25
Moncton.....	25	22	39	35	33	50
Saint John.....	80	77	93	55	58	55

[1] Includes Devon.

27.—Deaths and Death Rates of Children under One Year of Age (Exclusive of Stillbirths), in Urban Centres of 10,000 Population or Over, 1944-46—concluded

Province and Urban Centre	Infant Deaths			Rates per 1,000 Live Births		
	1944	1945	1946	1944	1945	1946
Quebec—						
Cap-de-la-Madeleine	15	20	32	41	52	71
Chicoutimi	57	58	76	52	64	81
Drummondville	27	23	16	67	60	36
Granby	14	22	23	31	43	38
Hull	95	82	82	79	67	59
Joliette	28	22	42	68	54	96
Jonquière	58	55	56	60	64	77
Lachine	21	18	26	42	34	43
Lévis	23	24	13	66	71	34
Montreal	1,295	1,150	975	58	50	40
Outremont	14	10	8	40	32	20
Quebec	548	619	405	119	141	91
St. Hyacinthe	25	25	22	54	60	45
St. Jean	33	16	20	74	35	48
St. Jérôme	30	24	17	66	53	32
Shawinigan Falls	43	53	47	48	55	54
Sherbrooke	75	80	82	64	64	63
Sorel	31	36	28	54	65	62
Thetford Mines	30	24	22	71	59	50
Three Rivers	100	67	67	83	56	53
Valleyfield	39	33	35	55	52	53
Verdun	71	77	54	45	48	30
Westmount	6	11	14	20	40	41
Ontario—						
Belleville	13	16	23	35	41	49
Brantford	22	36	46	29	45	45
Brockville	16	10	17	59	36	57
Chatham	19	16	13	52	39	28
Cornwall	29	28	22	55	54	31
Forest Hill	3	2	2	16	11	14
Fort William	15	25	27	23	37	31
Galt	11	10	15	32	33	33
Guelph	22	22	25	47	48	43
Hamilton	134	100	145	36	29	31
Kingston	40	29	33	46	34	31
Kitchener	21	17	34	32	23	36
London	72	74	77	41	42	34
Niagara Falls	16	9	11	30	17	17
North Bay	27	16	13	70	42	29
Oshawa	18	19	18	31	32	27
Ottawa	147	134	199	42	37	44
Owen Sound	26	18	24	80	64	60
Pembroke	23	30	11	76	99	29
Peterborough	31	32	24	45	42	25
Port Arthur	19	17	23	35	30	33
St. Catharines	23	25	30	29	33	34
St. Thomas	13	15	17	34	41	39
Sarnia	18	21	13	39	41	21
Sault Ste. Marie	31	28	33	43	38	40
Stratford	15	9	20	48	34	50
Sudbury	98	64	46	76	52	37
Timmins	36	38	30	53	51	35
Toronto	411	373	498	36	33	32
Welland	16	21	16	43	65	43
Windsor	101	89	123	42	40	42
Woodstock	10	10	9	42	38	26
Manitoba—						
Brandon	16	20	16	41	56	41
St. Boniface	20	18	23	42	40	38
Winnipeg	149	138	186	36	32	35
Saskatchewan—						
Moose Jaw	18	18	31	38	40	52
Prince Albert	23	37	30	63	101	69
Regina	63	51	79	55	42	50
Saskatoon	35	32	84	39	35	67
Alberta—						
Calgary	75	90	101	34	40	39
Edmonton	101	95	130	39	34	38
Lethbridge	12	19	23	29	45	48
Medicine Hat	21	17	18	63	57	51
British Columbia—						
New Westminster	17	18	13	34	36	23
Vancouver	168	171	193	29	30	28
Victoria	36	26	41	26	23	34

Infant Mortality by Causes of Death.—Of the infant deaths that occur in Canada, about 90 p.c. are due to the nine causes and groups of causes specified in Table 28. One cause, premature birth, accounts for over 20 p.c. The rates from nearly all causes are higher for male than for female children; the only exception shown in the table is for communicable diseases in 1944.

28.—Infant Mortality and Rates per 100,000 Live Births, by Principal Causes, 1944-46

NOTE.—Figures are by place of residence.

International List No.	Cause of Death and Year	Numbers			Rates per 100,000 Live Births			Percentage Distribution by Cause of Death
		Males	Females	Total	Males	Females	Total	
	Communicable diseases[1]....1944	582	581	1,163	397	422	409	7·5
	1945	548	492	1,040	368	352	360	7·0
	1946	552	479	1,031	325	298	312	6·7
86	Convulsions.....1944	62	39	101	42	28	36	0·6
	1945	55	47	102	37	34	35	0·7
	1946	56	39	95	33	24	29	0·6
106-109	Bronchitis and pneumonia...1944	1,158	933	2,091	790	678	736	13·5
	1945	1,223	977	2,200	821	699	762	14·8
	1946	1,163	915	2,078	684	569	628	13·5
119	Diarrhœa and enteritis.....1944	1,190	967	2,157	811	703	759	13·9
	1945	928	697	1,625	623	499	563	11·0
	1946	922	610	1,532	543	379	463	9·9
157	Congenital malformations...1944	957	780	1,737	653	567	611	11·2
	1945	1,069	819	1,888	718	586	654	12·7
	1946	1,142	926	2,068	672	576	625	13·4
158	Congenital debility.....1944	525	405	930	358	294	327	6·0
	1945	524	351	875	352	251	303	5·9
	1946	444	339	783	261	211	237	5·1
159	Premature birth.....1944	2,072	1,435	3,507	1,413	1,043	1,234	22·6
	1945	1,892	1,434	3,326	1,271	1,026	1,152	22·4
	1946	2,110	1,676	3,786	1,242	1,042	1,145	24·5
160	Injury at birth.....1944	772	432	1,204	526	314	424	7·7
	1945	714	457	1,171	479	327	406	7·9
	1946	852	514	1,366	501	320	413	8·9
161	Other diseases peculiar to the first year of life.....1944	596	418	1,014	406	304	357	6·5
	1945	595	427	1,022	400	305	354	6·9
	1946	683	435	1,118	402	271	338	7·2
	Other specified causes.....1944	734	527	1,261	501	383	444	8·1
	1945	657	527	1,184	441	377	410	8·0
	1946	704	501	1,205	414	312	364	7·8
199, 200	Unspecified or ill-defined causes.....1944	223	151	374	152	110	132	2·4
	1945	222	168	390	149	120	135	2·6
	1946	196	176	372	115	109	112	2·4
	Totals, All Causes.....**1944**	**8,871**	**6,668**	**15,539**	**6,049**	**4,847**	**5,467**	**100·0**
	1945	**8,427**	**6,396**	**14,823**	**5,659**	**4,575**	**5,134**	**100·0**
	1946	**8,824**	**6,610**	**15,434**	**5,192**	**4,111**	**4,667**	**100·0**

[1] Includes measles, scarlet fever, whooping cough, diphtheria, influenza, erysipelas, acute poliomyelitis and polioencephalitis, cerebrospinal meningitis, tuberculosis and syphilis.

Subsection 3.—Maternal Mortality

As in the case of infant mortality, the number of mothers who die in pregnancy and childbirth has been greatly reduced. Maternal mortality in Canada and the provinces is shown in Table 29. Although the number of births has been much greater in recent years, the number of maternal deaths has been well below a thousand

a year. The rate of maternal mortality is now less than 2 per 1,000 live births. The last two columns of the table show that mortality among unmarried mothers is much higher than among married mothers.

29.—Maternal Deaths and Rates per 1,000 Live Births, by Provinces, 1944-46

NOTE.—Figures are by place of residence.

Item	Maternal Deaths										Maternal Deaths of Unmarried Mothers	
	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]	No.	P.C. of Total
Totals— 1944	12	33	43	318	198	49	42	31	50	776	48	6·19
1945	6	24	25	256	171	31	49	48	50	660	38	5·76
1946	6	28	34	229	160	32	36	32	38	595	39	6·55
											Per 1,000 Illegitimate Live Births	
Rates per 1,000 Live Births—												
1944	5·2	2·1	3·2	3·1	2·5	3·1	2·3	1·6	2·6	2·7	4·0	
1945	2·7	1·5	1·8	2·5	2·2	1·9	2·6	2·4	2·6	2·3	2·9	
1946	2·1	1·6	2·1	2·1	1·6	1·7	1·7	1·4	1·7	1·8	2·9	

[1] Exclusive of the Territories.

Age at Maternal Death.—Table **30** shows the distribution of maternal deaths by age, together with the average age at death. The latter is slightly more than two years higher than the average age of all mothers at the time of childbirth. The rates per 1,000 live births by age groups show that age is a most important factor in maternal mortality. Though all the rates are much lower than they used to be, the inequalities between the age groups remain. The rate at 30-34 years is nearly twice as high as the rate at 20-24 years, and above the age of 40 it is over four times as high. The slightly higher rate in the first age group shown in Table **30**, compared with the second, is due to the high proportion of illegitimate children born to young mothers.

30.—Maternal Mortality and Rates per 1,000 Live Births, by Age Groups, 1945 and 1946, with Three-Year Averages, 1930-32 and 1940-42

NOTE.—Figures for 1945 and 1946 are by place of residence.

Age Group	Maternal Deaths								Rates per 1,000 Live Births			
	Averages 1930–32		Averages 1940–42		1945		1946		Average 1930–32	Average 1940–42	1945	1946
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.				
Under 20 years	76	6·0	47	5·2	28	4·2	27	4·5	5·03	2·80	1·65	1·39
20 - 24 "	216	17·0	151	16·8	110	16·7	90	15·1	3·56	2·13	1·40	0·97
25 - 29 "	271	21·4	212	23·6	161	24·4	142	23·9	4·16	2·77	1·95	1·46
30 - 34 "	278	21·9	206	22·9	136	20·6	130	21·8	5·66	4·03	2·21	1·90
35 - 39 "	263	20·8	180	20·0	135	20·5	121	20·3	7·80	6·14	3·79	3·17
40 - 44 "	140	11·0	91	10·1	81	12·3	72	12·1	10·56	8·72	6·98	5·91
45 - 49 "	23	1·8	11	1·2	8	1·2	13	2·2	16·73	10·00	7·14	10·99
50 years or over	Nil	-	1	0·1	1	0·2	Nil	-	-	[1]	[1]	-
Totals, Stated Ages	1,267	100·0	899	100·0	660	100·0	595	100·0	-	-	-	-
Totals, All Ages	**1,267**	-	**899**	-	**660**	-	**595**	-	**5·28**	**3·51**	**2·29**	**1·80**
Average Ages of Mothers	31·3		31·1		31·5		31·7		-	-	-	-

[1] The number of cases in this age group is too small to justify the calculation of a rate.

Maternal Deaths by Causes.—Table **31** shows, by causes, the numbers and rates of maternal deaths per 100,000 live births. Until recently, puerperal sepsis and toxæmias of pregnancy were by far the most important causes. Since the introduction of sulpha drugs in 1936, the rates from these two causes have decreased by 50 p.c.

31.—Maternal Mortality and Rates per 100,000 Live Births, by Causes of Death, 1944-46

NOTE.—Figures are by place of residence.

International List No.	Cause of Death	Numbers of Deaths			Rates per 100,000 Live Births		
		1944	1945	1946	1944	1945	1946
140	Abortion with mention of infection.....	85	52	41	29·9	18·0	12·4
141	Abortion without mention of infection....	26	18	39	9·1	6·2	11·8
142	Ectopic gestation.....	31	23	28	10·9	8·0	8·5
143	Hæmorrhage of pregnancy—death prior to delivery.....	8	12	8	2·8	4·2	2·4
144	Toxæmias of pregnancy—death prior to delivery.....	45	32	32	15·8	11·1	9·7
145	Other diseases and accidents of pregnancy—death prior to delivery.....	20	18	35	7·0	6·2	10·6
146	Hæmorrhage of childbirth and the puerperium.....	150	124	103	52·8	42·9	31·1
147	Infection during childbirth and the puerperium.....	180	178	122	63·3	61·6	36·9
148	Puerperal toxæmias—death following delivery.....	101	94	88	35·5	32·6	26·6
149	Other accidents of childbirth.....	76	65	61	26·7	22·5	18·4
150	Other and unspecified conditions of childbirth and the puerperal state.....	54	44	38	19·0	15·2	11·5
	Totals, All Causes.....	**776**	**660**	**595**	**273·0**	**228·6**	**179·9**

Section 5.—Natural Increase

In 1926-30 the rate of natural increase in Canada was 13 per 1,000 population. It fell to 9·7 in 1937. Owing partly to the depression, the birth rate declined more than the death rate. Since then, the rate has increased to 12·6 in 1940-42, 14·5 in 1945 and 17·5 in 1946.

The rates of natural increase in the provinces followed generally the rate for Canada as a whole. In the earlier years, Saskatchewan and Quebec had the highest rates. The high rates in the Prairie Provinces were due partly to their relatively younger populations and consequent very low death rates. In Quebec, on the other hand, the death rate in 1926-30 was high; it has declined steadily since. In 1946, New Brunswick had the highest rate of natural increase in Canada.

Table **32** shows the numbers and rates of natural increase in Canada and the provinces. Numbers and rates by sex are also shown. It can be seen that in almost all cases, the rates are higher for females than for males. There are two reasons for this. First, the excess of male over female births is relatively smaller than the excess of males over females in the population as a whole, especially in the western provinces. Hence the birth rate for males is lower than the birth rate for females. Secondly, as already noted, the death rate for males is higher than for females.

In a country with a fairly young population such as Canada, in which immigration has been large, an excess of males is to be expected. The higher rate of natural increase for females is the means by which this excess is gradually reduced. Eventually, there will, no doubt, be an excess of females in the total population as there now is in most European countries.

32.—Natural Increase and Rates of Natural Increase, by Sex and by Provinces, 1944-46

NOTE.—Figures are by place of residence.

Province and Year	Excess of Births Over Deaths	Rate per 1,000 Population	Males		Females	
			Number	Rate per 1,000 Males	Number	Rate per 1,000 Females
Prince Edward Island 1944	1,360	14·9	670	14·2	690	15·6
1945	1,370	14·8	712	14·9	658	14·9
1946	1,919	20·4	968	20·0	951	20·9
Nova Scotia 1944	9,369	15·3	4,698	15·1	4,671	15·6
1945	9,902	15·9	4,996	15·8	4,906	16·1
1946	11,868	19·4	5,867	18·8	6,001	20·0
New Brunswick 1944	8,336	18·0	4,177	17·6	4,159	18·5
1945	8,828	18·9	4,364	18·2	4,464	19·5
1946	11,408	23·8	5,682	23·2	5,726	24·3
Quebec 1944	67,449	19·3	34,104	19·4	33,345	19·2
1945	70,935	19·9	35,580	19·9	35,355	20·0
1946	77,595	21·4	39,218	21·5	38,377	21·2
Ontario 1944	38,309	9·7	18,826	9·4	19,483	9·9
1945	39,475	9·8	19,254	9·5	20,221	10·2
1946	57,688	14·1	28,536	13·8	29,152	14·3
Manitoba 1944	9,307	12·7	4,487	11·8	4,820	13·7
1945	9,703	13·2	4,650	12·3	5,053	14·2
1946	12,257	16·9	5,910	15·8	6,347	17·9
Saskatchewan 1944	11,684	13·8	5,500	12·1	6,184	15·8
1945	12,497	14·8	5,927	13·1	6,570	16·8
1946	15,011	18·0	7,108	16·1	7,903	20·2
Alberta 1944	13,052	16·0	6,155	14·1	6,897	18·1
1945	13,485	16·3	6,408	14·6	7,077	18·3
1946	15,583	19·4	7,253	17·1	8,330	22·0
British Columbia 1944	9,302	10·0	3,722	7·6	5,580	12·5
1945	9,121	9·6	3,670	7·5	5,451	11·9
1946	12,472	12·4	5,244	10·1	7,228	15·0
Canada (Exclusive of the Territories) **1944**	**168,168**	**14·1**	**82,339**	**13·5**	**85,829**	**14·7**
1945	**175,316**	**14·5**	**85,561**	**13·8**	**89,755**	**15·2**
1946	**215,801**	**17·5**	**105,786**	**16·9**	**110,015**	**18·2**

Natural Increase in Urban Centres.—The classification of births and deaths by place of residence makes it possible to calculate rates of natural increase for urban centres; the figures are given in Table **33**. In most of the larger cities, the rate is lower than in their respective provinces. Urban population is also increased by the influx of people from the rural areas.

33.—Natural Increase in Urban Centres of 10,000 Population or Over, 1944-46, with Five-Year Averages, 1936-45

NOTE.—Figures are by place of occurrence previous to 1941; for 1941 and subsequent years by place of residence.

Province and Urban Centre	Census Populations		Average 1936-40	Average 1941-45	1944	1945	1946
	1931	1941					
Prince Edward Island—							
Charlottetown	12,361	14,821	141	183	186	172	317
Nova Scotia—							
Dartmouth	9,100	10,847	57	285	301	298	368
Glace Bay	20,706	25,147	634	498	480	491	631
Halifax	59,275	70,488	877	1,241	1,319	1,389	1,579
Sydney	23,089	28,305	455	624	636	657	709
Truro	7,901	10,272	113	185	208	162	230
New Brunswick—							
Fredericton	8,830	10,062	83	107	125	137[1]	279[1]
Moncton	20,689	22,763	278	421	509	458	552
Saint John	47,514	51,741	613	719	745	743	1,055
Quebec—							
Cap-de-la-Madeleine	8,748	11,961	210	274	268	271	335
Chicoutimi	11,877	16,040	283	706	926	712	745
Drummondville	6,609	10,555	165	279	298	286	348
Granby	10,587	14,197	224	332	322	367	449
Hull	29,433	32,947	487	819	847	844	1,000
Joliette	10,765	12,749	121	250	248	272	267
Jonquière	9,448	13,769	380	705	818	687	586
Lachine	18,630	20,051	189	271	262	297	377
Lévis	11,724	11,991	20	203	231	221	267
Montreal	818,577	903,007	8,278	11,471	12,166	13,295	14,313
Outremont	28,641	30,751	−118	44	66	29	110
Quebec	130,594	150,757	1,919	2,416	2,649	2,412	2,630
St. Hyacinthe	13,448	17,798	91	163	176	153	223
St. Jean	11,256	13,646	132	279	295	327	271
St. Jérôme	8,967	11,329	169	311	336	315	395
Shawinigan Falls	15,345	20,325	368	674	735	782	687
Sherbrooke	28,993	35,965	395	760	721	855	895
Sorel	10,320	12,251	114	312	420	380	291
Thetford Mines	10,701	12,716	170	269	258	275	294
Three Rivers	35,450	42,007	538	821	791	796	861
Valleyfield	11,411	17,052	186	481	514	452	485
Verdun	60,745	67,349	306	988	988	1,033	1,302
Westmount	24,235	26,047	−4	−24	44	−15	66
Ontario—							
Belleville	13,790	15,710	225	205	198	194	274
Brantford	30,107	31,948	221	346	319	395	642
Brockville	9,736	11,342	104	102	110	114	148
Chatham	14,569	17,369	405	193	148	171	258
Cornwall	11,126	14,117	359	302	329	315	509
Forest Hill	5,207	11,757	−31	96	111	110	73
Fort William	26,277	30,585	294	404	400	434	583
Galt	14,006	15,346	120	140	183	124	266
Guelph	21,075	23,273	80	198	198	180	317
Hamilton	155,547	166,337	1,307	1,693	1,913	1,773	2,986
Kingston	23,439	30,126	248	467	493	468	685
Kitchener	30,793	35,657	402	380	330	410	589
London	71,148	78,264	466	759	787	828	1,283
Niagara Falls	19,046	20,589	206	323	311	310	448
North Bay	15,528	15,599	239	221	243	205	326
Oshawa	23,439	26,813	326	366	373	376	462
Ottawa	126,872	154,951	1,353	1,639	1,773	1,914	2,789
Owen Sound	12,839	14,002	151	130	143	100	235
Pembroke	9,368	11,159	118	172	177	160	266
Peterborough	22,327	25,350	308	363	357	424	644
Port Arthur	19,818	24,426	364	308	267	286	423
St. Catharines	24,753	30,275	325	420	484	438	557
St. Thomas	15,430	17,132	144	145	134	114	221
Sarnia	18,191	18,734	225	228	258	272	377
Sault Ste. Marie	23,082	25,794	348	473	464	508	549
Stratford	17,742	17,038	167	79	133	69	164
Sudbury	18,518	32,203	1,015	1,056	996	970	988
Timmins	14,200	28,790	659	652	509	569	665

[1] Includes Devon.

33.—Natural Increase in Urban Centres of 10,000 Population or Over, 1944-46, with Five-Year Averages, 1936-45—concluded

Province and Urban Centre	Census Populations		Average 1936-40	Average 1941-45	1944	1945	1946
	1931	1941					
Ontario—concluded							
Toronto	631,207	667,457	3,331	3,629	3,707	3,795	7,565
Welland	10,709	12,500	196	234	255	196	239
Windsor	98,179	105,311	1,270	1,430	1,490	1,294	1,894
Woodstock	11,395	12,461	66	93	64	96	209
Manitoba—							
Brandon	17,082	17,383	14	191	220	203	214
St. Boniface	16,305	18,157	754	238	276	253	424
Winnipeg	218,785	221,960	1,838	1,932	2,017	2,087	3,106
Saskatchewan—							
Moose Jaw	21,299	20,753	265	250	258	232	377
Prince Albert	9,905	12,508	313	226	231	247	320
Regina	53,209	58,245	767	733	692	743	1,074
Saskatoon	43,291	43,027	422	490	545	537	813
Alberta—							
Calgary	83,761	88,904	867	1,180	1,277	1,310	1,563
Edmonton	79,197	93,817	1,640	1,549	1,686	1,883	2,409
Lethbridge	13,489	14,612	437	228	277	262	329
Medicine Hat	10,300	10,571	207	164	189	132	223
British Columbia—							
New Westminster	17,524	21,967	445	260	250	297	312
Vancouver	246,593	275,353	1,197	2,020	2,393	2,151	3,338
Victoria	39,082	44,068	124	462	601	414	469

Section 6.—Marriages and Divorces

Subsection 1.—Marriages

International Comparisons.—Table 34 shows the marriage rates in Canada and the provinces in comparison with those of other countries. Canadian marriage rates are relatively high.

34.—Marriage Rates per 1,000 Population of Various Countries of the World Compared with Canada and the Provinces for Recent Years

(Sources: Monthly Bulletin of Statistics of the United Nations and other official sources. In certain cases final figures are not available and provisional data are shown.)

Country or Province	Year	Marriage Rate	Country	Year	Marriage Rate
United States	1946	16·2	Union of South Africa (Whites)	1944	10·0
France	1946	12·7	Denmark	1946	9·8
New Zealand (excluding Maoris)	1946	12·4	Newfoundland and Labrador	1945	9·8
Netherlands	1946	11·4	Norway	1946	9·3
Finland	1945	11·2	Sweden	1946	9·3
Bulgaria	1946	11·0	Austria	1946	9·0
Canada	**1946**	**10·9**	England and Wales	1946	9·0
New Brunswick	1946	12·2	Italy	1946	9·0
Alberta	1946	11·8	Roumania	1945	8·8
Manitoba	1946	11·8	Switzerland	1946	8·7
British Columbia	1946	11·7	Chile	1946	7·8
Ontario	1946	11·2	Iceland	1944	7·8
Nova Scotia	1946	10·7	Ceylon	1944	7·5
Quebec	1946	10·1	Spain	1946	7·4
Saskatchewan	1946	9·9	Northern Ireland	1946	7·3
Prince Edward Island	1946	8·9	Eire	1946	6·0
Belgium	1946	10·8	Jamaica	1946	5·8
Hungary[1]	1946	10·7	Salvador	1944	3·6
Australia	1946	10·6			

[1] Trianon territory.

In modern industrial countries, the marriage rate varies with the level of economic prosperity. Marriage rates fell during the depression years following 1929, but recovered in the later 1930's. In Canada, England and the United States, the number of marriages was exceptionally high in 1940-42. The number decreased in the years 1943 and 1944 but increased in 1945 and 1946. In Canada there were 20 p.c. fewer marriages in 1944 than in 1942. In 1945 there were 7 p.c. more marriages than in 1944 and in 1946 the number was 5·3 p.c. more than in 1942, the previous high year.

Numbers and Birthplaces of Brides and Bridegrooms.—Table 35 shows the number of marriages and the marriage rates per 1,000 population in Canada and the provinces. Percentages of brides and bridegrooms according to place of birth are also given.

The proportion of brides and bridegrooms born in Canada is increasing. The average in 1941-45 was more than 10 p.c. greater than in 1931-35. In the western provinces, over one-third of the marriages solemnized in 1931-35 were between persons born outside Canada. In 1941-45, taking Canada as a whole, approximately 88 p.c. of all bridegrooms and 92 p.c. of all brides were born in Canada. In the western provinces the proportions were 76 p.c. and 86 p.c., respectively. The higher proportion of marriages between persons born in Canada is due to the restricted immigration of recent years.

35.—Marriages and Marriage Rates, by Provinces, together with Percentage Distribution of Grooms and Brides by Nativity, 1944-46, with Five-Year Averages, 1936-45.

Province and Year	Marriages		Percentage Distribution of Grooms and Brides, by Nativity					
	Total	Rate per 1,000 Population	Born in Province of Residence		Born in Other Provinces		Born Outside Canada	
			Grooms	Brides	Grooms	Brides	Grooms	Brides
	No.		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
P. E. Island.....Av. 1936-40	623	6·6	88·4	92·9	6·3	4·5	5·3	2·6
Av. 1941-45	686	7·5	73·9	87·0	16·6	9·6	9·4	3·4
1944	646	7·1	68·9	87·6	20·1	9·6	11·0	2·8
1945	680	7·4	75·0	87·6	20·0	8·5	5·0	3·8
1946	837	8·9	85·4	91·3	9·9	5·9	4·7	2·9
Nova Scotia.....Av. 1936-40	4,796	8·6	82·4	87·3	8·1	5·8	9·5	6·9
Av. 1941-45	6,302	10·5	67·4	81·3	22·5	11·5	10·1	7·2
1944	5,942	9·7	62·2	78·5	27·1	14·0	10·8	7·5
1945	5,992	9·6	63·5	79·4	27·0	12·6	9·5	8·0
1946	6,549	10·7	77·3	85·1	14·9	7·5	7·8	7·4
New Brunswick.....Av. 1936-40	3,801	8·6	82·1	86·8	9·2	7·3	8·7	5·9
Av. 1941-45	4,433	9·6	75·2	85·2	15·4	8·9	9·4	5·9
1944	3,813	8·3	72·5	85·9	16·8	8·8	10·7	5·3
1945	4,491	9·6	74·1	85·5	17·1	8·6	8·8	5·9
1946	5,866	12·2	78·9	86·7	12·6	7·3	8·5	6·0
Quebec.....Av. 1936-40	27,111	8·5	86·8	89·8	4·9	4·6	8·3	5·5
Av. 1941-45	33,126	9·6	87·2	90·3	6·6	5·5	6·2	4·1
1944	31,922	9·1	88·1	91·4	6·2	4·9	5·7	3·7
1945	33,211	9·3	87·4	90·7	6·7	5·3	5·9	3·9
1946	36,650	10·1	86·6	89·2	7·4	6·6	6·1	4·3

35.—Marriages and Marriage Rates, by Provinces, together with Percentage Distribution of Grooms and Brides by Nativity, 1944-46, with Five-Year Averages, 1936-45—concluded.

Province and Year	Marriages		Percentage Distribution of Grooms and Brides, by Nativity					
	Total	Rate per 1,000 Population	Born in Province of Residence		Born in Other Provinces		Born Outside Canada	
			Grooms	Brides	Grooms	Brides	Grooms	Brides
	No.		p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Ontario.....Av. 1936-40	32,719	8·9	81·3	84·0	4·9	5·4	13·8	10·6
Av. 1941-45	38,042	9·7	84·3	85·7	6·8	6·8	8·9	7·5
1944	31,227	7·9	80·3	82·0	8·6	9·2	11·1	8·9
1945	34,137	8·5	74·5	78·7	12·1	11·1	13·4	10·2
1946	46,073	11·2	73·7	77·4	12·2	11·3	14·1	11·4
Manitoba.....Av. 1936-40	6,931	9·6	61·1	72·8	14·0	12·4	24·9	14·8
Av. 1941-45	7,295	10·0	62·3	73·6	18·7	15·1	19·0	11·2
1944	6,294	8·6	60·6	73·3	19·8	14·6	19·5	12·1
1945	6,579	8·9	62·8	73·8	20·0	15·9	17·3	10·4
1946	8,594	11·8	68·1	74·3	17·3	15·6	14·6	10·1
Saskatchewan.....Av. 1936-40	6,599	7·2	56·6	75·4	16·8	11·3	26·5	13·2
Av. 1941-45	6,541	7·6	66·5	81·2	15·3	9·0	18·2	9·7
1944	5,919	7·0	67·4	82·2	14·6	8·5	18·0	9·3
1945	6,369	7·5	70·5	82·8	14·6	8·7	14·9	8·4
1946	8,279	9·9	74·9	84·0	13·0	7·9	12·2	8·0
Alberta.....Av. 1936-40	7,192	9·2	44·2	60·4	21·9	19·4	33·9	20·2
Av. 1941-45	7,977	10·0	48·1	62·7	24·4	20·8	27·5	16·5
1944	7,299	8·9	45·7	61·6	24·4	21·1	29·9	17·2
1945	7,310	8·8	49·9	63·9	23·7	20·3	26·4	15·8
1946	9,478	11·8	56·7	66·3	22·5	19·4	20·8	14·3
British Columbia...Av. 1936-40	7,053	9·1	34·8	43·1	31·8	34·6	33·4	22·3
Av. 1941-45	9,535	10·7	32·3	41·2	40·2	40·3	27·5	18·5
1944	8,434	9·0	29·9	40·3	41·5	41·2	28·6	18·4
1945	9,262	9·8	30·3	40·2	43·2	42·0	26·5	17·9
1946	11,762	11·7	34·5	40·2	41·0	43·6	24·5	16·2
Canada (Exclusive of the Territories).**Av. 1936-40**	**96,824**	**8·7**	**73·7**	**79·9**	**9·9**	**9·4**	**16·4**	**10·8**
Av. 1941-45	**113,936**	**9·7**	**74·5**	**80·4**	**13·3**	**11·2**	**12·2**	**8·3**
1944	**101,496**	**8·5**	**72·7**	**79·5**	**14·2**	**11·9**	**13·1**	**8·6**
1945	**108,031**	**8·9**	**71·4**	**78·4**	**15·6**	**12·7**	**13·0**	**8·9**
1946	**134,088**	**10·9**	**72·8**	**77·6**	**14·6**	**13·1**	**12·6**	**9·3**

Age and Marital Status of Brides and Bridegrooms.—The distribution of brides and bridegrooms by age and marital status is shown in Table **36.** Nearly 90 p.c. of marriages are between persons who have not previously been married. The average age at marriage of bachelors is about 27 years and that of spinsters between 24 and 25 years. The average age of widowers and widows at the time of re-marriage is more than 20 years higher than that of bachelors and spinsters, being 50·3 years in 1940-42 and 51·5 in 1946 for widowers and 46·4 and 43·1, respectively, for widows. The age distribution of widowers and widows at the time of re-marriage is, of course, very different from that of bachelors and spinsters.

Widowers and widows were each 5 p.c., of all bridegrooms and brides in 1946. This compares with 3·8 and 2·7 p.c. respectively, in 1940-42. Marriages of divorced persons made up 3·1 p.c. of the total.

36.—Marriages, by Age and Marital Status of Contracting Parties, 1944-46

Age Group	BRIDEGROOMS											
	1944				1945				1946			
	Bachelors	Widowers	Divorced	Total	Bachelors	Widowers	Divorced	Total	Bachelors	Widowers	Divorced	Total
	NUMBERS											
Under 20 years..	4,924	1	Nil	4,925	5,049	Nil	Nil	5,049	5,219	1	Nil	5,220
20-24 " ..	37,497	53	40	37,590	40,274	50	69	40,393	51,621	70	148	51,839
25-29 " ..	27,109	179	258	27,546	29,315	253	405	29,973	38,940	277	720	39,937
30-34 " ..	12,498	405	431	13,334	13,156	452	711	14,319	15,767	504	1,052	17,323
35-39 " ..	5,775	514	484	6,773	5,686	577	603	6,866	6,385	630	924	7,939
40-44 " ..	2,906	611	354	3,871	2,746	664	459	3,869	2,863	667	625	4,155
45-49 " ..	1,432	671	238	2,341	1,346	741	306	2,393	1,335	798	334	2,467
50-54 " ..	739	806	147	1,692	647	776	164	1,587	591	765	192	1,548
55-59 " ..	404	822	84	1,310	354	925	101	1,380	336	912	109	1,357
60-64 " ..	218	698	34	950	160	774	48	982	150	813	39	1,002
65 years or over.....	148	980	19	1,147	123	1,040	26	1,189	116	1,153	25	1,294
Totals, Stated Ages	93,650	5,740	2,089	101,479	98,856	6,252	2,892	108,000	123,323	6,590	4,168	134,081
Ages not stated....	15	2	Nil	17	29	2	Nil	31	7	Nil	Nil	7
Totals, All Ages.....	**93,665**	**5,742**	**2,089**	**101,496**	**98,885**	**6,254**	**2,892**	**108,031**	**123,330**	**6,590**	**4,168**	**134,088**
Average age	27·6	52·0	39·5	29·2	27·3	51·7	38·6	29·0	27·1	51·5	37·2	28·6
	PERCENTAGES											
Under 20 years..	5·3	[1]	–	4·9	5·1	–	–	4·7	4·2	[1]	–	3·9
20-24 " ..	40·0	0·9	1·9	37·0	40·7	0·8	2·4	37·4	41·9	1·1	3·6	38·7
25-29 " ..	29·0	3·1	12·4	27·2	29·7	4·0	14·0	27·8	31·6	4·2	17·3	29·8
30-34 " ..	13·3	7·1	20·6	13·1	13·3	7·2	24·6	13·3	12·8	7·6	25·2	12·9
35-39 " ..	6·2	9·0	23·2	6·7	5·8	9·2	20·9	6·4	5·2	9·6	22·2	5·9
40-44 " ..	3·1	10·6	17·0	3·8	2·8	10·6	15·9	3·6	2·3	10·1	15·0	3·1
45-49 " ..	1·5	11·7	11·4	2·3	1·4	11·9	10·6	2·2	1·1	12·1	8·0	1·8
50-54 " ..	0·8	14·0	7·0	1·7	0·7	12·4	5·7	1·5	0·5	11·6	4·6	1·2
55-59 " ..	0·4	14·3	4·0	1·3	0·4	14·8	3·5	1·3	0·3	13·8	2·6	1·0
60-64 " ..	0·2	12·2	1·6	0·9	0·2	12·4	1·7	0·9	0·1	12·3	0·9	0·7
65 years or over.....	0·2	17·1	0·9	1·1	0·1	16·6	0·9	1·1	0·1	17·5	0·6	1·0
Totals, Stated Ages	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Percentage..	92·3	5·7	2·1	100·0	91·5	5·8	2·7	100·0	92·0	4·9	3·1	100·0

[1] Less than one-tenth of one per cent.

36.—Marriages by Age and Marital Status of Contracting Parties, 1944-46—concluded

Age Group	BRIDES											
	1944				1945				1946			
	Spinsters	Widows	Divorced	Total	Spinsters	Widows	Divorced	Total	Spinsters	Widows	Divorced	Total
	NUMBERS											
Under 20 years..	21,822	21	6	21,849	22,624	22	5	22,651	28,067	35	13	28,115
20-24 " ..	43,791	184	220	44,195	47,140	414	325	47,879	58,796	595	553	59,944
25-29 " ..	16,952	284	436	17,672	18,006	473	605	19,084	22,695	968	1,113	24,776
30-34 " ..	6,671	409	486	7,566	6,758	516	631	7,905	8,047	761	1,002	9,810
35-39 " ..	3,013	476	356	3,845	2,964	523	493	3,980	3,209	658	699	4,566
40-44 " ..	1,375	599	212	2,186	1,325	646	256	2,227	1,348	666	373	2,387
45-49 " ..	766	645	132	1,543	677	675	141	1,493	650	799	158	1,607
50-54 " ..	347	575	69	991	303	659	74	1,036	271	688	73	1,032
55-59 " ..	201	484	18	703	160	584	29	773	140	578	42	760
60-64 " ..	89	358	9	456	71	388	6	465	52	446	16	514
65 years or over.....	60	410	3	473	49	455	2	506	49	502	4	555
Totals, Stated Ages	95,087	4,445	1,947	101,479	100,077	5,355	2,567	107,999	123,324	6,696	4,046	134,066
Ages not stated....	17	Nil	Nil	17	26	4	2	32	21	1	–	22
Totals, All Ages.....	**95,104**	**4,445**	**1,947**	**101,496**	**100,103**	**5,359**	**2,569**	**108,031**	**123,345**	**6,697**	**4,046**	**134,088**
Average age	24·4	46·9	34·4	25·6	24·3	45·4	33·8	25·5	24·1	43·1	32·9	25·3
	PERCENTAGES											
Under 20 years..	22·9	0·5	0·3	21·5	22·6	0·4	0·2	21·0	22·8	0·5	0·3	21·0
20-24 " ..	46·1	4·1	11·3	43·6	47·1	7·7	12·7	44·3	47·7	8·9	13·7	44·7
25-29 " ..	17·8	6·4	22·4	17·4	18·0	8·8	23·6	17·7	18·4	14·5	27·5	18·5
30-34 " ..	7·0	9·2	25·0	7·5	6·8	9·6	24·6	7·3	6·5	11·4	24·8	7·3
35-39 " ..	3·2	10·7	18·3	3·8	3·0	9·8	19·2	3·7	2·6	9·8	17·3	3·4
40-44 " ..	1·4	13·5	10·9	2·2	1·3	12·1	10·0	2·1	1·1	9·9	9·2	1·8
45-49 " ..	0·8	14·5	6·8	1·5	0·7	12·6	5·5	1·4	0·5	11·9	3·9	1·2
50-54 " ..	0·4	12·9	3·5	1·0	0·3	12·3	2·9	1·0	0·2	10·3	1·8	0·8
55-59 " ..	0·2	10·9	0·9	0·7	0·2	10·9	1·1	0·7	0·1	8·6	1·0	0·6
60-64 " ..	0·1	8·1	0·5	0·4	0·1	7·2	0·2	0·4	[1]	6·7	0·4	0·4
65 years or over.....	0·1	9·2	0·2	0·5	[1]	8·5	0·1	0·5	[1]	7·5	0·1	0·4
Totals, Stated Ages	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Percentage..	93·7	4·4	1·9	100·0	92·7	5·0	2·4	100·0	92·0	5·0	3·0	100·0

[1] Less than one-tenth of one per cent.

Religious Denominations of Brides and Bridegrooms.—The distribution of brides and bridegrooms by religious denominations is roughly the same as that for the population as a whole. Table 37 shows the very strong influence that religion has on marriage. Approximately 70 p.c. of all marriages are between persons of the same religious denomination. For all denominations except Anglicans, Lutherans, Baptists, and Presbyterians the proportion of brides and bridegrooms of the same denomination is over 60 p.c.; among those of Jewish faith, it was 95 p.c. in 1946; and among Roman Catholics 90 p.c.

37.—Marriages by Religious Denominations of Contracting Parties, 1944-46

Denomination of Grooms and Year	Denominations of Brides										Total Marriages	Percentage
	Anglican	Baptist	Eastern Orthodox	Jewish	Lutheran	Presbyterian	Roman Catholic[3]	United Church	Other Sects	Not Stated		
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
1944												
Anglican	6,821	712	59	15	313	972	1,415	3,463	442	5	14,217	14·0
Baptist	617	1,830	13	5	90	262	339	830	218	Nil	4,204	4·1
Eastern Orthodox	80	11	721	3	27	33	228	75	23	"	1,201	1·2
Jewish	42	8	1	1,574	5	8	34	32	6	Nil	1,710	1·7
Lutheran	394	129	38	1	1,351	161	424	609	225	2	3,334	3·3
Presbyterian	1,153	296	32	4	166	2,041	586	1,389	212	1	5,880	5·8
Roman Catholic[3]	1,215	272	181	17	286	428	41,761	1,295	419	8	45,882	45·2
United Church	2,980	892	69	7	453	1,104	1,312	11,655	515	8	18,995	18·7
Other sects	457	238	35	7	217	221	589	686	3,560	3	6,013	5·9
Not stated	10	4	Nil	Nil	Nil	1	9	21	2	13	60	0·1
Totals, 1944	**13,769**	**4,392**	**1,149**	**1,633**	**2,908**	**5,231**	**46,697**	**20,055**	**5,622**	**40**	**101,496**	**100·0**
Percentages	13·6	4·3	1·1	1·6	2·9	5·2	46·0	19·8	5·5	[1]	100·0	69·8[2]
1945												
Anglican	7,423	761	77	8	330	1,057	1,472	3,763	473	7	15,371	14·2
Baptist	724	2,027	9	2	96	236	357	916	242	1	4,610	4·3
Eastern Orthodox	52	14	667	3	30	22	216	103	29	2	1,138	1·1
Jewish	20	3	1	1,583	6	3	25	18	13	1	1,673	1·5
Lutheran	394	116	45	4	1,384	170	401	636	205	2	3,357	3·1
Presbyterian	1,276	319	17	3	192	2,265	618	1,529	209	4	6,432	6·0
Roman Catholic[3]	1,333	294	177	13	291	428	43,549	1,408	418	16	47,927	44·4
United Church	3,431	976	66	8	529	1,189	1,524	13,023	562	7	21,315	19·7
Other sects	451	253	53	11	195	197	556	702	3,711	13	6,142	5·7
Not stated	16	Nil	Nil	Nil	2	3	9	8	4	24	66	0·1
Totals, 1945	**15,120**	**4,763**	**1,112**	**1,635**	**3,055**	**5,570**	**48,727**	**22,106**	**5,866**	**77**	**108,031**	**100·0**
Percentages	14·0	4·4	1·0	1·5	2·8	5·2	45·1	20·5	5·4	0·1	100·0	69·5[2]
1946												
Anglican	10,027	968	109	13	435	1,343	2,028	4,838	578	4	20,343	15·2
Baptist	947	2,520	15	5	119	326	478	1,214	285	1	5,910	4·4
Eastern Orthodox	71	18	913	1	34	18	285	103	37	1	1,481	1·1
Jewish	30	3	3	2,122	4	12	34	26	11	1	2,246	1·7
Lutheran	472	155	42	5	1,638	203	481	781	271	3	4,051	3·0
Presbyterian	1,632	426	40	9	197	2,868	788	1,911	240	Nil	8,111	6·0
Roman Catholic[3]	1,655	364	225	34	391	565	50,212	1,807	507	10	55,770	41·6
United Church	4,459	1,164	133	15	711	1,534	2,126	17,658	748	8	28,556	21·3
Other sects	619	286	27	14	210	254	707	839	4,628	2	7,586	5·7
Not stated	6	2	1	Nil	Nil	3	6	5	2	9	34	[1]
Totals, 1946	**19,918**	**5,906**	**1,508**	**2,218**	**3,739**	**7,126**	**57,145**	**29,182**	**7,307**	**39**	**134,088**	**100·0**
Percentages	14·9	4·4	1·1	1·7	2·8	5·3	42·6	21·8	5·4	[1]	100·0	69·1[2]

[1] Less than one-tenth of one per cent. [2] Percentage of marriages between contracting parties of the same religious denomination. [3] Including Greek Catholic.

Subsection 2.—Dissolutions of Marriage (Divorces)

For many years after Confederation, the number of divorces in Canada was very small. It was less than 20 in every year before 1900. There were 23 divorces in 1903, 51 in 1909 and 60 in 1913. These numbers were less than 1 per 1,000 of the yearly number of marriages.

One effect of the First World War was to increase the number of divorces. The generally unsettled conditions and the long separation between men on Active Service and their wives contributed to this increase. Changes in law and procedure which made it easier to obtain divorce was a further factor. At present, Quebec is the only province in which applicants for divorce must secure a private Act of Parliament.

There were 114 divorces in Canada in 1918 and 608 in 1926; the number had increased to 700 by 1931, 1,570 by 1936 and 2,369 by 1940. In every year since then the number has been higher than in the year before. The figures for the most part cover only final decrees of dissolution of marriage which alone constitute divorces; annulments and legal separations are excluded.

The statistics of dissolutions of marriage were revised in 1941 with the co-operation of the provincial authorities and the Clerk of the Divorce Committee of the Senate of Canada.

38.—Dissolutions of Marriage (Divorces), by Provinces, 1944-46, with Five-Year Averages, 1936-45

Item	Granted by Parliament of Canada		Granted by the Courts								Canada[1]
	P.E.I.	Que.	P.E.I.	N.S.	N.B.	Ont.	Man.	Sask.	Alta.	B.C.	
Numbers—											
Av. 1936-40	1	56	–	50	44	723	194	116	259	570	2,013
Av. 1941-45	2	99	–	92	104	1,358	305	207	432	937	3,535
1944	3	108	–	93	78	1,471	316	226	484	1,009	3,788
1945	2	177	–	158	171	1,940	405	282	575	1,366	5,076
1946	[2]	290	4	260	382	2,639	636	505	962	2,005	7,683
Percentages—											
Av. 1936-40	[3]	2·8	–	2·5	2·2	35·9	9·6	5·8	12·9	28·3	100·0
Av. 1941-45	0·1	2·8	–	2·6	2·9	38·4	8·6	5·9	12·2	26·5	100·0
1944	0·1	2·8	–	2·5	2·1	38·8	8·3	6·0	12·8	26·6	100·0
1945	[3]	3·5	–	3·1	3·4	38·2	8·0	5·6	11·3	26·9	100·0
1946	[2]	3·8	0·1	3·4	5·0	34·4	8·3	6·6	12·5	26·1	100·0

[1] Exclusive of the Territories. [2] A Divorce Court was established in Prince Edward Island in 1945 and figures for 1946 are shown to the right. [3] Less than one-tenth of one per cent.

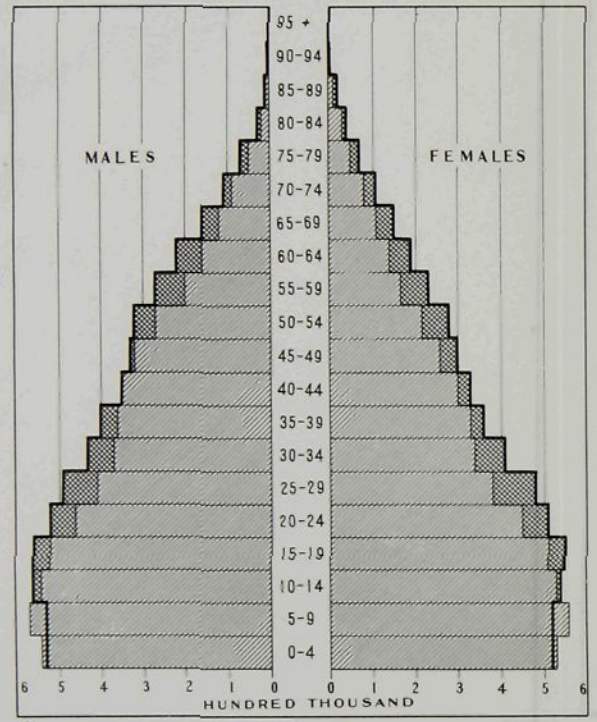
Section 7.—Vital Statistics of Yukon and the Northwest Territories

The vital statistics of Yukon and the Northwest Territories have been collected since 1924. These statistics are not presented with those of the nine provinces in the tables of this Chapter, because the figures are not considered complete. The details are in many cases not available, and the small and varying population of each year is not accurately known.

GRAPHIC RECORD OF VITAL STATISTICS IN CANADA*

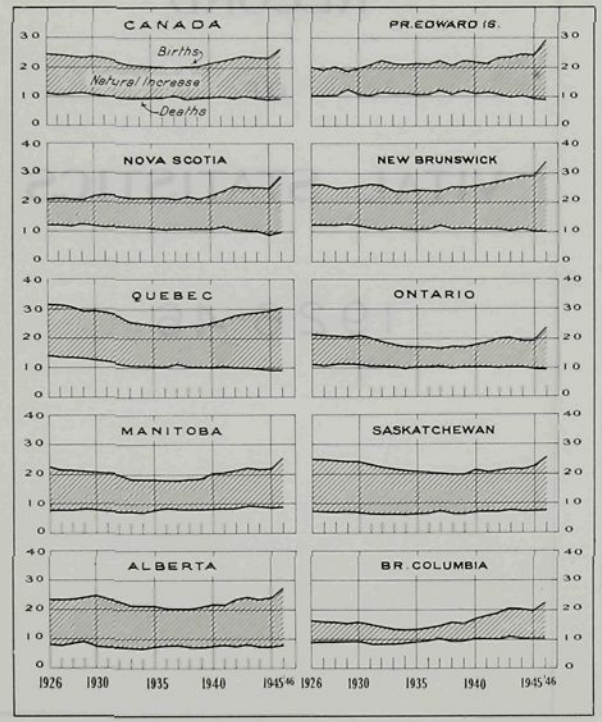
1926 - 46

POPULATION OF CANADA BY SEX AND QUINQUENNIAL AGE GROUPS



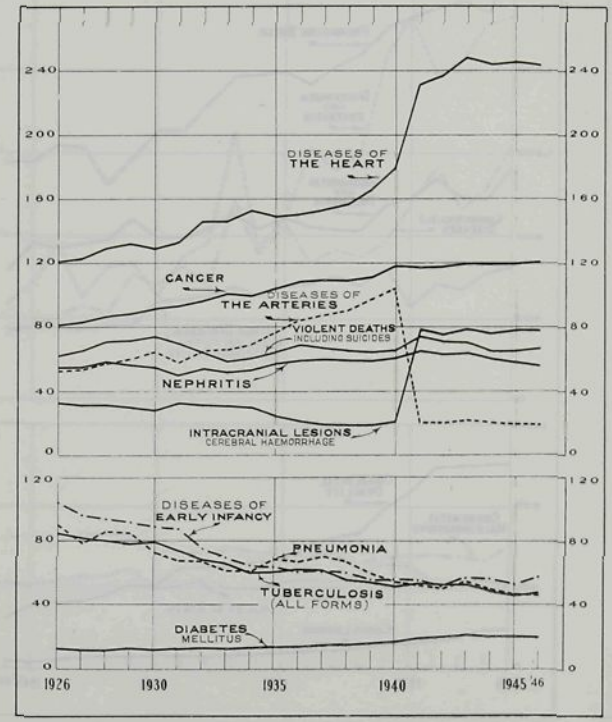
BIRTH RATES, DEATH RATES AND RATES OF NATURAL INCREASE

Rates per 1,000 Population



TEN LEADING CAUSES OF DEATH

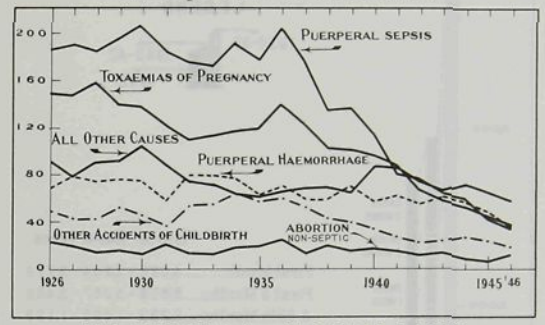
Rates per 100,000 Population



MATERNAL MORTALITY

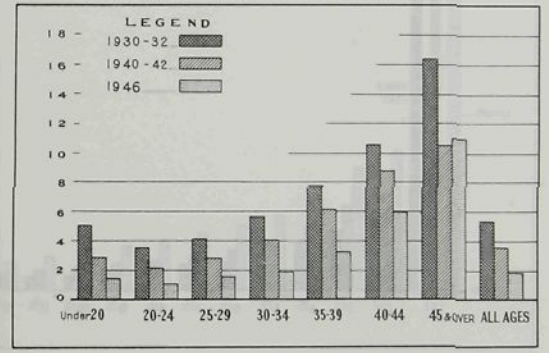
GROUP CAUSES OF DEATH

Rates per 100,000 Live Births



MATERNAL MORTALITY

Rates per 1,000 Live Births, by Ages



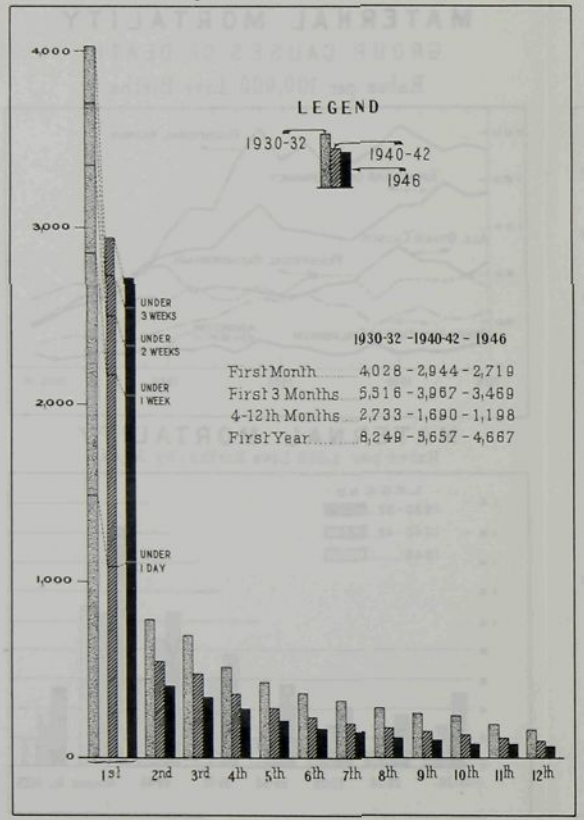
*Exclusive of Yukon and the Northwest Territories

(Continued)

INFANT MORTALITY

AT EACH AGE PERIOD

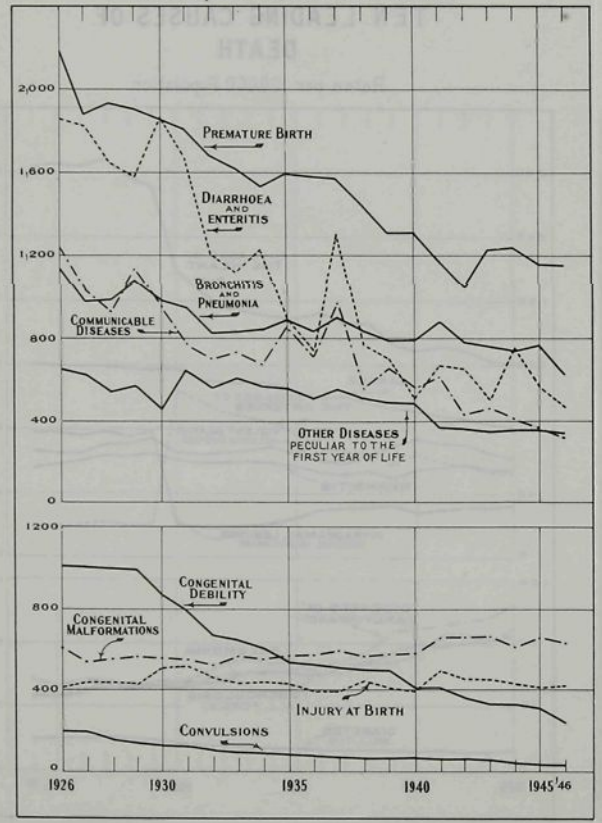
Rates per 100,000 Live Births



	1930-32	1940-42	1946
First Month	4,028	2,944	2,719
First 3 Months	5,516	3,967	3,469
4-12th Months	2,733	1,690	1,198
First Year	8,249	5,657	4,667

LEADING CAUSES OF INFANT MORTALITY

Rates per 100,000 Live Births



RECORD

OF

VITAL STATISTICS

1926-46

39.—Vital Statistics of Yukon and the Northwest Territories, 1941-46, with Five-Year Averages, 1926-45

NOTE.—Figures for 1944 to 1946 are by place of residence; for previous years by place of occurrence.

Year	Yukon			Northwest Territories		
	Births	Marriages	Deaths	Births	Marriages	Deaths
	No.	No.	No.	No.	No.	No.
Averages, 1926-30	33	14	54	158	24	185
Averages, 1931-35	49	24	61	190	41	137
Averages, 1936-40	67	36	72	228	72	177
Averages, 1941-45	105	60	96	383	77	332
1941	72	36	67	314	82	306
1942	96	36	108	369	109	222
1943	99	67	120	403	94	304
1944	136	94	100	316	66	349
1945	123	69	87	511	122	478
1946[1]	146	66	80	593	177	347

[1] Preliminary figures.

Section 8.—Communicable Diseases

The national reporting of communicable diseases in Canada was undertaken, in 1933, by the Dominion Bureau of Statistics, at the request of the Federal Department of Pensions and National Health in co-operation with the Provincial Departments of Health. Since then, the Vital Statistics Division of the Bureau has been responsible for the weekly compilation and analysis of communicable diseases except for a short period in 1939-40, when the work was transferred to the Department of Pensions and National Health. Under arrangements with the Department of National Health and Welfare, the Vital Statistics Division is now analysing the accumulated records of communicable diseases in its files, many of which date back to 1924. The reports of cases of venereal diseases are included in the current analyses and a standard report form is used by all the provinces.

Table **40** shows the number of cases of communicable diseases reported to the Dominion Bureau of Statistics by the Provincial Departments of Health in 1946. The reporting of two diseases, dysentery and rubella, is not compulsory in all provinces. The totals for Canada should, therefore, be considered with caution.

40.—Numbers of Cases of Certain Communicable Diseases Reported by Provincial Health Departments, 1946

Disease	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[7]
Chickenpox	Nil	244	18	5,166	13,402	1,454	1,436	2,066	4,721	29,107
Diphtheria	8	194	88	1,448	452	196	54	31	64	2,535
Dysentery	Nil	Nil	[1]	61	97[2]	2[3]	Nil	12	27	199
Amœbic	"	"	[1]	Nil	75	1	"	12	Nil	88
Bacillary	"	"	[1]	61	9	Nil	"	Nil	27	97
Encephalitis (infectious)	"	1	Nil	1	6	6	5	5	1	25
Influenza (epidemic)	"	4,612	2	Nil	1,825	219	19	2	1,098	7,777
Measles	4	5,006	407	15,040	32,917	2,245	4,081	5,280	2,548	67,528
Meningitis (meningococcal)	Nil	11	17	58	89	23	15	12	31	256
Mumps	1	38	31	2,045	11,615	2,349	2,329	2,047	5,601	26,056
Poliomyelitis (epidemic)	80	49	94	1,612	518	48	37	68	21	2,527
Rubella[4]	Nil	59	Nil	765	1,244	26	53	349	348	2,844
Scarlet fever	21	443	338	3,406	3,284	610	140	464	602	9,308
Smallpox	Nil	Nil	Nil	Nil	Nil	Nil	2	Nil	Nil	2
Tuberculosis	311	455	526	5,766	2,769	1,090	652[6]	1,158	2,536	15,263
Pulmonary	311	449	514	5,494	[5]	1,087	531	1,141	2,382	11,909
Non-pulmonary	Nil	6	12	272	[5]	3	91	17	154	555
Typhoid and paratyphoid	Nil	12	17	500	126	24	30	12	200	921
Undulant fever	"	6	6	77	80	22	1	39	19	250
Venereal diseases	147	1,576	1,164	11,111	12,131	3,040	2,775	2,926	6,686	41,556
Syphilis	50	658	334	5,425	4,807	679	643	503	2,118	15,217
Gonorrhœa	97	917	830	5,671	7,324	2,361	2,124	2,423	4,539	26,286
Other venereal diseases	Nil	1	Nil	15	Nil	Nil	8	Nil	29	53
Whooping cough	3	442	32	3,068	3,128	425	98	308	167	7,671

[1] Not reportable in the Province of New Brunswick. [2] Including 13 cases where type was not stated. [3] Including 1 case where type was not stated. [4] Reporting not compulsory in the Provinces of New Brunswick and Manitoba. [5] Type not segregated. [6] Including 30 cases where type was not stated. [7] Exclusive of Yukon and the Northwest Territories.

CHAPTER VII.—PUBLIC HEALTH AND WELFARE

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PART I.—PUBLIC HEALTH

Section 1.—Administration

In Canada matters of public health are administered by Federal and Provincial Governments through their respective Health Departments.

The Federal Government has jurisdiction only over those public-health matters that are exclusively international, national and interprovincial.* It makes grants to Provincial Departments of Health and to voluntary organizations engaged in public-health work. An important development was inaugurated on May 14, 1948, when the Government's health program was announced, including annual grants totalling approximately $30,000,000 to the provinces for health services and hospital construction. Following this announcement Parliament appropriated, for the year ended Mar. 31, 1949, funds for the following grants: health survey, $625,000; hospital construction, $13,000,000; general public health, $4,395,000; tuberculosis control, $3,000,000; mental health, $4,000,000; venereal disease control, $275,000 (in addition to the existing grant of $225,000); crippled children, $500,000; professional training, $500,000; public health research, $100,000; and cancer control, $3,500,000. The grants will be provided under the terms and conditions approved by the Governor in Council.

The Dominion Council of Health, created originally in 1919, is responsible for correlating and co-ordinating the activities of Provincial Departments of Health; it comprises the Deputy Minister of Health of each of the provinces as well as a representative of agriculture, labour, and urban and rural women, respectively, and a scientific adviser on public health.

Subsection 1.—Public Health Activities of the Federal Government

The Act of Parliament (8 Geo. VI, c. 22, 1944) creating the Department of National Health and Welfare clearly defines its functions. The Department is

* Treatment for ex-members of the Armed Forces is provided by the Department of Veterans Affairs.

divided into two branches. The functions of the Welfare Branch are given at pp. 251-258 and pp. 265-266; those of the Health Branch are: to maintain a maritime and aerial navigation quarantine for excluding infectious diseases; to advise the Immigration Service regarding the health of immigrants; to provide medical care for sick and injured seamen serving on vessels paying sick mariner service dues; to supervise the health conditions of workmen engaged on public works; to be responsible for the care of the health of Indians and Eskimos; to set the standards and control the quality of food and drugs; to control the importation, exportation and distribution of habit-forming narcotic drugs; to care for lepers; to promote and conserve the health of government employees; to furnish medical advice required in implementing pensions for the blind; to administer the Proprietary or Patent Medicine Act; to advise the Canadian Broadcasting Corporation in regard to broadcasts relating to health.

The Department is also empowered to assist the provinces by conducting investigations and research into public-health problems, and by co-operating with them in the preservation and improvement of health. Studies of existing facilities and future requirements in the fields of medical, hospital and related services and investigations of various methods of providing such services, including health insurance, are continuing.

To carry on its activities the following Directorates and Divisions have been organized within the Health Branch:—

Directorate of Health Services
- Blindness Control
- Child and Maternal Health
- Civil Service Health
- Dental Health
- Epidemiology
- Hospital Design
- Industrial Health
- Mental Health
- Narcotics
- Nutrition
- Public Health Engineering
- Civil Aviation Medicine
- Quarantine, Immigration and Sick Mariner Service
- Venereal Disease Control
- Laboratory of Hygiene

Directorate of Indian Health Service

Directorate of Food and Drug Divisions
- Inspection
- Laboratory
- Proprietary and Patent Medicine

Directorate of Health Insurance Studies

The National Physical Fitness Program.—This program has a close association with both health and welfare. It is, however, administered under the Welfare Division and is dealt with at pp. 265-266.

Subsection 2.—Public Health Activities of the Provincial Governments

Prince Edward Island.—During the session of the Legislature in March, 1946, the Department of Public Welfare, which administered both health and welfare, was reorganized under the title of "Health and Welfare" with one Minister responsible for both divisions. The Health Division is under the supervision of the Chief Health Officer, who superintends the work of the Central Division, including the Provincial Laboratory and the Nursing and Sanitary Division. The Province is divided into five Districts: a public health nurse is assigned to each District and is responsible for the inspection of school children, home visiting, home-nursing classes, immunizing clinics, etc. One nurse specially trained in the treatment of venereal disease and another specially trained in combating tuberculosis have the entire Province as their field of operation. The Provincial Laboratory, operated by a Laboratory Director and a competent staff, is of great assistance to the practising physicians of the Province.

The Provincial Government operates, at Charlottetown, a Provincial Sanatorium of 145-bed capacity under a Board of Commissioners and an annual grant is made to assist ex-sanatorium patients when required and to help indigent tubercular persons awaiting admission and their families. Field work in the diagnosis and treatment of tuberculosis is one of the responsibilities of the Health Division and clinics are held periodically at central points in the Province. The Prince Edward Island Tuberculosis League, a voluntary organization, works in close co-operation with the Provincial Sanatorium and Health Division. A 20-bed hospital is also maintained for crippled children at the Provincial Sanatorium.

Annual grants are made to the general hospitals which, in turn, accept as free patients all indigent persons requiring hospital treatment. Expenses in connection with the operation of a hospital for the insane are borne practically in full by the Provincial Government.

The Department of Health operates two venereal disease clinics, one at Charlottetown and the other at Summerside; hospital beds are provided for selected cases. All necessary medication is supplied free of charge to persons who are not within reach of public-health clinics.

Nova Scotia.—The Nova Scotia Department of Public Health, with headquarters at Halifax, carries on a generalized public-health program throughout the Province. Attached to the central office are: the Minister of Health, a Deputy Minister, an Assistant Deputy Minister, an Inspector of Hospitals and Humane Institutions, a Superintendent of Public Health Nursing, a Public Health Engineer, a Director of Physical Fitness, a Supervisor of Physical Education, two Assistant Supervisors and two Nutritionists. The central office also includes Divisions of Laboratories (Bacteriological, Pathological, Industrial Hygiene) and Neuropsychiatry.

Four provincially owned hospitals are operated under the direction of the Health Department: a general hospital, two tuberculosis sanatoria and a mental hospital. A cancer clinic and a "Kenny" treatment clinic for poliomyelitis are attached to the general hospital.

Outside of Halifax the Province is divided into six health divisions with competent directors. Each has its staff of public-health nurses, sanitary inspectors, clerks and stenographers and has portable X-ray and other necessary apparatus. The services offered by these units are health education, communicable disease control, environmental sanitation, public-health nursing and maternal, infant and child hygiene. These divisions are directed and controlled by the Provincial Department of Health and with one exception they are completely financed by the Province.

The Halifax City Department of Health has recently been completely reorganized and modernized. Here a trained staff under the leadership of a Commissioner, with some financial assistance from the Province, is rendering an up-to-date service covering all the usual public-health activities. This organization constitutes another health division.

In the development of health services in Nova Scotia, particular attention has been given to the employment of trained persons and to the further training of those already employed. No factor in health organization is more important than having the various bureaus headed by competent persons. The soundness of this principle has been demonstrated by the results obtained in recent years.

New Brunswick.—In 1918 the Legislature of New Brunswick established a Ministry of Health. Under the Minister the Department is directed by a Chief Medical Officer who is also Registrar General of Vital Statistics. In addition, the Department maintains seven full-time Medical Health Officers, a Director of Nutrition, a Director of Public Health Nursing, a Director of Venereal Disease Control Division and an Assistant Registrar General.

Recent additions to services and staff consist of:—

(1) A Director of Hospital Services, appointed effective June 1, 1947, whose duties are generally concerned with all phases of hospital service in the Province;

(2) A Sub-Zone Laboratory, under a qualified Director, officially inaugurated on June 1, 1947, as part of the Provincial Bureau of Laboratories;

(3) A Sanitary Engineer, appointed effective Aug. 1, 1947, under whose direction and supervision the problems of sanitation, water supply and sewerage will receive competent attention;

(4) A Director of Cancer Diagnostic Service, appointed Aug. 6, 1947, to organize Cancer Diagnostic Clinics in various hospitals throughout the Province for a trial period of one year;

(5) A Director of Tuberculosis Control Division, appointed effective Oct. 15, 1947, under whose supervision is centralized all work in connection with tuberculosis.

The Department provides the following services: general sanitation, control of communicable diseases including tuberculosis and venereal diseases, the supply of biologicals, medical inspection of schools, child-welfare work, health education, nutrition, and general supervision and co-ordination of the work of the Sub-District Boards of Health.

The Province assumes all the costs of sanatorium care for tubercular patients, all hospital care for victims of poliomyelitis during the acute and immediate post-paralytic stages, and about 60 p.c. of the cost of hospital care for mental patients.

Quebec.—The Provincial Government, by legislation passed in 1946, authorized the establishment of a Department of Social Welfare and Youth. Since then, the Ministry of Health, which in reality has existed since 1936, deals only with matters relating to health, preventive medicine and public charities. From 1936 to 1941 provincial health matters were under the Department of Health which, in the former year, replaced the Health Service that operated under the Provincial Secretary. Since 1926 a system known as "County Health Units" has been in operation, the purpose of which is to provide a regular full-time service for each county or group of two or three adjoining counties included in the scheme. There are now 63 units of this kind, covering 74 counties. The Health Officers of the old districts, whose number is now reduced to seven, supervise the few counties not organized into units. Many municipalities, such as Montreal, Sherbrooke, Westmount and Quebec, have their own Health Bureaus.

The Department of Health maintains, in addition to its administrative service, the following divisions: Laboratories, Sanitary Engineering, Demography, Mental Health, Public Charities, Health Districts and Units, Epidemiology, Industrial Health, Nutrition (including Maternal Hygiene and Child Welfare), Venereal Diseases, Tuberculosis, Health Education, Dental Health Education, Publicity, etc.

Service is rendered in the form of consultations, public lectures, school inspections, itinerant clinics of pediatry and tuberculosis, inquiries of all kinds, immunizations, sanitation improvement, etc. Twenty-seven anti-tuberculosis dispensaries have been established and 70 clinics of pediatry, including those sponsored by the Provincial Government.

An Act was introduced at the 1946 session of the Quebec Legislature designed to combat the spread of tuberculosis in the Province. This Act authorized the Minister of Health to organize facilities for the detection of cases of tuberculosis and to contribute to the construction and maintenance of sanatoria for consumptives and the training of specialists in the treatment of the disease as well as to carry on educational campaigns in the fight against tuberculosis. An Advisory Board was also set up to ensure the practical and efficient carrying out of the legislation.

Ontario.—The Department of Health is organized under a Minister, a Deputy Minister who is also Chief Medical Officer, and an Assistant Deputy Minister.

The public-health services of the Department are organized under the following branches: Public Health Administration; Public Health Nursing; Maternal and Child Hygiene; Dental Services; Epidemiology; Venereal Disease Control; Tuberculosis Prevention; Industrial Hygiene; Laboratory Services; Administration of Mental Hospitals; and Sanitary Engineering. There are also branches for the supervision of certain aspects of medical treatment centres throughout the Province, including public general and private hospitals and nurse registration. Under Public Health Administration, 20 Health Units staffed by qualified personnel were in operation on Dec. 31, 1947.

The objectives of the Public Health Nursing Branch are: (a) to interest and instruct local Boards of Health in the organization and development of public-health nursing services; and (b) to co-operate with voluntary health, nursing and related agencies. Financial assistance is given to registered nurses, under certain conditions, for post-graduate study in public-health nursing.

The Maternal and Child Hygiene Branch is responsible for the implementation of a 1946 amendment to the Public Health Act which provides for one free medical examination during any one pregnancy of resident expectant mothers. The Government absorbs this cost and remunerates the physician, chosen by the applicant, for his services. During 1947, 40 to 50 p.c. of the expectant mothers availed themselves of this provision.

The Dental Service concerns itself with the dental clinics operated in Ontario hospitals and in the institutions under the Department of Reform Institutions, interests itself in dental health education programs, and provides grants-in-aid to local Boards for dental service. A railway dental car is maintained to serve certain areas in the northern part of the Province.

Epidemiology distributes free biologicals and other materials for the control and prevention of acute communicable diseases and supplies gratuitously certain test materials. Free insulin is also distributed.

Venereal Disease Control provides consultative and advisory services, interests itself in education programs, distributes certain drugs free of charge, and extends grants-in-aid to some 17 clinics strategically placed throughout the Province.

The Tuberculosis Prevention Branch maintains four chest clinics at various points in the Province and operates three travelling mass-survey units, two of these

employing modern, mobile equipment put into operation in 1947. It is administratively responsible for payments made on behalf of patients receiving free sanatorium care.

The Division of Industrial Hygiene is responsible for the control of occupational diseases and acts as adviser to the Factory Inspection Branch of the Labour Department, the Workmen's Compensation Board and industry generally.

In addition to the Central Laboratory, there are 15 branches of which nine are designated as regional and six as subsidized. Divisional Laboratories carried out 1,260,155 specimen examinations in 1947.

The Division of Sanitary Engineering administers all legislation affecting water supplies, sewerage systems, stream sanitation, refuse disposal, milk and food sanitation, frosted-food locker plants, cemeteries, recreational sanitation and all other forms of environmental sanitation.

The Division of Nurse Registration concerns itself with the training of student nurses, registration and the regulation of reciprocal registration with other provinces and countries.

In 1947, financial aid was extended to six doctors, 30 nurses, one veterinarian and three sanitary engineers to assist them in the pursuit of studies in public health. Grants-in-aid were also paid to the six County Public Health School Nursing Services operating in 1947. Fifteen hospitals are administered and operated by the Director of the Mental Health Branch. A second hospital training school is under construction. Three special units concern themselves with the care of epileptics, the tuberculous and the criminally insane. This Branch also organizes and operates travelling clinics and is assisted by district consultant psychiatrists.

Serving all Branches of the Department of Health as required are the Legal Branch and the Medical Statistics Branch.

Legislation concerning public health passed in 1947 included: the Nurses Act, 1947, under which provision was made for the registration of certified nursing assistants; the Sanatoria for Consumptives Act which consolidated the 1937 Act and subsequent amendments; amendments to the Public Health Act authorizing the prescribing of standards for the construction, operation and maintenance of premises where food or drink for human consumption is manufactured or handled and regulating or restricting the manufacture or selling of such food or drink; also amendments to the Dentistry Act and the Public Hospitals Act.

Manitoba.—The Health and Public Welfare Act states that the Minister shall preside over, and have the management and direction of the Department, and the Department shall have administrative jurisdiction over all matters in the Province that relate to health and public welfare. The Department is organized into four main Divisions: General Administration; Health Services; Psychiatric Services; and Welfare Services.

The Division of General Administration includes the general executive offices, and the Sections of Farms Management, Statistics and Records, Accountancy, Health and Welfare Education, and Administrative Research.

The Division of Health Services has four Sections: (1) Environmental Sanitation, which consists of the Bureaus of Public Health Engineering, Food and Milk Control, and Industrial Hygiene. The latter Bureau takes care of the many hazards to personnel in industry. (2) Preventive Medical Services, which consists of the Bureaus of: Disease Control, responsible for the control of acute communica-

able disease, venereal diseases and tuberculosis; Maternal and Child Hygiene, responsible for an educational program in maternal, infant, pre-school and school health; Public Health Nursing, responsible for nursing education, field supervision, licensing and control of practical nurses, registry for crippled children, and general administration of all public-health nursing services. (3) The Extension Health Services Section administers the provisions of the Health Services Act, and consists of the Bureaus of: Local Health Services, responsible for the establishment, supervision, and general administration of local health units throughout the Province, the control of local part-time medical officers of health, consultative services to local and municipal health departments in Manitoba; Diagnostic Services, responsible for the establishment and general administration of diagnostic units set up in general hospitals in Manitoba; Medical Care, responsible for the approval of contracts for pre-payment medical care between a municipality, or municipalities, and the contracting physician, and for the payment of Provincial Government grants to the municipalities in aid of such service; Hospitalization, responsible for the organization and supervision of the establishment of hospital districts, medical-nursing units and hospital areas, together with the supervision of hospitals throughout the Province and the payment of Provincial Government grants to them; and the Bureaus of Dental Services, Physical Fitness and Nutrition Research. (4) Laboratory Services.

The Division of Psychiatric Services consists of the Bureaus of: Mental Institutions, responsible for the supervision and control of the four institutions—the Psychopathic Hospital, Winnipeg, the Hospitals for Mental Diseases at Selkirk and Brandon, and the Manitoba School for Mentally Defective Persons at Portage la Prairie; and Community Mental Health Services, responsible for out-patient services, child-guidance clinics, services to courts and child-caring agencies, boarding-home care for the mentally ill, and teaching facilities.

Welfare services of the Department are dealt with in Part II of this Chapter at p. 269.

Saskatchewan.—The Department of Public Health consists of 13 Divisions: (1) Administration; (2) Public Health Nursing conducts a program of public-health nursing, infant and maternal welfare, school work, venereal disease, epidemiology, etc., and supervises maternity grants; (3) Communicable Diseases distributes free vaccines and sera to doctors and hospitals and supervises anterior poliomyelitis clinics, boards of health, medical health officers, medical examination of food-handlers, burial, disinterment and transportation of the dead and promotes immunization programs; (4) Sanitation has supervision of water-works, sewerage systems and drainage, food supplies including milk, and urban and rural sanitation; (5) The Division of Laboratories does routine public-health work in bacteriology, serology, chemistry and pathology and provides clinical diagnostic laboratory service for rural physicians; (6) Vital Statistics; (7) Mental Services has the care and treatment of patients in institutions for the mentally ill and mentally defective and of patients in the psychopathic ward at Regina, and the supervision of mental hygiene clinics; (8) Venereal Disease Control administers diagnostic and treatment services, epidemiology, and education; (9) Health Education conducts a program for modifying public opinion in favour of higher standards of health; (10) Nutrition creates interest in better food habits, emphasis being placed on nutrition of children with special attention to school lunches; (11) Physical Fitness and Recreation stimulates, organizes and assists social, cultural and athletic activities; (12) In-

dustrial Hygiene provides a consulting service on matters pertaining to industrial health; (13) Air Ambulance Service provides emergency service at a nominal charge of $25 per flight.

The Province is divided into 13 health regions, five of which have been established. The Cancer Commission of the Department of Public Health has established consultative, diagnostic, surgery and treatment clinics at Regina and Saskatoon. Radon is manufactured at a plant in Saskatoon. Free treatment for cases of poliomyelitis is available at Saskatoon and Regina. Free diagnostic and treatment services are available for tubercular patients in three sanatoria and a number of clinics operated by the Saskatchewan Anti-Tuberculosis League. Annual surveys are carried out throughout the Province.

The Health Services Planning Commission supervises all hospital planning and administration, and all approved hospitals and nursery homes. It acts as an advisory and consultative body to local regions, municipalities, local improvement districts, mutual benefit and hospital associations, and Union hospitals and is responsible for the administration of medical care grants; it assesses hospital facilities and advises on needed hospital expansion. It must approve by-laws and contracts for all types of municipal health schemes. It administers the Saskatchewan Hospital Services Plan which provides for hospital care for every resident of the Province. The Medical Services Division of the Health Services Planning Commission supervises payment of grants to physicians, dentists and approved hospitals for services to needy residents of the Province outside municipal jurisdiction; insulin is supplied free to diabetics who are unable to purchase it; medical, hospital and drug services are provided to old age and blind pensioners and their dependents, and to recipients of mothers' allowances and their children.

Alberta.—The Department of Public Health administers all public-health matters in the Province and includes the following Divisions: Communicable Diseases; Sanitary Engineering and Sanitation; Public Health Education; Public Health Entomology; Laboratory; Tuberculosis Control; Public Health Nursing; Municipal Hospitals; Hospital and Medical Services; Social Hygiene; Vital Statistics; Mental Hygiene; Cancer; and Nutrition Services.

The following institutions are administered by the Department: Central Alberta Sanatorium; the Provincial Mental Hospital, Ponoka; the Provincial Training School, Red Deer; the Provincial Auxiliary Hospital, Claresholm; the Provincial Auxiliary Hospital, Raymond; the Provincial Mental Institute, Edmonton; Rosehaven Home, Camrose.

Free clinics for venereal disease are maintained at the following centres: Edmonton, Calgary, Medicine Hat, Lethbridge, Peace River, High Prairie, McLennan, and in the two provincial gaols. Arsenicals, penicillin and sulpha drugs are provided free of charge to all private physicians treating venereal disease. Educational work on social hygiene is carried on by means of lectures, moving pictures, bulletins and radio talks.

Free treatment for pulmonary tuberculosis is provided for any person who has resided in the Province for at least one year immediately preceding admission for treatment in the sanatorium. In addition to this service, two mobile X-ray clinics are in operation; the personnel is supplied and the clinics are maintained by the Provincial Department of Public Health while the equipment is furnished by the Alberta Tuberculosis Association.

Provision is made for the free treatment in special hospitals of patients suffering from poliomyelitis. Provision is also made for academic instruction, vocational training and rehabilitation of those suffering from paralysis resulting from this disease.

Weekly diagnostic cancer clinics have been established at Edmonton and Calgary. Patients found to require deep X-ray radium therapy or surgery are treated free of charge. Hospitalization necessary to establish diagnosis may be authorized up to a maximum of 14 days.

Any maternity patient who has been a resident of the Province for 12 consecutive months out of the 24 immediately preceding admission, is entitled to free hospitalization for herself and child for a maximum period of 12 days.

Alberta's Rural Health Districts, of which there are 17, have been operating successfully since 1931; 36 district nurses provide diversified medical and public-health service in outlying districts.

Each party to a marriage contract is required to have a specimen of blood forwarded to the Provincial Laboratory or other approved laboratory for serological examination.

Municipal Hospitals.—There are 51 municipal hospitals in operation, with three under construction and five additional districts contemplating coming under the Act. Municipal hospitals reporting in 1946 had a total bed capacity of 1,334; patients admitted numbered 37,571 and total hospital days 305,922; 4,849 maternity patients were admitted and 4,624 babies born; major operations performed numbered 3,331, minor operations 6,810 and 16,525 medical cases were treated; graduate nurses employed numbered 247. The average patient day cost of operation was $4·38 and the average revenue per patient day was $4·83. The approximate population served by these hospitals was 268,940, covering an area of over 30,000 square miles.

Hospital, Medical and Dental Services for Pensioners.—Free hospitalization and treatment services are provided for all Alberta residents receiving blind pensions, old age pensions and mothers' allowances as well as for the dependents of such persons.

Dental service is complete for recipients of mothers' allowances and blind pensions and their dependents. Old age pensioners receive dental services with the exception of dentures.

British Columbia.—The Department of Health and Welfare, with one Cabinet Minister, has two branches under the supervision of the Deputy Minister of Health and the Deputy Minister of Welfare, respectively.

Within the Health Branch, the Bureau of Local Health Services supervises public-health activities pertaining to the local level. Outside Greater Vancouver and Victoria, which have their own Health Departments, these local public-health services are provided through: (a) Health Units or (b) Public Health Nursing Districts or (c) certain practising physicians who serve as part-time Medical Health Officers. With the exception of (c) and those in the two cities mentioned, public-health personnel are all employed by the Provincial Department.

The boundaries of a Health Unit are such that the area served includes several school districts. The staff consists of a physician with post-graduate training in public health, several public-health nurses also with post-graduate training, one

or two sanitary inspectors who are required to hold the Certificate of the Canadian Institute of Sanitary Inspectors, and a statistical clerk. Nine of the 16 Units planned are in operation.

A Public Health Nursing District, like a Health Unit, covers several school districts. It is considered to be a forerunner of a Health Unit and is staffed by nurses with the same training as those in the Health Units.

In both types of service a generalized program is conducted. The tendency, however, is to give special training to consultants and supervisors who then serve in a consultative capacity in their specialty in the Province as a whole as well as supervise the generalized program in their own areas.

Approximately one-third of the cost is borne by the local districts and the remainder of the cost is borne by the Provincial Department of Health except in the two metropolitan areas where special grants are made under previous arrangements. Approximately 92 p.c. of the population of the Province is served by full-time trained public-health personnel.

Several specialized divisions of the Health Branch provide consultative service and guidance to the field staff, other departments of government, and agencies both official and voluntary. Located at Victoria are the Nutrition Services and the Divisions of Health Units, Public Health Nursing and Environmental Sanitation, which, together with the proposed Divisions of Industrial Hygiene and Preventive Dentistry, constitute the Bureau of Local Health Services.

Also at Victoria are headquarters of the Divisions of Vital Statistics and Public Health Education which are grouped in the Bureau of Central Administration.

The Divisions of Tuberculosis Control, Venereal Disease Control and Laboratories have their headquarters at Vancouver, and are grouped in the Bureau of Special Preventive and Treatment Service.

Section 2.—Institutional Statistics*

Under authority granted by the Federal Government in 1930, the Dominion Bureau of Statistics has, since that date, co-operated with the provincial authorities through the Census of Institutions, and now collects, on a Dominion-wide basis, statistics for the following types of institutions: (1) *Hospitals*—institutions primarily engaged in the prevention, cure or alleviation of physical sickness and disease, such as hospitals for the sick, sanatoria, and institutions for incurables and those under the heading "Dominion" in Table **1.** (2) *Mental and neurological institutions*—such as asylums for the insane, institutions for the feeble-minded, epileptic, etc., devoted to the treatment and care of mental ailments. (3) *Charitable and benevolent institutions*—caring for the poor and the destitute of all ages, such as homes for the aged, county refuges, orphanages, etc. The latest statistics available regarding charitable institutions appear at pp. 677-682 of the 1943-44 Year Book. Statistics of penal and corrective institutions are also collected through the Census of Institutions; they are dealt with under Crime and Delinquency at p. 308.

* Except as otherwise noted, this Section has been revised under the direction of J. T. Marshall, Director, Health and Welfare Division, Dominion Bureau of Statistics, by J. C. Brady, Chief, Institutions Statistics.

1.—Hospitals Operating in Canada, by Provinces, 1946

Type of Institution	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Population (1946 estimate, 000's omitted)	94	612	480	3,630	4,101	727	833	803	1,003	24	12,307
Public Hospitals for Acute Diseases[1]											
General	3	27	16	64	115	36	81	87	67	9	505
Women's	Nil	2	1	3	3	Nil	Nil	1	1	Nil	11
Children's	"	1	Nil	2	1	1	1	1	2	"	9
Contagious diseases	"	1	"	4	3	1	Nil	2	Nil	"	11
Convalescent	"	Nil	"	4	6	1	"	Nil	"	"	11
Red Cross	"	1	2	Nil	25	Nil	7	"	4	"	39
Other	"	Nil	Nil	7	1	"	Nil	1	Nil	"	9
Totals, Public Hospitals	3	32	19	84	154	39	89	92	74	9	595
Private hospitals	Nil	12	4	50	48	5	63	22	30	1	235
Institutions for incurables	"	Nil	Nil	5	10	1	2	2	3[2]	Nil	23
Dominion Hospitals—											
Department of National Health and Welfare—											
Quarantine and marine	Nil	4	1	1	Nil	Nil	Nil	Nil	2	Nil	8
Leper	"	Nil	1	"	"	"	"	"	1	"	2
Indian Health Service	"	"	1	"	3	6	2	5	3	"	20
Department of Veterans Affairs	Nil	3	3	5	11	2	2	4	4	Nil	34
Department of National Defence	"	1	Nil	2	4	4	Nil	1	3	1	16
Totals, Dominion Hospitals	Nil	8	6	8	18	12	4	10	13	1	80
Tuberculosis sanatoria	1	3	4	14	14	3	3	1	5	Nil	48
Units in other public hospitals[3]	*Nil*	*8*	*Nil*	*16*	*Nil*	*1*	*Nil*	*3*	*1*	"	*29*
Mental Institutions—											
Provincial hospitals	1	2	1	7	15	3	3	4	3	Nil	39
Training schools	Nil	Nil	Nil	Nil	Nil	1	Nil	1	Nil	"	2
Psychiatric hospitals	"	"	"	"	"	Nil	"	Nil	"	"	-
County and municipal hospitals	"	15	"	"	"	"	"	"	"	"	15
Dominion hospitals	"	Nil	"	1	1	"	"	"	"	"	2
Private institutions	"	"	"	Nil	1	"	"	"	1	"	2
Totals, Mental Institutions	1	17	1	8	17	4	3	5	4	Nil	60
Totals, All Hospitals	**5**	**72**	**34**	**169**	**261**	**64**	**164**	**132**	**129**	**11**	**1,041**

[1] Excluding incurable, mental and tuberculosis institutions. [2] Provincial Infirmary and two branch hospitals. [3] Not included in totals.

Subsection 1.—Statistics of Hospitals, Other Than Mental

Summary statistics of reporting public and private hospitals for the years 1942-46 are given in Table 2, while Table 3 gives more detailed information regarding public hospitals for 1946.

2.—Summary Statistics of Reporting Public and Private Hospitals, 1942-46

NOTE.—Figures do not include hospitals and homes for incurables, Dominion, mental, or tuberculosis hospitals.

Item	1942	1943	1944	1945	1946
	No.	No.	No.	No.	No.
Public Hospitals—					
Units reporting	618	611	586	588	595
Bed capacities[1]	60,205	61,070	59,010	59,324	61,324
Patients under treatment[2]	1,115,666	1,204,170	1,269,427	1,351,955	1,504,893
Total collective days' stay[2]	14,638,647	15,562,644	14,975,802	15,706,159	16,818,176
Private Hospitals—					
Units reporting	287	264	267	234	235
Bed capacities[1]	4,475	4,251	4,579	4,083	4,074
Patients under treatment[2]	48,225	52,045	53,224	50,977	58,216
Total collective days' stay[2]	811,156	857,332	905,614	929,991	882,356

[1] Includes beds, cribs and bassinets. [2] Includes newborn.

For Canada as a whole, 595 public hospitals reported in 1946, of which 505 were general hospitals. Of the total public hospitals reporting, 507 had X-ray facilities; 329 had clinical laboratories; and 262 had physio-therapy facilities.

During the year, patients receiving treatment numbered 1,504,893; admissions numbered 1,254,807; discharges, 1,423,834; live births 210,482; and deaths, 40,045. Figures that met the requirements of the Bureau of Statistics were provided by 519 hospitals which reported total collective days' stay numbering 16,367,925; receipts, $85,601,948; expenditures, $84,502,748; and average cost per patient day, $4·76.

3.—Summary Statistics of Reporting Public Hospitals, by Provinces, 1946

NOTE.—Figures do not include hospitals and homes for incurables, Dominion, mental, tuberculosis or private hospitals.

Item	Yukon and N.W.T.	Prince Edward Island[1]	Nova Scotia		New Brunswick	
			General	All Other[2,3]	General[1]	All Other[2]
	No.	No.	No.	No.	No.	No.
Hospitals reporting	9	3	27	5	16	3
Approved schools of nursing	Nil	2	13	2	14	Nil
Staff—						
Salaried doctors, full-time	2	1	5	1	5	"
Internes	Nil	1	33	5	14	"
Graduate nurses	23	24	392	38	276	11
Student nurses	Nil	69	595	65	512	Nil
Totals, Personnel	**105**	**226**	**2,231**	**296**	**1,759**	**21**
Hospital Facilities—						
X-ray	6	2	27	2	16	2
Clinical laboratories	4	2	21	2	14	Nil
Physio-therapy	Nil	1	12	1	10	1
Movement of Population—						
Admissions	1,973	7,845	57,341	5,227	46,356	683
Live births	148	1,079	11,090	1,881	7,728	434
Totals, Under Treatment	**2,260**	**9,115**	**70,200**	**7,288**	**55,465**	**1,144**
Discharges	1,991	8,683	66,783	6,938	52,276	1,105
Deaths	72	175	1,487	130	1,253	11
Total collective days' stay	62,653	86,449	702,852	75,441	566,393	12,970
Finances—						
Hospitals reporting	Nil	3	27	4	16	3

For footnotes, see end of table, p. 240.

3.—Summary Statistics of Reporting Public Hospitals, by Provinces, 1946—continued

Item	Yukon and N.W.T.	Prince Edward Island[1]	Nova Scotia		New Brunswick	
			General	All Other[2,3]	General[1]	All Other[2]
	$	$	$	$	$	$
RECEIPTS—						
Net earnings from patients	–	291,880	2,507,780	171,210	2,236,022	28,112
Provincial and municipal grants	–	18,375	255,470	59,504	203,556	1,238
Other sources	–	44,259	181,410	34,933	214,034	4,684
Totals, Receipts	–	**354,514**	**2,944,660**	**265,647**	**2,653,612**	**34,034**
EXPENDITURES—						
Salaries and wages	–	113,245	1,245,362	118,306	928,330	13,883
Supplies	–	161,090	1,447,290	137,163	1,127,423	17,055
All other expenditures	–	78,184	606,546	53,104	583,480	8,290
Totals, Expenditures	–	**352,519**	**3,299,198**	**308,573**	**2,639,233**	**39,228**
Cost per patient day	–	4·08	4·10	4·24	4·39	2·97

	Quebec		Ontario		Manitoba	
	General[1]	All Other[2]	General	All Other[2]	General[1]	All Other[2]
	No.	No.	No.	No.	No.	No.
Hospitals reporting	64	20	115	39	36	3
Approved schools of nursing	32	5	54	4	10	1
Staff—						
Salaried doctors, full-time	181	44	78	14	31	5
Internes	404	56	313	47	75	9
Graduate nurses	2,053	326	3,369	367	416	56
Student nurses	2,050	170	2,919	204	634	24
Totals, Personnel	**12,191**	**2,164**	**16,758**	**1,872**	**2,950**	**345**
Hospital Facilities—						
X-ray	63	10	112	14	34	2
Clinical laboratories	51	11	70	4	24	2
Physio-therapy	53	9	63	9	14	2
Movement of Population—						
Admissions	222,311	20,909	386,886	36,960	83,856	4,601
Live births	32,398	5,125	69,789	8,226	15,394	Nil
Totals, Under Treatment	**262,064**	**28,673**	**468,626**	**46,306**	**101,491**	**4,796**
Discharges	247,632	25,014	442,488	44,268	96,553	4,478
Deaths	7,697	986	13,808	958	2,544	123
Total collective days' stay	3,250,809	1,016,569	4,971,395	486,354	965,498	77,394
Finances—						
Hospitals reporting	56	17	114	8	36	3
	$	$	$	$	$	$
RECEIPTS—						
Net earnings from patients	12,986,257	1,409,628	21,149,475	1,275,525	3,464,640	246,932
Provincial and municipal grants	2,550,698	1,400,431	4,208,380	374,797	577,843	269,890
Other sources	2,755,573	645,332	2,139,466	283,086	257,408	61,617
Totals, Receipts	**18,292,528**	**3,455,391**	**27,497,321**	**1,933,408**	**4,299,891**	**578,439**
EXPENDITURES—						
Salaries and wages	7,853,765	1,561,989	13,189,556	1,051,602	2,000,455	313,506
Supplies	6,352,071	1,194,116	9,908,159	652,632	1,636,651	180,033
All other expenditures	3,867,193	828,259	3,539,861	243,091	580,993	101,280
Totals, Expenditures	**18,073,029**	**3,584,364**	**26,637,576**	**1,947,325**	**4,218,099**	**594,819**
Cost per patient day	5·13	3·49	4·95	5·07	4·25	3·58

For footnotes, see end of table, p. 240.

3.—Summary Statistics of Reporting Public Hospitals, by Provinces, 1946—concluded

Item	Saskatchewan		Alberta		British Columbia	
	General[1]	All Other[2]	General[1]	All Other[2,4]	General[1]	All Other[2]
	No.	No.	No.	No.	No.	No.
Hospitals reporting	81	8	87	5	67	7
Approved schools of nursing	10	Nil	10	Nil	7	Nil
Staff—						
Salaried doctors, full-time	5	"	17	"	46	"
Internes	20	"	61	"	65	1
Graduate nurses	678	22	877	5	1,378	65
Student nurses	887	Nil	779	Nil	848	Nil
Totals, Personnel	**3,744**	**48**	**4,398**	**65**	**5,845**	**204**
Hospital Facilities—						
X-ray	68	Nil	80	1	65	2
Clinical laboratories	39	"	45	2	36	2
Physio-therapy	41	"	25	1	18	2
Movement of Population—						
Admissions	110,409	1,643	132,630	1,004	131,766	2,407
Live births	16,050	346	19,128	705	19,261	1,700
Totals, Under Treatment	**129,337**	**2,030**	**155,184**	**1,861**	**154,817**	**4,236**
Discharges	123,376	1,933	148,405	1,680	146,174	4,057
Deaths	2,953	35	3,284	25	4,470	34
Total collective days' stay	1,294,098	20,776	1,475,637	42,780	1,643,664	66,444
Finances—						
Hospitals reporting	80	Nil	74	4	67	7
	$	$	$	$	$	$
RECEIPTS—						
Net earnings from patients	4,817,636	-	4,551,872	27,151	7,140,691	147,555
Provincial and municipal grants	658,085	-	1,367,521	39,966	2,266,633	72,740
Other sources	272,984	-	550,378	57,718	1,059,101	262,472
Totals, Receipts	**5,748,705**	-	**6,469,771**	**124,835**	**10,466,425**	**482,767**
EXPENDITURES—						
Salaries and wages	2,648,340	-	2,921,119	63,126	5,682,392	198,597
Supplies	2,129,498	-	2,307,208	44,234	2,979,734	86,086
All other expenditures	1,012,071	-	1,134,731	16,786	1,514,369	70,494
Totals, Expenditures	**5,789,909**	-	**6,363,058**	**124,146**	**10,176,495**	**355,177**
Cost per patient day	4·44	-	4·82	3·10	5·50	5·03

[1] The following general hospitals did not report for 1946: Prince Edward Island, 3; New Brunswick, 2; Quebec, 3; Manitoba, 1; Saskatchewan, 1; Alberta, 5; British Columbia, 3. [2] These institutions are classified in detail in Table **1.** [3] Three Red Cross hospitals in Nova Scotia did not report. [4] One contagious-diseases hospital in Alberta did not report.

Organized Services in Public General Hospitals.—Organized services, which are analysed in Table **4**, may be defined as specialized hospital departments or services in charge of specialists with up-to-date equipment and a technical staff specially devoted to problems in the indicated fields. Facilities available in a hospital merely for the use of general practitioners are not considered as organized services. Organized services in public general hospitals only are considered here but it is in these hospitals that the majority of such services are found. Many of the smaller public general hospitals have facilities for study and treatment in the fields indicated, but since they are not organized services as defined above, such facilities are not included in the figures. In 1946, of the 505 public hospitals, 290 had organized medical staffs with 10,912 staff doctors.

4.—Organized Services and Staffs in Reporting Public General Hospitals, by Provinces, 1946

NOTE.—A dash in this table means that an organized service was not reported.

Service and Staff	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Totals[1]
Service										
General medicine	2	1	15	62	53	12	32	27	18	230
Pædiatrics	1	3	15	49	43	7	14	17	13	162
Cardiology	1	2	5	28	–	6	5	6	6	59
Dermatology	–	1	2	28	18	4	6	1	4	64
Neuro-psychiatry	–	1	–	9	9	2	1	1	3	26
Tuberculosis	–	6	–	18	–	–	4	5	4	37
Venerology	–	2	–	27	15	3	4	2	2	55
Contagious diseases	–	3	4	14	14	7	10	2	8	62
General surgery	2	9	15	61	56	12	32	25	17	229
Orthopædics	–	3	5	35	38	6	7	7	8	109
Neurology	–	–	–	15	13	3	3	1	3	38
Dentistry	–	4	1	32	1	5	2	2	7	54
Obstetrics	2	10	16	55	61	13	32	27	16	232
Gynæcology	1	7	5	44	44	8	12	13	6	140
Ophthalmology	1	5	4	41	32	6	6	2	6	103
Otolaryngology	1	4	4	49	31	6	6	2	6	102
Urology	–	4	3	29	35	6	7	6	9	99
Pathology	1	2	7	39	–	10	5	8	11	73
Bacteriology	2	4	11	47	47	12	10	10	10	153
X-ray	2	12	15	60	61	13	27	24	15	229
Deep X-ray	1	3	3	23	34	2	6	3	9	84
Radium	2	1	2	12	20	–	2	3	5	47
Clinical laboratory	1	5	14	48	49	11	13	17	14	172
Physio-therapy	1	4	5	47	43	8	13	10	11	142
Staff										
Organized medical staffs	2	23	16	55	79	12	32	20	23	262
Staff doctors	31	445	364	2,511	3,392	629	503	819	1,001	9,695

[1] In addition to these totals, there were the organized services and staffs of 28 hospitals which did not make returns on specific services. There were no organized services reported in Yukon and Northwest Territories hospitals.

Out-Patient Departments.—Out-patient departments are operated in connection with hospitals or other institutions, and treat patients who do not occupy beds in the hospital. The extension of out-patient services to patients of modest means has far-reaching and beneficial effects. It may replace admission to hospital, or may serve to secure necessary and beneficial hospitalization. As a general rule out-patient departments are subsidized from the funds of the general hospital and separate records are not kept. Until a uniform system of accounting is adopted, it will not be possible to give the average cost per patient.

5.—Out-Patient Departments of Public Hospitals, by Provinces, 1946

NOTE.—Figures of tuberculosis sanatoria and government and municipal clinics held in hospitals are not included.

Province	Out-Patient Departments	Patients	Treatments
New Brunswick	2	22,232	33,843
Quebec	28	319,958	980,201
Ontario	18	165,309	487,275
Manitoba	4	32,633	97,895
Alberta	3	1,837	4,556
British Columbia	2	39,040	69,072
Totals	**57**	**581,009**	**1,672,842**

Tuberculosis Institutions.—The statistics regarding institutions for the treatment of tuberculosis shown in Table 6, include special units for the treatment of tuberculosis in general hospitals and Dominion hospitals as well as the specialized sanatoria shown separately in Table 1. Deaths in these institutions from tuberculosis in 1946 were 41·2 p.c. of the total deaths from the disease in Canada as shown under Vital Statistics at p. 209 of this edition. However, the death rate from this disease has shown an encouraging decline since 1926.

6.—Summary Statistics of Tuberculosis Hospitals, by Provinces, 1946

Item	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Hospitals—										
Sanatoria	1	3	4	14	14	3	3	1	5	48
Units in public hospitals	Nil	8	Nil	16	Nil	1	Nil	3	1	29
Units in Dominion hospitals	"	1	1	3	3	5	1	2	1	17
Totals, Hospitals	**1**	**12**	**5**	**33**	**17**	**9**	**4**	**6**	**7**	**94**
Bed Capacity—										
Sanatoria	140	545	688	2,515	3,656	625	803	287	704	9,963
Units in public hospitals	Nil	336	Nil	1,237	Nil	165	Nil	178	22[1]	1,938
Units in Dominion hospitals	"	250	70	303	343	148	48	332	199	1,693
Totals, Bed Capacity	**140**	**1,131**	**758**	**4,055**	**3,999**	**938**	**851**	**797**	**925**	**13,594**
Staff—[2]										
Salaried doctors	3	11	14	106	74	11	18	5	26	268
Graduate nurses	15	18	56	169	355	34	58	22	94	821
Totals, Personnel[3]	**76**	**284**	**345**	**1,267**	**1,938**	**375**	**457**	**125**	**487**	**5,354**
Hospital Facilities—[2]										
X-ray	1	1	4	13	13	3	3	1	1	40
Clinical laboratories	1	2	4	13	13	3	3	1	1	41
Physio-therapy	Nil	1	3	9	6	2	3	Nil	1	25
Movement of Population—										
Admissions	168	1,033	700	5,435	3,895	1,416	1,003	823	939	15,412
Totals, Under Treatment	**256**	**1,668**	**1,215**	**8,803**	**7,298**	**2,239**	**1,778**	**1,228**	**1,752**	**26,237**
Discharges	97	645	455	4,434	2,844	1,220	887	538	720	11,840
Deaths	24	162	101	841	636	194	116	102	215	2,391
Total collective days' stay	43,229	267,499	232,803	1,307,794	1,259,310	305,734	320,482	212,929	310,741	4,260,520

[1] Four units in public hospitals at Vancouver and Victoria are operated by the Provincial Board of Health and are included with Sanatoria. [2] Sanatoria only (exclusive of units in other hospitals). [3] Includes other personnel.

Subsection 2.—Statistics of Federal Government Hospitals

Hospitals operated by the Federal Government are conducted for special purposes connected with departmental administration such as the care of war veterans and members of the Permanent Force, the quarantine and care of immigrants and lepers, the care of Indians as wards of the Government, etc. Table 1 shows the number of Dominion hospitals compared with those in other categories for 1946.

Department of Veterans Affairs Hospitals.—There was considerable adjustment in the hospital accommodation during the calendar year 1947. Eleven of the Service hospitals which had been taken over and operated by the Department

were closed, leaving 6 of this group in active operation. Of the new construction coming into use 300 replacement beds were added; these were in Sunnybrook hospital, Toronto.

Throughout the year plans were formulated to replace obsolete accommodation and improve facilities in all Districts. About 1,250 beds are expected to come into use during the calendar year 1948.

Active Treatment Hospitals provide treatment for general medical and surgical conditions. In the larger institutions, facilities are available for orthopædic surgery, plastic surgery, neuro-surgery, neuro-psychiatry, the treatment of arthritis, etc.

Four special centres are maintained in conjunction with larger hospitals for the care of paraplegics, which care is now available to non-veterans under certain conditions. In addition, special treatment centres are operated for the care of tuberculosis and neuroses. Active convalescent facilities are provided in seven Health and Occupation Centres. There are nine veterans homes which provide domiciliary care for veterans requiring it.

Accommodation and movement of patients is shown by type of hospital for 1947 in Table 7, while Table 8 gives monthly data re types of treatment and status of recipient.

7.—Accommodation and Movement of Patients in Veterans Affairs Hospitals, 1947

NOTE.—Patients in veterans pavilions attached to civilian hospitals are not included.

Type of Hospital and Location	Bed Capacity	Personnel		Movement of Patients			
		Salaried Doctors	Total	In Residence Beginning of Year	Admissions During Year	In Residence End of Year	Total Patient Days During Year
Active Treatment Hospitals-	No.	No.	No.	No.	No.	No.	No.
Halifax, N.S.	600	19	434	313	4,670	183	107,446
Saint John, N.B.	400	17	388	346	3,696	244	114,368
Quebec, Que.	300	8	247	310	2,279	155	82,948
Montreal, Que.	800	49	947	773	5,375	485	231,949
St. Annes, Que.	750	27	793	951	1,643	659	284,603
Toronto, Ont.—							
Sunnybrook	350	14	694	123	2,139	352	88,311
Christie St.	950	60	929	973	8,470	696	331,662
London, Ont.	1,400	31	835	1,146	4,123	1,001	407,927
Winnipeg, Man.	800	33	673	641	5,820	519	220,373
Saskatoon, Sask.	175	2	153	140	1,575	58	32,681
Calgary, Alta.	250	16	279	285	3,190	201	87,878
Vancouver, B.C.	1,100	49	922	907	7,120	820	353,338
Victoria, B.C.	200	5	222	[1]	1,055	169	36,748
Health and Occupation Centres—							
Saint John, N.B.	100	Nil	51	[1]	240	25	11,197
Senneville, Que.	100	1	50	[1]	4	45	1,399
Ottawa, Ont.	200	4	127	106	517	151	43,637
Toronto, Ont.							
York	100	1	54	[1]	48	30	1,191
Divadale	120	1	72	101	517	58	35,001
Calgary, Alta.	145	2	61	118	320	58	27,942
Burnaby, B.C.	200	2	90	[1]	602	123	25,747
Special Institutions—							
Cornwallis, N.S.	200	2	204	143	425	128	52,752
St. Hyacinthe, Que.	300	6	220	93	207	174	56,826
Toronto, Ont.	37	1	28	30	102	28	10,677
London, Ont.	150	3	98	69	140	71	24,722
Kingston, Ont.	250	5	216	215	157	143	80,123
Veterans' Homes—							
Halifax, N.S.	20	[2]	[2]	15	13	14	4,903
Saint John, N.B.	30	Nil	13	17	31	30	9,968
Toronto, Ont.	165	3	125	185	118	184	65,686
Amherstburg, Ont.	25	Nil	11	[1]	21	15	2,130
Winnipeg, Man.	186	"	85	137	486	126	52,649
Regina, Sask.	40	"	24	32	291	36	8,938
Calgary, Alta.	26	"	16	23	14	25	8,758
Edmonton, Alta.	60	"	31	42	177	61	19,278
Vancouver, B.C.	118	"	45	112	41	113	41,395
Totals	**10,647**	**361**	**9,137**	**8,346**	**55,626**	**7,180**	**2,965,151**

[1] Opened during year. [2] Included in Active Treatment Hospital at Halifax, N.S.

8.—Patients in Veterans Affairs Hospitals, Classified According to Veteran Status and Treatment Groups, by Months, 1947

NOTE.—Patients in veterans pavilions attached to civilian hospitals are not included.

Month	Patient Strength at Close of Month	Veteran Status			Treatment Groups			Clinical Treatments
		Veterans of First World War	Veterans of Second World War	Other Persons	General	T.B.	Mental	
	No.	No.	No.	No.	No.	No.	No.	No.
January	10,487	2,939	7,142	406	8,290	1,114	1,083	77,331
February	10,456	2,936	7,059	461	8,300	1,102	1,054	80,672
March	9,913	2,838	6,628	447	7,809	1,060	1,044	99,723
April	9,339	2,852	6,041	446	7,298	1,009	1,032	65,406
May	8,343	2,670	5,258	415	6,394	943	1,006	73,575
June	7,648	2,570	4,736	342	5,787	884	977	54,212
July	7,278	2,621	4,237	330	5,458	857	963	48,066
August	7,079	2,714	4,066	299	5,275	861	943	53,955
September	7,540	2,893	4,313	334	5,705	890	945	53,517
October	7,699	3,002	4,342	355	5,865	879	955	55,818
November	7,797	3,134	4,294	369	5,903	912	982	50,701
December	7,180	3,094	3,735	351	5,338	869	973	47,357

National Defence Hospitals.—Table 9 shows the accommodation and movement of patients in National Defence hospitals for the year 1947. All these hospitals are equipped with X-ray, laboratory and out-patient facilities and all but nine Army hospitals provide physio-therapy services.

In addition, there are completely equipped 10-bed sick quarters (Royal Canadian Air Force) available for emergency use at Aylmer, Centralia and Clinton in Ontario, Dartmouth, Nova Scotia, and at Edmonton and Calgary in Alberta. Hospitalization in these areas is carried out in existing Veterans Affairs hospitals or civilian hospitals. There were 423 admissions to the emergency centres and 422 discharges during 1947, and approximately 32,000 out-patient treatments were given to Navy, Army and Air Force personnel, civilians, Eskimos and Indians in the R.C.A.F. emergency sick quarters and medical inspection rooms. These are in addition to out-patient treatments given at the hospitals.

There is also a hospital or sick bay in each ship of the Royal Canadian Navy, in commission, consisting of from two to 20 beds.

9.—Accommodation and Movement of Patients in National Defence Hospitals, 1947

Service and Location of Hospital	Bed Capacity	Personnel		Movement of Patients			
		Salaried Doctors	Total	In Residence Beginning of Year	Admissions During Year	In Residence End of Year	Total Patient Days During Year
	No.	No.	No.	No.	No.	No.	No.
Army—							
Halifax, N.S.	25	[1]	[1]	6	77	[1]	370
Montreal, Que.	50	6	49	34	554	33	13,094
Quebec, Que.	25	3	34	1	513	15	5,166
London, Ont.	15	1	14	[2]	31	Nil	147
Toronto, Ont.	100	8	107	81	1,034	48	25,233
Camp Borden, Ont.	35	3	27	2	679	6	3,503
Kingston, Ont.	50	4	61	19	628	9	8,604
Winnipeg, Man.	25	3	26	20	468	29	5,793
Rivers, Man.	20	2	14	[3]	129	3	689
Shilo, Man.	35	3	38	5	463	6	2,430
Fort Churchill, Man.	20	2	14	4	361	8	2,335
Calgary, Alta.	50	3	39	57	560	18	9,653
Vancouver, B.C.	25	3	25	13	596	20	6,223
Chilliwack, B.C.	15	1	9	[4]	113	Nil	705
Whitehorse, Yukon	35	3	41	17	820	9	8,402

[1] Closed April, 1947. [2] Opened October, 1947. Opened July, 1947. [4] Opened March, 1947.

9.—Accommodation and Movement of Patients in National Defence Hospitals, 1947 —concluded

Service and Location of Hospital	Bed Capacity	Personnel		Movement of Patients			
		Salaried Doctors	Total	In Residence Beginning of Year	Admissions During Year	In Residence End of Year	Total Patient Days During Year
	No.	No.	No.	No.	No.	No.	No.
Navy—							
Halifax, N.S.	200	6	88	73	1,725	52	33,046
Esquimalt, B.C.	110	5	76	38	1,532	26	19,369
Air Force—							
Trenton, Ont.	50	2	24	11	598	8	4,800
Goose Bay, Labrador	15	1	15	3	204	2	1,192
Fort Nelson, B.C.	15	1	11	Nil	111	Nil	567
Rockcliffe, Ont.	100	4	62	24	1,167	30	13,144
Totals	**1,015**	**64**	**774**	**408**	**12,363**	**322**	**164,465**

National Health and Welfare Hospitals.—Table **10** gives statistics of the hospitals administered by the Department of National Health and Welfare. The immigration detention hospital at Quebec, the largest of such institutions, has X-ray, laboratory and physio-therapy facilities as well as a social service and an out-patient department. The other hospitals are small and, with the exception of a clinical laboratory at Lunenburg and an out-patient department at Sydney, have no special services.

The low number of patient days at immigration hospitals, in contrast with the number of beds, is explained by the fact that these hospitals must maintain a sufficient number of beds to accommodate any sudden influx of patients whose treatment demands immediate quarantine.

10.—Accommodation and Movement of Patients in National Health and Welfare Hospitals, 1947

Type of Hospital and Location	Bed Capacity	Personnel		Movement of Patients			
		Salaried Doctors	Total	In Residence Beginning of Year	Admissions During Year	In Residence End of Year	Total Patient Days During Year
	No.	No.	No.	No.	No.	No.	No.
Quarantine and Immigration—							
Halifax, N.S.—							
Immigration	19	Nil	3	[1]	27	1	191
Rockhead Quarantine	7	"	Nil	Nil	Nil	Nil	Nil
Saint John, N.B.	9	"	3	"	"	"	"
Quebec, Que.	200	6	125	93	572	91	25,846
Victoria, B.C.	18	2	6	Nil	Nil	Nil	Nil
Sick Mariners—							
Lunenburg, N.S.	15	1	2	3	69	1	850
Sydney, N.S.	35	1	21	12	147	4	1,841
Leper—							
Victoria, B.C.	19	2	4	3	Nil	3	1,095

[1] Opened February, 1947.

10.—Accommodation and Movement of Patients in National Health and Welfare Hospitals, 1947—concluded

Type of Hospital and Location	Bed Capacity	Personnel		Movement of Patients			
		Salaried Doctors	Total	In Residence Beginning of Year	Admissions During Year	In Residence End of Year	Total Patient Days During Year
	No.	No.	No.	No.	No.	No.	No.
Indian Health Service—							
Maliseet, N.B.	8	1	5	Nil	105	2	677
Ohsweken, Ont.	42	2	12	16	539	21	8,074
Manitowaning, Ont.	14	Nil	7	10	14	6	2,257
Fort William, Ont.	22	1	7	15	24	18	6,528
Selkirk, Man.	50	1	26	49	79	49	18,109
The Pas, Man.	88	1	69	78	75	82	31,532
Norway House, Man.	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Pine Falls, Man.	17	1	10	9	283	2	3,880
Hodgson, Man.	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Brandon, Man.	245	3	122	37	224	185	39,965
Fort Qu'Appelle, Sask.	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Edmonton, Alta.	355	6	222	238	475	298	97,610
Gleichen, Alta.	48	1	13	23	549	26	7,193
Brocket, Alta.	11	1	5	1	134	2	1,421
Cardston, Alta.	51	1	13	31	1,211	20	9,922
Morley, Alta.	13	1	6	2	215	5	1,831
Sardis, B.C.	194	3	130	165	340	160	59,127
Nanaimo, B.C.	216	1	71	Nil	111	80	12,987
Miller Bay, B.C.	173	2	107	102	338	154	44,954
Totals[2]	1,869	38	989	887	5,581	1,210	375,890

[1] Not reported. [2] For reporting hospitals.

Subsection 3.—Statistics of Mental Hospitals

At Dec. 31, 1946, there were 49,163 patients in mental institutions in Canada and 4,260 on parole or otherwise absent, making a total of 53,423. The normal bed capacity in these institutions was only 45,443, showing a seriously over-crowded situation if the patient population on Jan. 1, 1946, and the admissions and separations during the year are considered. This over-crowded condition was specially marked in New Brunswick, Quebec and the western provinces. Of the 49,163 resident patients in 1946, 37,208 were psychotic, 10,848 were mentally deficient, 700 were epileptic and 407 mental cases were otherwise classified.

The number of resident patients in mental institutions per 100,000 population on Dec. 31, 1946, was 399·5, as compared with 396·5 on the same date in 1945, 388·0 in 1940, 352·8 in 1935 and 305·4 on June 1, 1931.

Data are not available to indicate to what extent the increasing trend of patients per 100,000 population is due to more complete diagnosis and care than formerly, or to what extent there is an actual increase in the proportion of the population requiring treatment for mental diseases.

11.—Summary Statistics of Mental Institutions, by Provinces, 1946

Item	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
Institutions reporting.....No.	1	17	1	8	17
Normal bed capacities..... "	290	2,537	1,000	13,725	16,630
Staff—					
Doctors, full-time.....No.	1	3	5	26	95
Doctors, part-time..... "	2	16	2	22	16
Graduate nurses..... "	6	24	13	216	434
Other nurses..... "	17	54	52	298	183
Totals, Staff.....No.	**70**	**393**	**234**	**2,472**	**3,734**

11.—Summary Statistics of Mental Institutions, by Provinces, 1946—concluded

Item		Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
Movement of Population—						
Admissions (transfers not included).	No.	115	657	384	3,371	4,720
Totals, Under Treatment	"	**399**	**3,011**	**2,072**	**19,091**	**21,947**
Separations (transfers not included).	"	110	645	375	2,885	4,144
Total patients, Dec. 31	"	289	2,366	1,697	16,206	17,803
Receipts—						
Government and municipal payments	$	174,362	812,720	552,663	6,373,900	6,999,319
Fees from paying patients	$	28,137	58,084	61,341	702,895	1,496,417
Received from other sources	$	Nil	57,455	2,032	821,637	338,600
Totals, Receipts	$	**202,499**	**928,259**	**616,036**	**7,898,432**	**8,834,336**
Expenditures—						
Salaries	$	63,902	346,414	253,776	3,691,994	5,401,161
Provisions	$	69,905	250,111	164,114	1,633,229	1,450,529
All other expenditures for maintenance	$	68,691	317,486	198,147	1,803,199	1,917,764
Totals, Expenditures for Maintenance	$	202,498	914,011	616,037	7,128,422	8,769,454
New buildings and improvements.	$	Nil	31,015	140,400	611,878	108,100
Expenditures for other purposes	$	"	259	Nil	562,440	Nil
Totals, Expenditures	$	**202,498**	**945,285**	**756,437**	**8,302,740**	**8,877,554**

		Manitoba	Saskatchewan	Alberta	British Columbia	Total
Institutions reporting	No.	4	3	5	4	60
Normal bed capacities	"	2,578	3,520	2,623	2,540	45,443
Staff—						
Doctors, full-time	No.	15	15	11	23	194
Doctors, part-time	"	1	Nil	2	3	64
Graduate nurses	"	60	71	31	30	885
Other nurses	"	143	290	134	267	1,438
Totals, Staff	**No.**	**670**	**1,136**	**644**	**993**	**10,346**
Movement of Population—						
Admissions (transfers not included).	No.	764	861	680	1,344	12,896
Totals, Under Treatment	"	**3,980**	**5,078**	**3,849**	**5,647**	**65,074**
Separations (transfers not included).	"	692	776	707	1,317	11,651
Total patients, Dec. 31	"	3,288	4,302	3,142	4,330	53,423
Receipts—						
Government and municipal payments	$	1,187,453	2,656,078	1,253,713	2,192,851	22,203,059
Fees from paying patients	$	196,790	134,550	278,134	303,168	3,259,516
Received from other sources	$	64,342	194,744	34,714	2,317	1,515,841
Totals, Receipts	$	**1,448,585**	**2,985,372**	**1,566,561**	**2,498,336**	**26,978,416**
Expenditures—						
Salaries	$	735,820	1,582,875	857,453	1,425,971	14,359,366
Provisions	$	349,213	418,536	305,026	396,003	5,036,666
All other expenditures for maintenance	$	321,740	483,186	280,786	660,618	6,051,617
Totals, Expenditures for Maintenance	$	1,406,773	2,484,597	1,443,265	2,482,592	25,447,649
New buildings and improvements.	$	18,546	273,208	61,568	1,208	1,245,923
Other purposes	$	Nil	59,947	Nil	Nil	622,646
Totals, Expenditures	$	**1,425,319**	**2,817,752**	**1,504,833**	**2,483,800**	**27,316,218**

Section 3.—Auxiliary Health Services

Subsection 1.—The Victorian Order of Nurses for Canada

The Victorian Order of Nurses is a voluntary public-health agency, national in scope and having as its primary object the care of the sick in their own homes by visiting nurses. In 1947 there were 104 branches of the Order distributed as follows: Nova Scotia 16; New Brunswick 8; Quebec 5; Ontario 60; Manitoba 1; Saskatchewan 3; Alberta 3; and British Columbia 8. The affairs of each branch are directed by a local board, which raises the money necessary to carry on the work. However, the policies and professional standards set by the national organization are accepted by the branches. The Board of Governors of the national organization is made up largely of representatives appointed by the branches.

Registered nurses are employed by the Order and have, in addition, post-graduate training in public-health nursing. During 1947 approximately 476 nurses in the field gave nursing care to 128,518 patients.

The Order provides a community service available to everyone in the area served regardless of race, creed or economic status. The nurses give care on a visit basis to medical, surgical, and maternity patients under medical direction and thus serve a large group of people who would otherwise be without skilled nursing care. The budget of the average man makes very little allowance for the cost of illness. The patient is expected to pay the cost of the visit but the fee is adjusted to suit the family income and service is never refused because of inability to pay. Of the 906,127 visits made in 1947, 52 p.c. were free, 22 p.c. were paid, 16 p.c. were paid in part and 10 p.c. were paid for by insurance companies for care to patients. The cost of the service to those unable to pay is provided for by municipal grants and funds collected by means of campaigns.

In smaller centres where the Victorian Order nurse is the only public-health nurse the program of work is usually enlarged to include school nursing service, child-health centres, assistance at immunization clinics and other public-health services.

An increasing number of Victorian Order branches are giving part-time nursing service to industrial plants where the number of employees is not large enough to require the full-time services of a nurse.

Subsection 2.—The Canadian Red Cross Society

The purpose of the Canadian Red Cross Society is to furnish volunteer aid to the sick and wounded of armies in war and to work for the improvement of health, the prevention of disease and the mitigation of suffering throughout the world.

The free National Blood Transfusion Service, introduced in 1947, now functions in the Provinces of British Columbia and Alberta. In the first year of operation 32,062 bottles of blood were collected, 15,473 patients received transfusions and 1,748 patients received plasma. This service is being extended across the Dominion as building materials and sites become available.

The School Meal Study, begun in February, 1947, is designed to gather scientific information about the effect on school children of a nutritionally well-balanced lunch. Some 500 children are participating in the experiment.

The Red Cross Homemaker Service has established nearly 30 branches to give trained assistance in homes where the mother is ill or where there is no means of securing adequate care for the family.

The Canadian Nurses' Association plan for a new form of nurses' training received financial support from the Society in 1947. The Red Cross is financing a small demonstration school of nursing at a cost of $40,000 a year for four years. The new curriculum is designed to shorten the training period to 25 months and make training more attractive.

More than 200 Sick Room Supply Loan Cupboards have been established in provincial branches. Sickroom supplies, rarely used or hard to obtain and often beyond a family's means, are distributed from a central depot without charge on request of the family doctor or a welfare agency.

Sixteen new outpost hospitals were added during 1947, making a total of 71 of these hospitals and nursing stations serving frontier districts across the Dominion.

The Arts and Crafts Department took over the operation of diversional therapy in 24 Department of Veterans Affairs institutions in the nine provinces. A staff of 38, with 85 volunteer workers assisting, provides instruction in recreational handicrafts. An average of 2,120 veterans participate monthly in this program. Ten Red Cross Lodges have been built by the Society and operate near veterans hospitals to provide recreational facilities and accommodation for visiting relatives.

During 1947 the Red Cross distributed in Canada approximately 1,500,000 articles of clothing and hospital supplies made by volunteer workers in the Women's Workrooms, to military, civilian, D.V.A. and outpost hospitals, to loan cupboards, soldiers' dependents and relief. Early in 1947, following the disastrous floods in Britain, $500,000 was allocated to purchase clothing for relief. In addition, women volunteers made and shipped overseas approximately 1,200,000 articles.

First aid and home nursing is being taught by the provincial branches and the swimming and water-safety program has in two years qualified nearly 30,000 men, women and children in swimming and water-safety tests, another 10,000 receiving varying degrees of instruction. Some 2,000 new instructors have been qualified.

At the end of 1947, Canadian Junior Red Cross had 854,606 members in Canada and Newfoundland. More than 2,500 handicapped children were assisted during that year through their Crippled Children's Fund. Health promotion was maintained at a high level and many health projects initiated. A total of 1,846 cases, valued at approximately $87,000 and containing school supplies, food, cod liver oil, clothing and toys, was shipped overseas by Juniors for relief of needy children in Great Britain and Europe.

Floods, forest fires and other disasters were met by the Disaster Relief Committees, which not only assisted in these emergencies but started rehabilitation funds where necessary. At the beginning of the year, $1,500,000 was given to the Lord Mayor of London, England, for the Flood Distress Fund, not including the $500,000 allocated for clothing. A $1,000,000 grant was made in October, 1947, to purchase bulk food to ease the crisis in Great Britain and Europe in the coming winter. A total of 118,350 cases of supplies was shipped overseas during the year, including food, drugs, clothing articles, layettes, hospital equipment and comforts of every description for the relief of suffering and hardship.

In 1947 the Red Cross became the official welcoming committee for thousands of British immigrants arriving by air or by sea. A helping hand was extended at Red Cross Reception Centres in the various railway terminals across the country. Up to the end of the year, 6,204 immigrants passed through the Reception Centre at Toronto, Ont.

There were approximately 2,000,000 senior members of the Canadian Red Cross Society in 1947, and some $5,000,000 was voluntarily subscribed in that year to carry on its peacetime work.

Subsection 3.—The Order of St. John*

The origin of the Order of St. John goes back to the Crusades and the Knights of St. John and Malta. His Majesty the King is supreme head of the Order which has headquarters at London, England, and units in all parts of the British Empire. In Canada the Governor General is the Prior and meetings of the Order are held at Government House. The organization in Canada is the Priory in Canada of the Grand Priory of the British Realm of the Venerable Order of the Hospital of St. John of Jerusalem, usually referred to as the Order of St. John.

The Priory in Canada has its headquarters and national offices at St. John House, Ottawa, Ont., with branches in every province and local centres in hundreds of cities and towns throughout Canada. There are two distinct branches: the Association whose members train instructors, conduct classes and issue various certificates; and the Brigade, members of which are in uniform under a form of military discipline, receive constant supplementary training, and are available for call whenever the need arises. The Brigade strength is approximately 15,000 persons, about equally divided between the Ambulance Division (men) and the Nursing Division (women), and organized into about 325 divisions.

The primary purpose of the Association is to teach first aid and home nursing and other kindred subjects to citizens of Canada, irrespective of age, and to provide trained and organized personnel to help in time of disaster or national emergency. The work was started in 1895 and since then more than 1,000,000 persons have received certificates and other awards. Many thousands of these went to members of the Armed Forces to which trained instructors and textbooks have been provided in large numbers. The railways of Canada and many large industrial concerns maintain their own St. John centres. At port cities the Order assists the regular R.C.A.M.C. doctors and nurses, helps in hospitals and merchant seamen's hostels and also assists shipwrecked seamen. Uniformed St. John Brigade members are to be found at all exhibitions, large demonstrations or wherever crowds gather. St. John First Aiders have also proved their worth on the ski-runs in the Laurentians, on Mount Royal, on the Gatineau Hills, at Fort William and other places where skiing is one of the major Canadian sports.

The Order of St. John is carrying on an extensive peacetime program of home nursing, first aid, child welfare and blood grouping. The training of Brigade members as blood-typing technicians was commenced in 1943. The entire personnel of large industrial firms is being typed so that, in the event of serious accident, blood transfusions may be given in the quickest possible time.

Subsection 4.—The Health League of Canada

The Health League of Canada is a voluntary association devoted to a program of health education, especially in the field of disease prevention, and to the support of the work of official departments of health. In brief, the aims of the Health

*Including the St. John Ambulance Association and the St. John Ambulance Brigade.

League are: to prevent illness, conserve health, and prolong life; to encourage public support of all wise health legislation; to enlist the co-operation of the public in official and professional efforts to control communicable disease and to improve public sanitation and health; and to conduct a broad and continuing educational campaign to promote personal, family and community hygiene throughout Canada.

When it was formed, at the request of the Federal Government in 1919, the organization was known as the Canadian Council for Combating Venereal Diseases. In 1922 the name was changed to the Canadian Social Hygiene Council. By 1935 the organization had departed from its original limited program and had developed a broad one of health conservation. It was then that the name—Health League of Canada—was adopted.

The Health League is especially interested in campaigning for and obtaining passage of milk pasteurization legislation throughout Canada; immunization of all children against such preventable diseases as diphtheria, smallpox and whooping cough; good eating habits through proper nutrition; good health for industrial workers; the eradication of venereal diseases; and sanitary work practices by public food-handlers.

PART II.—SOCIAL SECURITY AND WELFARE

Public measures to meet need may be divided into two main categories depending on whether they are designed primarily to provide financial aid on account of interruption or stoppage of income through unemployment, illness, age or other reasons, or to meet needs rooted in problems of individual, family, or community relationships. Generally speaking, the first takes the form of broad social insurance and assistance programs with such auxiliary welfare services as appear necessary. In the second, the emphasis is primarily on skilled treatment measures as, for example, family counselling and child protection and guidance services, although maintenance may be a factor of some importance. Both types of programs may, to a greater or lesser extent, be buttressed by positive preventive measures such as maintenance of a high level of employment and adjustment of income to family need, on the one hand, and the organization of community services, on the other.

These public provisions, taken together, make up the modern concept of social security. For convenience of discussion in this review, however, the term 'social security' is used in the more restricted sense of programs in which the emphasis is on economic assistance. The auxiliary welfare services and the social services generally are treated separately under welfare. General relief which, in Canada, varies from stable provincial-municipal public assistance to local relief for unemployables has also been included under welfare.

The major responsibility for public welfare in Canada rests traditionally with the provinces and it is only in recent years, as a result of the new concept of social security, that income-maintenance programs other than those for special groups have been introduced at the Federal level, e.g., Unemployment Insurance following amendment of the British North America Act, and Family Allowances. In 1944, the Department of National Health and Welfare was established to promote social welfare in matters over which the Federal Parliament has jurisdiction, except for services administered by other Federal Departments, such as the welfare of Indians and Eskimos and welfare services to veterans. Its duties include

the administration of the Family Allowances Act, the federal aspects of the Old Age Pensions Act, and of the National Physical Fitness Act.

Income-maintenance programs, reviewed in Section 1, include both Federal and Provincial Government schemes as well as the co-operative Federal-Provincial program for Old Age Pensions and Pensions for the Blind. Federal programs include Family Allowances, Unemployment Insurance, Prairie Farm Assistance, Veterans' Pensions and War Veterans' Allowances. A discussion of Federal Government Annuities has also been included because these annuities enable persons to provide economic security for their old age on a voluntary basis and because they are subsidized indirectly by the Federal Government. Provincial programs include Mothers' Allowances and Workmen's Compensation.

Federal and Provincial public welfare programs are reviewed in Section 2, together with a brief reference to the co-ordination through the Canadian Welfare Council of the supporting voluntary agencies which are typical of the Canadian pattern of social services. Within the framework of Provincial statutes, a substantial part of the responsibility for welfare is borne by Municipal Governments, with Provincial Governments playing an increasing role in co-ordination and supervision of services and in sharing of costs. These services may include any or all of the following: family welfare; provision for the protection and support of children when normal parental care breaks down or is destroyed; protection of unmarried mothers and their children; relief in cash or kind; guidance and counselling services; institutional care, or supervision of institutional care, of aged or other needy persons; medical care to needy persons; leisure time and recreation services; special services to youth; and maintenance of juvenile or other correctional institutions.

As the emphasis in public thinking is shifted to the welfare aspects of any given service, new programs are established or transferred to welfare authorities. This process of development is typified in Saskatchewan in the recent transfer of gaols and provincial institutions for correctional care to the Department of Social Welfare, and in Quebec by the extension of preventive and correctional care for delinquent youth under the Department of Social Welfare and Youth.

The social tensions of the war years made heavy demands on public and private social agencies. New methods of co-operative service were developed between different governmental levels and between public and private agencies. Through the Dependents Allowance Board and the Dependents Board of Trustees, which were charged with the payment of allowances to dependents of members of the Armed Forces, the Federal Government made extensive use of local resources. Cases requiring special investigation are referred to public and private organizations such as the Children's Aid Societies and family welfare agencies, on a fee basis. Where special enquiries are necessary, this type of procedure is also followed up by the Family Allowances Division of the Department of National Health and Welfare working largely through the provincial child welfare authorities. In this way close working relationships are maintained between the Federal and Provincial welfare authorities.

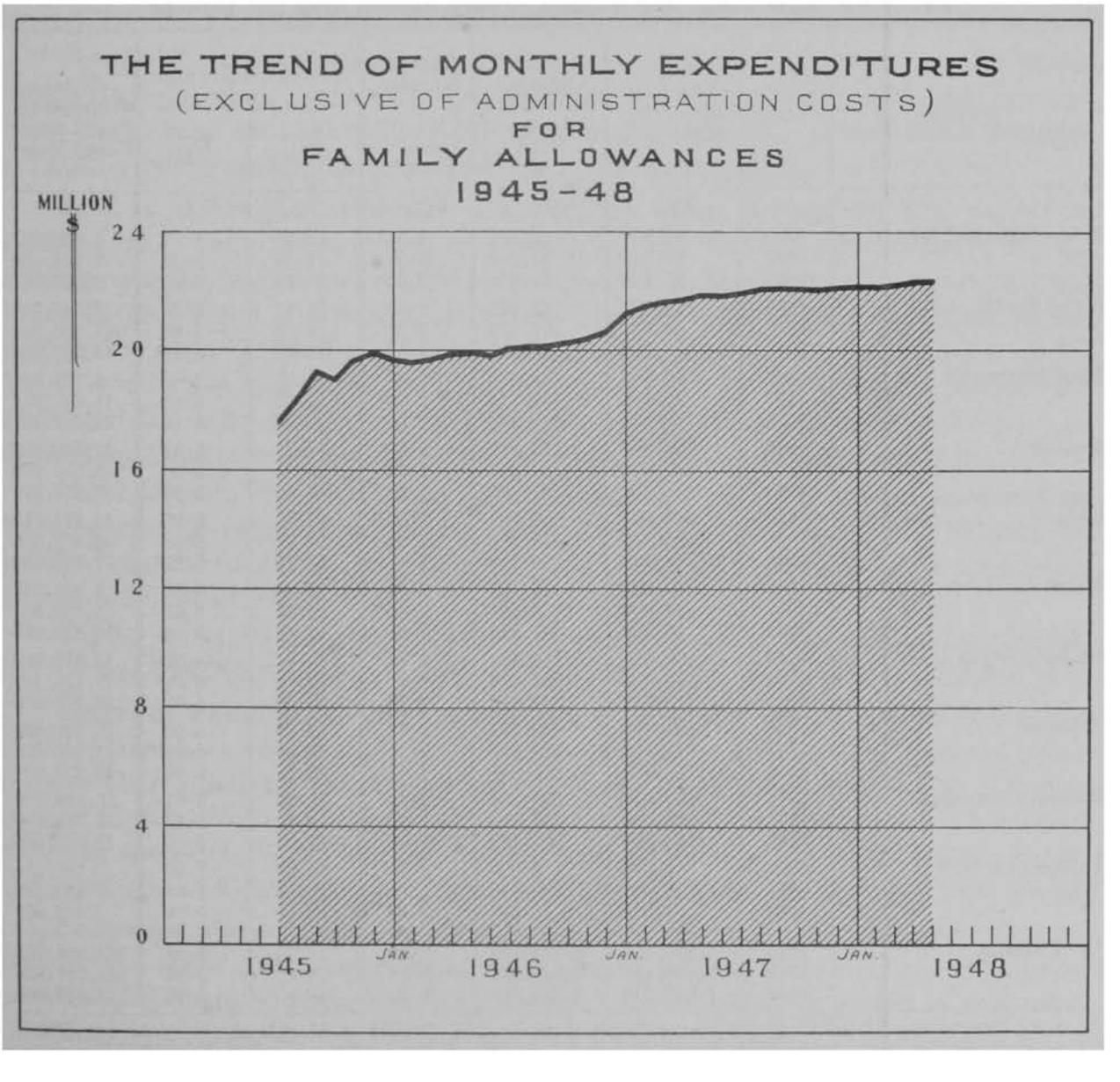
The wartime and postwar extension of services increased the demand for professionally trained social workers among Federal authorities and among an increasing number of Provincial and Municipal Departments of Welfare. Social workers are recruited chiefly from the Schools of Social Work established at the

Universities of British Columbia, Manitoba, Toronto, McGill, at the Roman Catholic Universities of Montreal and Laval, and from the Maritime School of Social Work in Halifax. In some of the Western provinces Welfare Departments provide in-training and refresher courses for staff members. Recognizing the urgent need of trained personnel, the Federal Department of National Health and Welfare has made substantial annual grants to the Canadian Schools of Social Work for training purposes.

Section 1.—Social Security

Subsection 1.—Federal Government Programs

Family Allowances.—The Family Allowances Act, 1944, was introduced as a basic social security measure designed to assist in providing equal opportunity for all Canadian children. Under the Act, allowances are payable in respect of every child in Canada below the age of sixteen years, who was born in this country, or has been resident here for three years, or has one parent who was domiciled in Canada for three years immediately prior to birth of the child.



The Allowances, which are paid out of the Consolidated Revenue Fund of Canada, involve no means test and are tax free. Payment is made monthly, and normally to the mother though any person who substantially maintains the child may be paid the Allowance on its behalf. The National Director of Family Allowances may order that payment be made to another person or agency if parental misuse occurs and the Allowances are not payable for any child who fails to comply with provincial school regulations. The Allowances are paid by cheque, except for Indian and Eskimo children of Yukon and the Northwest Territories, for whom payment is made in kind because of lack of exchange facilities and the urgent necessity of educating the natives in the use of nutritive foods which have generally been lacking in their children's diet. The Act provides that, if any person is dissatisfied with a decision as to his right to be paid the Allowances, or as to the amount of the Allowance paid to him, he may appeal the decision to a specially constituted tribunal. The Allowances are paid for the first four children in a family at the monthly rate of: $5 for each child under 6 years; $6 for each child from 6 to 9 years; $7 for each child from 10 to 12 years; and $8 for each child from 13 to 15 years. When there are five or more children in a family the Allowance for the fifth child is reduced by $1, for the sixth and seventh children by $2 each, and for any additional child by $3.

1.—Families Receiving Family Allowances, Number of Children for Whom Allowances Were Paid and Total Allowances, Years Ended Mar. 31, 1946-48

Province	Year[1]	Families Receiving Allowance	Children for Whom Allowance Paid	Average Number of Children per Family	Average Allowance		Total Allowances Paid During Fiscal Year[2]
					per Family	per Child	
		No.	No.	No.	$	$	$
Prince Edward Island....	1946	11,999	30,541	2·54	15·09	5·93	1,620,561
	1947	12,280	31,203	2·54	15·09	5·94	2,194,372
	1948	12,748	31,861	2·50	14·90	5·96	2,257,561
Nova Scotia.....	1946	76,789	183,447	2·39	11·17	5·93	9,547,995
	1947	84,172	196,530	2·33	13·92	5·96	13,416,762
	1948	87,170	202,029	2·32	13·78	5·95	14,252,586
New Brunswick.....	1946	58,933	156,961	2·66	15·66	5·88	8,123,483
	1947	65,071	168,114	2·58	15·22	5·89	11,402,915
	1948	68,510	175,390	2·56	14·91	5·82	12,097,153
Quebec.....	1946	396,904	1,118,540	2·82	16·71	5·93	57,978,816
	1947	445,669	1,230,312	2·76	16·14	5·85	82,614,860
	1948	468,680	1,260,735	2·69	15·66	5·82	87,630,726
Ontario.....	1946	456,219	937,982	2·05	12·43	6·05	49,421,917
	1947	526,400	1,051,206	2·00	12·05	6·03	70,628,176
	1948	555,658	1,096,779	1·97	11·79	5·97	77,585,749
Manitoba.....	1946	87,252	184,692	2·12	12·84	6·06	9,932,897
	1947	97,698	203,681	2·08	12·62	6·05	14,052,301
	1948	99,954	207,544	2·08	12·42	5·98	14,834,198
Saskatchewan.....	1946	106,067	248,319	2·34	14·04	6·00	13,210,097
	1947	112,625	255,424	2·27	13·75	6·06	18,129,468
	1948	114,613	257,611	2·25	13·45	5·98	18,570,216
Alberta.....	1946	103,804	230,767	2·22	13·40	6·03	12,300,428
	1947	115,198	248,512	2·16	12·98	6·02	17,186,896
	1948	119,739	255,848	2·14	12·78	5·98	18,225,052
British Columbia.....	1946	106,840	204,754	1·92	11·52	6·01	10,719,729
	1947	126,622	242,010	1·91	11·31	5·91	15,743,010
	1948	139,627	260,752	1·87	11·20	6·00	18,037,675
Yukon and N.W.T.....	1946	1,344	3,097	2·30	16·88	7·32	169,844
	1947	2,721	6,070	2·23	13·12	5·88	332,924
	1948	3,245	7,023	2·16	12·75	5·89	465,589
Canada.....	**1946**	**1,406,151**	**3,299,100**	**2·35**	**14·05**	**5·99**	**173,025,767**
	1947	**1,588,456**	**3,633,062**	**2·29**	**13·62**	**5·95**	**245,701,684**
	1948	**1,669,944**	**3,755,572**	**2·25**	**13·31**	**5·92**	**263,956,505**

[1] All figures except those in the last column refer to the month of March of the year indicated.
[2] Totals shown for year ended Mar. 31, 1946, cover 9 months only since payment of Family Allowances did not begin until July 1, 1945.

The program, which is administered by the Department of National Health and Welfare, is highly decentralized. Under the National Director of Family Allowances there is a Regional Director for each province and for Yukon and the Northwest Territories. A welfare section in each regional office deals with welfare questions arising out of administration of the Allowances. The Supervisor of Welfare Services in each regional office serves as adviser to the Regional Director and reports through him to the Chief Supervisor of Welfare Services, who acts in a similar capacity to the National Director. Actual preparation and issuing of the cheques is the responsibility of the treasury officer attached to each regional office who reports to the Chief Treasury Officer for the Department of National Health and Welfare.

Prior to 1947, Allowances were recovered from upper income group families through Income Tax, on a sliding scale adjusted so that full recovery was made from incomes of $3,600 or over. As this recovery was discontinued by an amendment to the Income War Tax Act effective Jan. 1, 1947, Allowances are now paid in respect of virtually all children in Canada.

Unemployment Insurance.—In 1940, by an amendment to the British North America Act, the Federal Government was given complete jurisdiction in the field of unemployment insurance and since that time a national system of unemployment insurance administered by the Unemployment Insurance Commission has been in operation, as outlined in Chapter XVIII.

Veterans' Unemployment Assistance.—The Department of Veterans Affairs does not place veterans in employment, but works closely with the Department of Labour in connection with veterans' problems. Out-of-work benefits are authorized in certain cases as outlined in Chapter XXIX.

Prairie Farm Assistance.*—The Prairie Farm Assistance Act, passed in 1939, provides for direct money payments by the Federal Government, on an acreage basis, to farmers in areas of low crop yields in the Prairie Provinces and the Peace River District of British Columbia. The Act was designed to replace assistance in the form of relief and provides that payments be made to farmers under certain conditions and terms, and requires that 1 p.c. of the purchase price of all grains (wheat, oats, barley and rye) marketed in the Prairie Provinces be paid to the Federal Government and set aside in a special fund for the purposes of the Act.

If the farmer, who may be an owner or tenant, or a member of a co-operative farm association engaged in farming, is located in a crop-failure area, he may be awarded assistance on not more than one-half of the cultivated land or a maximum of two hundred acres.

During the eight crop years, 1939-46 inclusive, the total amount paid out under the Act was $72,791,019; the amount collected under the 1 p.c. levy was $26,384,114.

Veterans Pensions.—The Pension Act of 1919 established a Board consisting of three members vested with exclusive power and authority to adjudicate upon pension claims and to award pensions for disability or death related to military service in the War of 1914-18. Canadian pensions legislation as it developed following the First World War is outlined in pp. 759-760 of the 1943-44 Year Book, and as subsequently amended in Chapter XXX, pp. 1139-1143 of the 1947 Year Book.

Veterans Allowances.—In addition to war pensions, allowances are paid to certain non-pensionable veterans at 60 years of age, or earlier if the veteran is permanently unemployable or to eligible veterans who, having served in a theatre

* Contributed by G. S. H. Barton, C.M.G., B.S.A., D.Sc. A., Deputy Minister of Agriculture, Ottawa.

of actual war, are incapable and unlikely to become capable of maintaining themselves because of economic handicaps combined with disabilities. These allowances are outlined in Chapter XXIX.

Government Annuities.*—Under the Government Annuities Act (c. 7, R.S.C., 1927, amended by c. 33, 1931) passed in 1908, the Federal Government carries on a service to assist Canadians to make provision for old age, the Act being administered by the Minister of Labour.

The Canadian Government Annuity is a fixed yearly income purchased from and paid by the Government of Canada. The annuity is payable in quarterly (or other) instalments, for life, or for life and guaranteed for a period of years. The minimum annuity is $10 and the maximum $1,200 a year. Annuity contracts may be deferred or immediate. Under deferred annuity contracts purchase is by periodic or single premiums. Immediate annuity contracts provide immediate income.

The property and interest of the annuitant is neither transferable nor attachable. In the event of the death of the annuitant before a deferred annuity vests, all money paid is refunded to the purchaser or his legal representatives with interest. Provision is made in the Act for group annuity contracts, whereby employers may contract for the purchase of annuities on behalf of their employees, or associations on behalf of their members, the purchase money being derived partly from wages and partly from employer contributions. Group annuity plans now in effect cover a variety of industries and many municipal corporations throughout Canada. Many of the older members under group plans sold in recent years are now enjoying benefits under the Annuities Act.

From Sept. 1, 1908, the date of the inception of the system, up to Mar. 31, 1948, the total number of annuity contracts and certificates issued was 235,568. Of these, 24,633 have been cancelled (including 3,264 cancelled in 1947-48) leaving in effect on Mar. 31, 1948, 210,935 contracts and certificates. The total amount of purchase money received up to Mar. 31, 1948, was $465,858,347.

Up to Mar. 31, 1948, 708 corporations, institutions and associations (as compared with 612 up to Mar. 31, 1947) had entered into agreements with the Government to purchase annuities. Under these agreements, as of Mar. 31, 1948, 92,063 employees or members were holding certificates for purchase of deferred annuities (as compared with 70,996 one year earlier). The number of certificates issued under groups in the year 1947-48 was 26,708 (as compared with 30,411 in the year 1946-47).

Table 4 gives details of the valuation for years ending Mar. 31, 1947 and 1948. A comparative analysis of the figures for these two years will show that the 1948 figures under "value of contracts in force" are somewhat low. The explanation is that during the latter year a punched card system was set up, under which the valuation age used was "age nearest birthday on March 31". This age was, on the average, a fraction of a year above that used under the earlier system which tended to reduce the reserve. The smaller transfer for the year 1948, seen under "Receipts" in Table 3, is a result of the same factor.

* Revised by the Government Annuities Branch, Department of Labour, Ottawa.

Up to June, 1940, annuity payments were, with certain exceptions, exempt from taxation under the Income War Tax Act. Under contracts issued after that date, income was fully taxable until the Act was amended in 1945. Under that amendment, the capital element in contractual annuities issued since June, 1940, was declared exempt from taxation, the portion representing interest being subject to tax as income. The change applies to income of 1945 and subsequent years.

2.—Government Annuities Contracted, and Purchase Money Received, Years Ended Mar. 31, 1926-48

NOTE.—Figures for the years 1909 to 1925 will be found at p. 873 of the 1942 Year Book.

Year	Contracts and Certificates	Purchase Money Received	Year	Contracts and Certificates	Purchase Money Received
	No.	$		No.	$
1926	668	1,938,921	1938	5,724	13,550,483
1927	503	1,894,885	1939	8,518	18,189,319
1928	1,223	3,843,088	1940	9,014	20,001,533
1929	1,328	4,272,419	1941	11,994	18,803,645
1930	1,257	3,156,475	1942	8,593	19,630,645
1931	1,772	3,612,234	1943	9,608	20,415,365
1932	1,726	4,194,384	1944	19,354	26,600,098
1933	1,375	3,547,345	1945	15,796	33,076,436
1934	2,412	7,071,439	1946	25,538	46,954,536
1935	3,930	13,376,400	1947	43,585	72,009,764
1936	6,357	21,281,981	1948	40,945	75,067,827
1937	7,806	23,614,824			

3.—Government Annuities Fund Statements, Years Ended Mar. 31, 1943-48

Item	1943	1944	1945	1946	1947	1948
Assets	$	$	$	$	$	$
Fund at beginning of fiscal year	172,911,035	190,298,479	213,561,537	243,537,624	287,492,656	357,161,953
Receipts during the year, less payments	17,387,444	23,263,058	29,976,087	43,955,032	69,669,297	72,356,282
Fund at end of fiscal year	190,298,479	213,561,537	243,537,624	287,492,656	357,161,953	429,518,235
Liabilities						
Value of outstanding contracts	190,298,479	213,561,537	243,537,624	287,492,656	357,161,953	429,518,235
Receipts						
Immediate annuities	5,475,992	5,688,944	7,686,992	12,857,728	21,322,796	20,874,824
Deferred annuities	15,026,136	21,020,193	25,676,877	34,470,916	51,060,176	54,748,242
Interest on fund	7,026,977	7,802,409	8,826,238	10,193,045	12,333,806	15,250,733
Amount transferred to maintain reserve	497,790	32,181	257,288	293,798	977,070	331,857
Totals, Receipts	**28,026,895**	**34,543,727**	**42,447,395**	**57,815,487**	**85,693,848**	**91,205,656**
Payments						
Payments under vested annuity contracts	10,147,590	10,849,633	11,724,554	12,938,362	14,951,693	17,588,142
Return of premiums with interest	405,098	321,996	459,321	547,985	699,651	705,993
Return of premiums without interest	86,763	109,040	287,433	374,108	373,207	555,239
Totals, Payments	**10,639,451**	**11,280,669**	**12,471,308**	**13,860,455**	**16,024,551**	**18,849,374**

4.—Numbers and Values of Annuity Contracts, as at Mar. 31, 1947 and 1948

Classification	1947			1948		
	Number of Contracts	Amount of Annuity	Value, at Mar. 31, of Contracts in Force	Number of Contracts	Amount of Annuity	Value, at Mar. 31, of Contracts in Force
		$	$		$	$
Immediate	16,518	6,160,366	57,686,861	18,211	6,871,146	64,049,528
Immediate guaranteed	17,879	8,100,371	96,458,985	21,382	10,010,525	117,630,201
Immediate last survivor	4,357	1,930,321	25,823,450	4,506	2,038,044	27,231,792
Deferred	134,500	[1]	177,192,657	166,836	[1]	220,606,714
Totals	**173,254**	**16,191,058**[2]	**357,161,953**	**210,935**	**18,919,715**[2]	**429,518,235**

[1] Undetermined. [2] Amount of immediate annuities.

Subsection 2.—Federal-Provincial Programs

Old Age Pensions and Pensions for the Blind.—Old Age Pensions, to be paid jointly by the Federal and Provincial Governments, were authorized by the Old Age Pensions Act, 1927, which became effective in the different provinces on the dates shown in Tables 5 and 6. Under the Act, British subjects aged 70 and over and not in receipt of an annual income exceeding $365, who had resided in Canada for 20 years, and in the Province in which application was made for 5 years, immediately preceding the date of the proposed commencement of pension might qualify for a pension of up to $240 annually. The Federal Government paid one-half the net cost of pensions until 1931, when the Government's share was increased to 75 p.c. In 1937, the Act was amended to provide pensions for blind persons aged 40 or over. By Order in Council the maximum pension was increased to $300 in 1943, and the maximum income allowed to $425 in 1944.

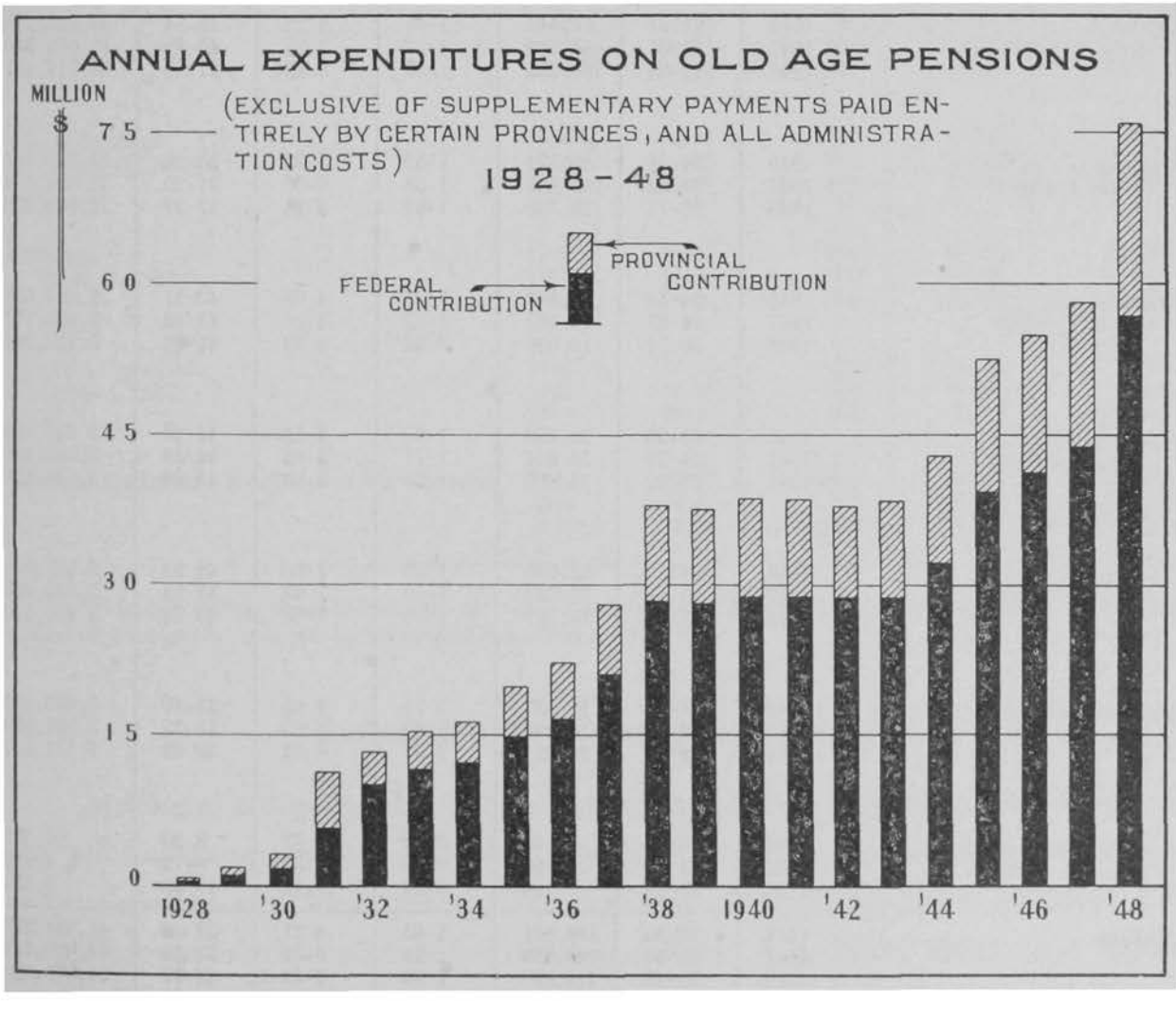
The Act was substantially revised in 1947 to permit an increase in the maximum pension, with liberalization of means and residence tests, elimination of the restriction of pension rights to British subjects, and reduction of the age at which a blind person is eligible for pension to 21 years. Under the amended Act the Federal Government contributes, in respect of each person in receipt of pension, a sum not exceeding 75 p.c. of $30 monthly, or of the monthly amount paid by the province, whichever is less, so that, while the province may pay a higher maximum pension within the income limits fixed by the Act, the Federal contribution is payable only in respect of an amount of pension up to $360 annually.

Old Age Pensions and Pensions for the Blind are not paid concurrently, or together with an allowance under the War Veterans Allowance Act, 1946, or to an Indian as defined by the Indian Act, and pensions for the blind are not paid with a pension for blindness under the Pension Act. To be eligible for assistance whether as a blind or as an aged person, under the amended Old Age Pensions Act, a person must have resided in Canada for 20 years immediately preceding date of proposed commencement of pension, or if absent from Canada in that time, must previously have resided in Canada for a period twice the period of absence. Old Age Pensions are payable to persons aged 70 or over when annual income, including pension, is

not more than $600 for a single person or $1,080 for a married person, or $1,200 for a person married to a blind person. Pensions for the blind are payable to single blind persons aged 21 or over when annual income, including pension, is not more than $720 for a single person, or $920 if there is a dependent child or, in the case of married persons, if the total income of the couple, including pension, is not more than $1,200, or $1,320 if both are blind.

Pensions are paid by the provinces, with Federal Government reimbursement being made through the Department of National Health and Welfare.

Since 1942, certain provinces have paid supplemental allowances in addition to the pension. These allowances, and the conditions under which they are paid, have varied from time to time. At Mar. 31, 1948, the following rates were in effect: In British Columbia $10; in Ontario up to $10; in Alberta $5; in Nova Scotia up to $5. As from Apr. 1, 1948, Saskatchewan paid a supplemental allowance of up to $5 and the allowance in Alberta was increased to $7.



5.—Old Age Pensions Statistics, including Federal Government Contributions, Years Ended Mar. 31, 1946-48

Province and Effective Date of Act	Year[1]	Average Pension	Number of Pensioners	Percentage of Pensioners to Population[2]	Percentage of Persons Age 70 and Over to Population[2]	Percentage of Pensioners to Population Age 70 and Over	Federal Contribution During Fiscal Year
		$	No.	p.c.	p.c.	p.c.	$
Prince Edward Island	1946	18·99	1,980	2·15	6·52	33·00	322,441
(July 1, 1933)	1947	19·36	2,112	2·25	6·38	35·20	350,808
	1948	24·82	2,417	2·57	6·60	38·98	478,924
Nova Scotia	1946	22·62	14,771	2·38	5·15	46·16	2,913,972
(Mar. 1, 1934)	1947	22·76	15,403	2·52	5·39	46·68	3,093,204
	1948	29·19	16,984	2·73	5·41	50·55	3,943,563
New Brunswick	1946	22·40	12,663	2·71	4·49	60·30	2,498,871
(July 1, 1936)	1947	22·68	13,360	2·78	4·58	60·73	2,649,020
	1948	29·37	14,524	2·96	4·50	65·72	3,634,260
Quebec	1946	23·91	51,567	1·45	3·23	44·84	10,823,345
(Aug. 1, 1936)	1947	24·01	54,489	1·50	3·28	45·79	11,466,940
	1948	29·08	59,204	1·59	3·33	47·86	14,714,437
Ontario	1946	24·48	60,831	1·52	5·02	30·26	13,129,816
(Nov. 1, 1929)	1947	24·52	65,085	1·58	5·06	31·29	13,886,364
	1948	29·71	70,765	1·69	5·24	32·27	17,999,870
Manitoba	1946	24·54	12,981	1·76	4·08	43·27	2,684,083
(Sept. 1, 1928)	1947	24·53	13,583	1·87	4·26	43·82	2,826,747
	1948	29·71	15,026	2·02	4·39	46·09	3,727,392
Saskatchewan	1946	24·55	13,398	1·59	3·55	44·66	2,903,020
(May 1, 1928)	1947	24·37	14,204	1·71	3·86	44·39	3,085,226
	1948	29·60	14,806	1·76	3·84	45·84	3,836,980
Alberta	1946	24·12	12,098	1·46	3·39	43·21	2,526,215
(Aug. 1, 1929)	1947	24·11	12,738	1·59	3·63	43·92	2,699,425
	1948	29·69	13,792	1·68	3·63	46·28	3,466,114
British Columbia	1946	24·34	16,637	1·75	4·95	35·40	3,485,885
(Sept. 1, 1927)	1947	24·22	18,039	1·80	5·08	35·37	3,767,623
	1948	29·54	21,621	2·07	5·31	39·03	5,171,017
Northwest Territories	1946	24·33	15	0·12	1·52	8·20	3,579
(Jan. 25, 1929)	1947	24·69	16	0·13	1·52	8·74	4,222
	1948	29·21	19	0·16	1·52	10·38	5,831
Totals	**1946**	**23·98**	**196,941**	**1·63**	**4·21**	**38·58**	**41,291,227**
	1947	**24·03**	**209,029**	**1·70**	**4·31**	**39·39**	**43,829,579**
	1948	**29·41**	**229,158**	**1·82**	**4·42**	**41·27**	**56,978,388**

[1] All figures except those in the last column refer to the month of March of the year indicated.
[2] Compiled on population estimate for preceding June (see p. 139).

6.—Statistics of Pensions for the Blind, including Federal Government Contributions, Years Ended Mar. 31, 1946-48

Province and Effective Date of Act	Year[1]	Average Pension	Number of Pensioners	Percentage of Pensioners to Population[2]	Federal Contribution During Fiscal Year
		$	No.	p.c.	$
Prince Edward Island (Dec. 1, 1937)	1946	22·33	119	0·129	22,795
	1947	22·84	121	0·129	24,211
	1948	27·91	126	0·134	29,424
Nova Scotia (Oct. 1, 1937)	1946	24·19	664	0·107	142,672
	1947	24·25	685	0·112	147,486
	1948	29·59	805	0·130	181,815
New Brunswick (Sept. 1, 1937)	1946	24·65	737	0·157	161,978
	1947	24·65	758	0·158	166,414
	1948	29·83	896	0·182	217,407
Quebec (Oct. 1, 1937)	1946	24·73	2,568	0·072	568,428
	1947	24·73	2,709	0·075	605,761
	1948	29·69	3,178	0·086	801,694
Ontario (Sept. 1, 1937)	1946	24·72	1,543	0·039	341,574
	1947	24·71	1,623	0·040	359,860
	1948	29·83	1,814	0·043	464,864
Manitoba (Sept. 1, 1937)	1946	24·84	365	0·050	79,473
	1947	24·71	391	0·054	86,625
	1948	29·92	455	0·061	114,975
Saskatchewan (Nov. 15, 1937)	1946	24·74	340	0·040	76,836
	1947	24·83	363	0·044	81,939
	1948	29·78	409	0·049	107,611
Alberta (Mar. 7, 1938)	1946	24·51	269	0·033	57,550
	1947	24·51	290	0·036	62,155
	1948	29·98	332	0·040	81,256
British Columbia (Dec. 1, 1937)	1946	24·59	340	0·036	75,441
	1947	24·59	370	0·037	80,435
	1948	29·67	460	0·044	108,589
Totals (including Northwest Territories)	**1946**	**24·62**	**6,945**	**0·057**	**1,526,747**
	1947	**24·63**	**7,311**	**0·059**	**1,615,136**
	1948	**29·73**	**8,476**	**0·067**	**2,107,990**

[1] All figures except those in last column refer to the month of March of the year indicated. [2] Compiled on population estimate for preceding June (see p. 139).

Subsection 3.—Provincial Programs

Mothers' Allowances.—All provinces, except Prince Edward Island, provide for allowances to mothers who are widowed or who, for other reasons, are without means of support. Manitoba was the first to enact such legislation in 1916. Five other provinces followed between 1917 and 1920. The Nova Scotia and Quebec Acts came into effect in 1930 and 1938, respectively. A New Brunswick Statute of 1930, proclaimed in 1943, was replaced by a new Act in 1944.

Except in Alberta, where 25 p.c. of an allowance is borne by the muncipality, the whole cost is provided from provincial funds. In Quebec, not more than 5 p.c. of the amount of the allowances paid may be imposed on municipalities, but no levy has been made under this provision.

Each Act stipulates that an applicant must be a resident of the Province and, except in Alberta, have resided there for a certain period. Alberta merely requires that the husband should have had his home in the Province at the time of his death, committal to an institution or desertion of his wife.

Except in Saskatchewan and Alberta, nationality is an important condition of eligibility. In Quebec, the mother must possess Canadian citizenship by birth or have been a Canadian citizen for 15 years, or she must be the widow or the wife of such a Canadian citizen. In the remaining provinces, the applicant must be a British subject or the widow or wife of a British subject or her child must be a British subject. In Nova Scotia, the applicant herself must be a British subject, and in New Brunwick and Manitoba the child is eligible if he is a British subject, even if the mother is not. In British Columbia, a woman may be eligible if she is or was a British subject by birth or naturalization.

An applicant must be a widow, or a wife whose husband is mentally incapacitated or, except in Alberta, totally and permanently disabled. In some provinces mental disability means confinement in a provincial mental hospital. A permanent physical disability is also variously defined. The British Columbia and Quebec Acts, for example, specify a physical disability which may reasonably be expected to continue for at least one year; Saskatchewan for a period of nine months or more. In New Brunswick, Nova Scotia and Saskatchewan, a mother is declared eligible if her husband is confined to a sanatorium for tuberculosis. In New Brunswick, the allowance may be continued if the parent in respect of whom the allowance is being paid is discharged from a sanatorium and following treatment at home. In Nova Scotia, an allowance may be paid regardless of whether the husband is in an institution or receiving treatment at home. In Saskatchewan, when the mother is deceased or in a mental institution or sanatorium, the allowance may be paid to the father if he is incapacitated and living at home with the children. Foster mothers caring for children whose parents are dead or disabled are also eligible, except in Nova Scotia and Alberta.

Deserted wives who meet specified conditions are eligible, except in Nova Scotia, but the period that must elapse after desertion varies from province to province. Mothers who have been divorced or legally separated from their husbands for two years are eligible in British Columbia, and a mother who is divorced may be paid an allowance in Saskatchewan. In British Columbia and Saskatchewan, the wives of inmates of penal institutions are eligible.

In Nova Scotia, New Brunswick, Saskatchewan, Manitoba and Quebec, allowances may be paid in respect of a legally adopted child. In Manitoba, Saskatchewan, Alberta and British Columbia, allowances are paid, in some cases, for children born out of wedlock.

Mothers of one or more children are eligible except in Nova Scotia, where the mother of one dependent child is eligible only if she is incapacitated, if she has residing with her a husband permanently disabled or if the welfare of the one child requires it.

The age-limit for children is 16, except in Manitoba where it is 15, or over 15 if the child is physically or mentally incapacitated. On certain conditions, allowances may be paid in British Columbia for a child between 16 and 18 years or for a child living temporarily apart from its mother. The Alberta Act permits payment to children between 16 and 18 years if satisfactory progress is being made at school. In New Brunswick, when a child reaches 16 years and is attending school, payments may be continued until the school year ends; no allowance may be paid for a child not attending school as required by law. In Quebec, when a child reaches 16 years and is attending school, payments may continue until the end of the school year and, if the child is unable to work on account of mental or physical incapability, an allowance is paid until he reaches the age of 19. Under the Quebec Act, also, an allowance may be paid with the authorization of the Lieutenant-Governor in Council in any special case of a needy mother which is not specifically provided for in the Act. In most of the other provinces, cases of this kind would taken care of under social assistance or relief.

The most recent Alberta amendment permits the payment of allowances to persons now residing in other provinces, providing reciprocal agreements are in effect with such other provinces.

Rates of Allowances.—In Nova Scotia, a maximum of $80 per month per family and in New Brunswick $60 is fixed by Statute, but in other provinces the administrative authority fixes the rate. In Nova Scotia, the monthly amount payable to a mother and one child is determined by family need. In New Brunswick the maximum monthly amount for a mother with one child is $27·50 and $7·50 for each additional child with a family maximum of $60. An extra $7·50 may be paid for rental under special circumstances. Quebec allows $35 monthly to a woman with one dependent child in cities and towns of over 5,000 population, $30 in other localities. An additional $1·00 per month is paid for each of the second, third, fourth and fifth children, $2 each for the sixth and seventh and $3 for the eighth and subsequent children. An extra $5 is allowed when the beneficiary is unable to work, or when a disabled husband is living at home. In Ontario, the maximum for a mother and one child is $42 per month with $6 for each additional child.* The Allowance may be increased by $10 per month per beneficiary where need is evidenced; a winter fuel allowance is also paid according to need. The maximum monthly amount in Manitoba paid to a mother and one enrolled child, excluding winter fuel, is $40 with additional allowances for other children; a disabled father in the home receives $13 maximum, monthly. The Allowance may be augmented up to $25 where special need is shown but the monthly maximum, excluding winter fuel, to any family with or without father at home is $121. In Saskatchewan, the maximum yearly Allowance payable for a mother and one child is $300; mother and two children $420; mother and three children $480, rising to $900 for a mother and ten children. The Allowance in Alberta does not exceed $35 per month for a mother with one child and may rise to a maximum of $100 where there are nine

* Since the above was written the Ontario Allowance for a mother and one child was increased to a maximum of $50 per month with $10 per month for each additional child (May 5, 1948. O. Reg. 77/48).

children or more. In British Columbia, the maximum monthly Allowance is $42·50 for a mother with one dependent child, $7·50 for each additional child and a further $7·50 for a totally disabled husband living at home.

The following table gives statistics for the individual provinces providing Mothers' Allowances.

7.—Summary Statistics of Mothers' Allowances, 1943-47

Province and Year	Families Assisted	Children Assisted	Benefits Paid
	No.	No.	$
Nova Scotia[1]—			
1943	1,280	3,619	513,303
1944	1,365	3,840	630,723
1945	1,441	4,057	734,828
1946	1,615	4,474	846,964
1947	1,787	4,778	919,870
New Brunswick[1,2]—			
1945	918	2,624	384,802
1946	1,207	3,308	487,602
1947	1,396	3,771	598,550
Quebec[3]—			
1944	11,973	35,919	3,698,044
1945	13,057	39,396	4,186,308
1946	13,685	41,055	4,664,235
1947	14,312	40,217	4,766,288
Ontario[4]—			
1943	10,813	20,932	3,736,276
1944	9,176	18,032	3,750,861
1945[7]	7,083	14,567	3,634,247
1946[7]	6,687	13,795	3,451,310
1947	6,587	13,736	3,375,668
Manitoba[3]—			
1943	741	2,210	335,892
1944	643	1,951	319,016
1945	600	1,843	319,871
1946	613	1,835	354,360
1947	685	1,921	373,030
Saskatchewan—			
1943[5]	2,468	5,675	514,491
1944[5]	2,222	5,321	520,272
1945[5]	2,078	4,912	651,723
1946[5]	2,117	4,992	868,403
1947[8]	2,349	5,498	894,962[6]
Alberta[4]—			
1943	1,990	4,009	561,975
1944	1,830	3,918	555,075
1945	1,701	3,562	570,754
1946	1,559	3,275	569,137
1947	1,561	3,385	592,655
British Columbia[4]—			
1943	1,194	2,406	667,213
1944	1,080	2,246	581,541
1945	940	1,966	528,442
1946	905	2,132	498,901
1947	863	1,832	488,866

[1] For year ended Oct. 31. [2] Allowances paid since May 1, 1944. [3] For year ended Dec. 31. [4] For year ended Mar. 31. [5] For year ended Apr. 30. [6] Eleven months. [7] Revised figures. [8] Eleven months ending Mar. 31 since end of fiscal year was changed from Apr. 30 to Mar. 31.

Workmen's Compensation.—In all provinces, except Prince Edward Island, legislation is in force providing for compensation for injury to a workman by accident arising out of and in the course of employment, or by a specified industrial disease. Summary of provincial legislation is given in Chapter XVIII.

Section 2.—Welfare

Subsection 1.—Federal Government Welfare Services

The National Physical Fitness Program.—The building of an integrated nation-wide physical fitness program was commenced with the passing of the National Physical Fitness Act of 1943. Planned as a basic social measure to improve the physical and mental fitness, and the cultural and social development of the Canadian people, the program is designed primarily to stimulate and assist spontaneous local growth in the community, with government participation being devoted principally to the initiation and provision of services to foster this growth. The National Physical Fitness Act serves as a stimulus to the program in two ways.

Under the Act, Parliament makes available to the Provinces, and to Yukon and the Northwest Territories, through the National Physical Fitness Fund, a sum not exceeding $225,000 annually, distributed on a per capita basis among those provinces which have signed agreements with the Federal Government to support a program of physical fitness and recreational development as provided in the Act. The maximum amount available for the annual grant to each province is: Prince Edward Island, $1,858·50; Nova Scotia, $11,301·75; New Brunswick, $8,943·75; Quebec, $65,151·00; Ontario, $74,063·25; Manitoba, $14,269·50; Saskatchewan, $17,520·75; Alberta, $15,567·75; British Columbia, $15,993·00; Yukon, $96·75; and Northwest Territories, $234·00. At the present time the Maritime and Prairie Provinces, British Columbia and the Northwest Territories participate in the scheme.

The Act also authorized the establishment of the National Council on Physical Fitness, which is composed of not fewer than three or more than ten members appointed by the Governor in Council. The Council, which meets at least semi-annually, acts in an advisory capacity to the Minister of National Health and Welfare and provides an effective liaison between the different levels of government and with the voluntary organizations interested in fitness and recreation. Each province participating in the national program has established its own advisory body.

The National Amateur Athletic Achievement Award, a medal for outstanding achievement in the sphere of amateur athletics in Canada, is presented from time to time by the National Council, the winner being selected by the Award Committee which is composed of representatives of leading Canadian organizations devoted to the advancement of amateur sport and cultural interests. Barbara Ann Scott, of Ottawa, Ont., World and Olympic Champion Figure Skater, was the first winner, in 1947.

Federal administration of the program is carried on by the Physical Fitness Division of the Department of National Health and Welfare which, in addition to administering the grants to the provinces, performs the administrative duties of the National Council on Physical Fitness, co-operates with other Federal Departments and with the national agencies and organizations, collects and distributes information originating in this and other countries, interprets the national program of fitness through publications and reports, and is concerned with the conduct of research, experiments and demonstrations. This Division maintains a preview film library, the material for which is selected from all available sources by committees of experts in physical fitness and recreational fields. Films recommended by these committees are purchased and circulated to the provinces on a "preview with a

view to purchase" basis. Other activities have included: production of a series of films, two of which have been released, "Fit for Tomorrow" and another on urban recreation; assistance to universities in the establishment of degree courses in health, physical education and recreation; and co-operation on the production of a film strip illustrating the use of the Wetzel Grid, a graph recently evolved for the evaluation of the physique, the growth, the physical progress and the caloric need of a child.

Provincial Administration.—The physical fitness program is administered provincially by the Department of Education in Prince Edward Island, New Brunswick, Alberta, Saskatchewan and British Columbia; by the Department of Public Health in Nova Scotia and by the Department of Health and Public Welfare in Manitoba. Saskatchewan and Manitoba have passed their own Physical Fitness Acts. The actual carrying out of fitness and recreation projects is a provincial and local responsibility and the provincial program is organized with a view to strengthening and aiding the community, and all agencies active in this field. The underlying principles are: the development of a program of fitness in relation to the needs and determined priorities of the province; the development of both volunteer and paid leadership through the conduct of training courses and in some instances the payment of salaries; co-ordination and extension of existing agencies, with the initiation of programs originated only where there are no available agencies to undertake them; and in certain provinces the provision of financial aid to local programs approved by the province.

Community activities are necessarily varied. The National Council on Physical Fitness has defined the primary responsibility of the community as the duty of making recreational facilities available at all times to all classes and age groups through the provision of leadership, planning, financial support, supervisory staff and equipment; of ensuring co-operation amongst different groups and with other communities; and the provision of that essential element of personal interest and enthusiasm without which the program cannot succeed.

Veterans' Welfare Services

Welfare and rehabilitation services for Veterans, as administered by the Department of Veterans Affairs, are outlined in Chapter XXIX.

Welfare Services for the Indian and Eskimo

Welfare Services for the Indian and Eskimo, as administered respectively by the Indian Affairs Branch and the Bureau of Northwest Territories and Yukon Affairs of the Department of Mines and Resources are outlined in Chapter XXX.

Subsection 2.—Provincial Welfare Services

Prince Edward Island.—Public welfare services are administered by the Department of Health and Welfare. These include child welfare, direct relief payments, and supervision of the Infirmary for the care of the aged and infirm. Two orphanages, one Protestant and one Roman Catholic, are operated as private institutions. Two Children's Aid Societies operate under authority of the Children's Act.

With the exception of the city of Charlottetown and seven incorporated towns, the Province is organized as a single welfare unit, with no geographical or political division into municipalities.

Nova Scotia.—Public welfare services are administered by the Department of Public Welfare.

Child Welfare and Protection.—The Child and Family Welfare Branch is responsible for the administration of the Adoption Act; the Nova Scotia Training School for mentally defective children; the Nova Scotia School for Boys for delinquent boys; assistance to and supervision of the 12 Children's Aid Societies and, in unorganized districts, carrying out the duties normally delegated to the Societies; inspection of all child-caring institutions and reformatories; and operation of six juvenile courts and supervision of their probationary staff.

Wards of the Children's Aid Societies are placed in foster homes when possible, or in child-caring institutions. Forty per cent of maintenance up to $5 per week is borne by the Province with the municipality paying the remainder and the Province paying an extra $2 to $7 at the discretion of the Minister. Financial provision for children in private reformatories is at the rate of $75 per annum from the municipality, and $275 from the Province. For children in the Nova Scotia School for Boys and in the Nova Scotia Training School the municipality pays $175 and $200 respectively, all other expenses being borne by the Province.

Care of the Aged. — Homes for the Aged are operated by municipalities and religious and private bodies under provincial inspection with no provincial or Federal support other than the Old Age Pension described in Subsection 2 of Section 1. Old age pensioners boarding in these homes may pay their pensions directly to the institution or, if the pensioner is incapable of managing his own affairs, the pension may be paid to the institution by the Department.

New Brunswick.—Public welfare services are administered by the Department of Health and Social Services.

Child Welfare and Protection.—The Department administers the Children's Protection Act and the Adoption Act, through the Child Welfare Division. Seventeen Children's Aid Societies are operated, one for each county and one each for the cities of Moncton and Fredericton. Orphanages are under the auspices of religious, private or, in certain cases, municipal bodies. All child-caring institutions are subject to provincial inspection with one-half the cost of maintenance paid by the Province. Reformatory institutions for children are reimbursed at the rate of $200 per annum for each child by the Province, and an equal amount by the municipality.

Care of the Aged.—Homes for the Aged are operated under municipal, religious, fraternal and private auspices and are subject to provincial inspection, but receive no provincial financial support.

Quebec.—Public welfare services are administered by the Department of Social Welfare and Youth, which was established in 1946 in recognition of the importance of stressing and combining all aspects not only of social welfare but of aid and counsel to youth. Administrative policy differs somewhat from that in other provinces as responsibilities ordinarily assumed by other provincial authorities are, in many cases, delegated to recognized religious and private welfare agencies, which are aided by substantial grants from public funds.

In addition to administering old age pensions, pensions for the blind, pensions to needy mothers and grants to public charities the Department is charged with the rehabilitation of youthful delinquents and the prevention of juvenile delinquency.

Preventive work is carried out by the Family Registry Office, whereby children from tubercular families, who have not been infected but for whom there is reason to be apprehensive, are boarded out with rural families. The office, in conjunction with local clergy and doctors, maintains supervision over the moral and physical condition of these children.

Another aspect of the welfare program is the colonization scheme, whereby needy families are settled on the land in newly opened districts, and are supervised and granted financial aid until they become self-supporting.

The Department is responsible also for a number of education services not usually included in a welfare department, i.e., some fifty specialized training schools, correspondence courses and scholarship grants.

Ontario.—Public welfare services are administered by the Department of Public Welfare.

Child Welfare and Protection.—The Children's Aid Branch of the Child Welfare Division is responsible for the administration of the Children's Protection Act, the Children of Unmarried Parents Act and the Adoption Act, and for supervision of the 53 Children's Aid Societies and all institutions for children in the Province. Maintenance of wards is borne in full by the municipality of residence.

The Day Nurseries Branch of the Division administers the Act respecting Day Nurseries of 1946, which provides for the establishment of day nurseries in Ontario. Under the Act, any municipality establishing a day nursery may receive a provincial contribution equal to one-half its expenditures on operation and maintenance. The Act also provides for the supervision of all day nurseries throughout Ontario.

The British Child Guests Branch continues the supervision of British children evacuated from the United Kingdom during the Second World War who still remain in Ontario.

Since the Second World War the Children's Aid Branch has co-operated with Federal Department of Veterans Affairs in assisting in the re-establishment of returned veterans, and in family welfare problems.

Care of the Aged.—Homes for the Aged are operated under provincial supervision by counties, cities, districts and religious or benevolent societies. In 1947, two new Acts: The Homes for the Aged Act and The District Homes for the Aged Act, replaced The Houses of Refuge Act and The District Houses of Refuge Act, under which, with the Charitable Institutions Act, all Homes for the Aged are incorporated. The new Acts provide for payment by the Province of 25 p.c. of the cost of construction of new buildings or of alterations to provide additional accommodation, after plans have been approved by the Minister of Public Welfare. The Province, under an agreement with the Ontario Medical Association, provides limited medical services to old age pensioners.

Unemployment Relief.—Regulations under the Unemployment Relief Act authorize contribution on the part of the Department of Public Welfare toward the alleviation of distress of unemployable persons. Schedules of assistance are provided in the regulations and are adjusted from time to time in accordance with changing food prices. An upward adjustment of 15 p.c. was made in food allowance in 1947. Municipalities are reimbursed 50 p.c. of their expenditure, while in the unorganized areas the Province administers and pays the total cost of aid rendered.

Assistance to Veterans.—Through the Soldiers' Aid Commission, advice and emergency assistance is extended to ex-service men of the First and Second World Wars and to their families.

Manitoba.—Public welfare services are administered by the Public Welfare Division of the Department of Health and Public Welfare. They include case-work services throughout the Province, social assistance or general relief in unorganized areas of the Province, and financial responsibility for assistance to non-resident transients.

Child Welfare and Protection.—In most of the municipally organized territory, child-care and protection services are administered by four non-denominational Children's Aid Societies, which are paid by the Province to provide basic child protection. Maintenance of wards is financed by the municipality of residence. Children's services in other areas are provided directly by the Public Welfare Division.

Welfare Services.—Homes are found and supervision is provided for mental defectives placed under the custodianship of the Director of the Public Welfare Division. The Broadway Home in Winnipeg, an advanced training school for mentally defective girls, comes under the joint direction of the Divisions of Public Welfare and Psychiatry.

Saskatchewan.—Public welfare services are administered by the Department of Social Welfare.

The Department is divided into four main branches, Child Welfare, Old Age Pensions, Social Aid, and Corrections; it operates the Home for the Aged and Infirm, and the Regina Nursing Home. The Social Welfare Board which was constituted by the Social Welfare Act, 1945, consists of the Deputy Minister as Chairman, and the Directors of the four major branches; it supervises the granting of all forms of assistance provided by the Department and acts in an advisory capacity to the Minister of Social Welfare.

Child Welfare and Protection.—The Child Welfare Act and the Education of Blind and Deaf Children Act are administered by the Child Welfare Branch and involve supervision of all child welfare services in the Province. When possible, children are placed in foster homes, with older children being placed in some cases on farms under wage agreements. The Branch operates five child-caring institutions for the care of wards until they can be returned to the care of their parents or placed in foster or adoption homes. A portion of the maintenance costs for all wards, other than those born out of wedlock, where an attempt is made to recover from the father, is borne by the municipality. Financial responsibility, however, is limited so that it will not exceed one mill of the municipality's tax rate, and ceases when the child reaches 16 years of age. All recipients of Mothers' Allowance and dependents on behalf of whom the Allowance is paid are provided with free medical, dental, optical and hospital care and free drugs.

Care of the Aged and Infirm.—The Department operates a Home for Aged and Infirm Persons which provides accommodation for 109 persons. During 1947, a second Home was opened to accommodate 75 aged and infirm patients. Plans are underway for an additional Home to be operated by the Department where accommodation will be provided for another 150 to 200 persons. The Social Welfare Act also provides for the licensing and supervision of privately operated homes. Old age and blind pensioners and their dependents are provided with free medical, dental, optical and hospital care.

Social Assistance.—The needs of indigent persons are provided by the Social Aid Branch in co-operation with the various municipal units of the Province with the Province contributing 50 p.c. of the cost of food, clothing and shelter furnished by municipalities to needy municipal residents, employable and unemployable. Assistance is provided to transient indigents and the entire cost is borne by the Province. The Branch operates a farm where the Métis—persons of mixed Indian and White blood who do not qualify under the Indian Act—are instructed in modern methods of farming while being paid for their work, and two schools for Métis children. A Division of the Branch provides training and placement services for handicapped and crippled persons, selected on the basis of aptitude tests; one-half the cost of this training is borne by the Province, the other by the municipality. The Branch also administers Mothers' Allowances.

Correctional Services.—On Apr. 1, 1947, responsibility for administration of the provincial gaols was transferred to the Department. The Corrections Branch was established to include the Industrial School for Boys, the four Provincial Penal Institutions, and Probation Services. A general revision of provincial correctional services is planned to provide for better segregation and for more adequate vocational training and social case work in an effort to rehabilitate prisoners on their discharge from gaol.

Alberta.—Public welfare measures are administered by the Department of Public Welfare.

Child Welfare and Protection.—Care of children who become wards of the Province by neglect, delinquency or indenture and agreement comes under the exclusive control of the Child Welfare Commission. Children may be placed in foster homes, in paid boarding homes or in institutions depending on the individual circumstances. Reform schools for delinquent children are not maintained; such children are placed in private family homes under supervision and inspection by the Home Investigating Committee of the Department. The maintenance of children who are made wards of the Province, and for whom a maintenance order has been issued by the Court is borne by the municipality of residence.

Care of the Aged and Infirm.—The Home for Aged or Infirm Act of 1945 provides for the payment of grants to municipalities maintaining either an aged or infirm resident in a licensed home.

Through the Poliomyelitis Sufferers' Act, provision has been made for the re-establishment of persons incapacitated because of poliomyelitis.

The cost of providing hospital and medical services for old age pensioners, blind pensioners and recipients of Mothers' Allowances and their dependents is now being borne by the Provincial Government through the Department of Public Health.

Maternal Welfare.—The Maternal Welfare Act provides for a grant of up to $15 to needy mothers prior to or immediately following the birth of child.

Social Assistance.—The Family Division of the Bureau of Public Welfare Branch provides full cost of assistance to indigent families who have no municipal residence or who are resident in unorganized districts. Services include medical and hospital services for the indigent sick. Grants of up to 80 p.c. of the cost are made to municipalities providing this assistance to their unemployable residents. The Single Men's Division maintains four hostels, one each at Edmonton and

Calgary and two in rural areas, to care for destitute single homeless men without permanent municipal domicile. Single ex-service men are cared for in Calgary and Edmonton without being institutionalized. The Province assumes the cost of these projects. The Bureau has been successful in the rehabilitation of families by settling them on suitable farm lands.

Métis Rehabilitation.—The rehabilitation of the Métis—persons of mixed Indian and White blood who do not qualify under the Indian Act—is the responsibility of the Métis Rehabilitation Branch and has been carried out by the setting aside of tracts of land as Métis Settlement Areas, where settlers have exclusive fishing, hunting and trapping rights and where they are encouraged to engage in lumbering, agriculture and stock-raising. Educational and social services are provided and Government-operated stores sell goods at cost price.

British Columbia.—Public welfare services are administered by the Social Welfare Branch of the Department of Health and Welfare.

Organization and Field Service.—The Province is divided for administrative purposes into five Regions with 23 District Offices. In 1947, decentralized administration and supervision was achieved, allowing for regional payment of social allowances and professional supervision of the staff. A generalized field service covering all categories is given by provincial social workers in the territory to which each is assigned.

The Social Assistance Act makes it mandatory for cities and municipalities of over 10,000 population, to have their own Social Welfare Departments, to administer the Social Assistance Act and to give case work services to old age pensioners and Mothers' Allowance recipients. The Province also pays 50 p.c. of the salaries of municipal social workers, or where more than one is needed, matches the municipal appointees, worker for worker. Smaller municipalities may either have their own Social Welfare Departments or pay the Province 15 cents per capita each year for the services of the Social Welfare Branch. There are four municipalities with only one social worker, nine with amalgamated staff, the remainder choosing the 15 cents per capita alternative.

The Province reimburses the municipalities 80 p.c. of the costs of all forms of social assistance granted to those in need, with the exception of Old Age and Blind Pensions and Mothers' Allowances for which the municipalities do not contribute. Medical or boarding-home costs over and above the pension or allowance are shared on an 80-20 provincial-municipal basis.

Child Welfare and Protection.—The administration of the Protection of Children Act, the Adoption Act, the Children of Unmarried Parents Act, and the placement of children in foster homes is carried on by the Child Welfare Division, except in Vancouver and Victoria where Children's Aid Societies are located.

Care of the Aged.—A provincial home is operated for the care of aged male persons. Several cities and municipalities also operate homes for the aged, receiving grants from the Province for costs of construction of homes. Case work and medical services are provided for pensioners.

Social Assistance.—The Family Division administers the Mothers' Allowance Act, and the Social Assistance Act which provides for the granting of Social Allowances to individuals or families, counselling services to families when financial aid is not required, health services, occupational training or re-training, and boardir g and foster home care.

Medical Services.—The Medical Services Division is responsible for the payment of medical expenses over and above those ordinarily provided. All cases under any of the above categories of service are provided with a medical card which entitles them to obtain the services of the doctor of their choice, medicines as prescribed and hospital treatment when necessary. Since 1947, a grant of $3 per day, in addition to the per diem per capita rate paid for all patients, is given to hospitals for the treatment of social welfare cases.

Special Services.—Certain divisions of the Health Branch of the Department of Health and Welfare include social services as part of their treatment. Social workers appointed by the Social Welfare Branch give medical social work services in the Tuberculosis Sanatoria and Venereal Diseases Clinics with services also being provided for the families of patients. Provincial institutions and hospitals have social service programs as a part of their treatment and case work services are provided in the Provincial Mental Hospital and child guide clinics. Infirmary applications and a hospital clearance program are carried out by the field staff under the supervision of the Inspector of Hospitals, with the advice of the Social Welfare Branch personnel.

Federal Departments use the services of the Branch co-operatively in connection with social investigations they may wish to have made in any part of the Province.

Correctional Services.—Administration of the Boys' and Girls' Industrial Schools, family case work and rehabilitative follow up of all boys and girls treated at the schools is carried on in co-operation with the Juvenile Courts.

Institutional Care of Dependent and Handicapped.*—Detailed statistics of charitable and benevolent institutions in Canada are made available quinquennially and, as reported for the 1941 Census, appear at pp. 677-682 of the 1943-44 Year Book. Table 1 below, gives figures as of June 1, 1946.

* Prepared under the direction of J. T. Marshall, Acting Director, Vital Statistics Division, Dominion Bureau of Statistics, by J. C. Brady, Chief, Institutions Statistics.

1.—Summary Statistics of Charitable and Benevolent Institutions, by Provinces, as at June 1, 1946

Item	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Homes for Adults—										
Institutions	1	18	10	42	65	8	9	6	12	171
Bed capacity	105	1,332	403	4,178	5,801	836	336	240	494	13,725
Personnel	22	184	52	1,025	854	162	72	59	92	2,522
Under care June 1, 1946	114	1,418	423	5,682	7,715	1,160	478	373	1,178	18,541
Homes for Adults and Children—										
Institutions	–	6	5	50	12	4	–	6	5	88
Bed capacity	–	417	482	8,096	810	259	–	734	233	11,031
Personnel	–	63	103	1,875	189	52	–	149	39	2,470
Under care June 1, 1946	–	617	718	11,537	2,228	484	–	1,555	663	17,802
Orphanages—										
Institutions	1	8	5	44	20	8	3	6	4	99
Bed capacity	100	593	446	8,718	1,378	346	319	402	367	12,669
Personnel	14	117	75	1,852	274	80	39	64	63	2,578
Under care June 1, 1946	63	742	673	12,693	2,246	637	345	687	415	18,501
Day Nurseries—										
Institutions	–	1	–	–	9	2	–	2	–	14
Bed capacity	–	–	–	–	–	–	–	–	–	–
Personnel	–	7	–	–	84	13	–	13	–	117
Under care June 1, 1946	–	15	–	–	532	106	–	121	–	774
Children's Aid Societies—										
Institutions	–	7	2	1	44	3	4	–	1	62
Bed capacity	–	–	–	–	–	–	–	–	–	–
Personnel	–	15	8	9	406	54	53	–	12	557
Under care June 1, 1946	–	950	229	194	15,364	977	687	–	236	18,637

Subsection 3.—Voluntary Services—Co-ordination at the National Level

The Canadian Welfare Council.—This Council, established in 1920, is a national association of public and private agencies in partnership to secure comprehensive well-administered social services of high quality for the Canadian people. It furnishes authoritative information, technical advice and field service to public and private agencies in the main areas of social welfare, and publicizes social needs by focussing attention on specific social ills and encouraging citizens to help remedy them. It provides a means of co-operative planning and action, by serving as a link between the public and private agencies whose team work is essential to sound welfare services.

The policies and program of the Council are determined by its members, with the help of a nationally representative elected Board of Governors. Aided by a professional staff which provides both central office and field service, members work together in these Divisions: Child Welfare, Family Welfare, Recreation, Delinquency and Crime, Public Welfare, French-Speaking Services, Surveys and Research, Community Chests and Councils, Volunteer Services, and Youth Services. Membership is open to individuals and agencies interested in social welfare, whether or not they are professionally engaged in its practice.

The Council has a broad basis of support. Community Chest grants and assessments provide 34 p.c. of the annual budget, donations 23 p.c., Federal and Provincial Government grants 21 p.c., payments for special services 10 p.c., memberships 9 p.c. and miscellaneous activities 3 p.c.

The Council's magazine *Canadian Welfare*, which commenced publication in 1924, is issued eight times a year. To provide information regarding the latest trends and programs in public and private welfare services, recreation and community organization, and a general survey of developing social services in Canada and abroad, pamphlets on a wide range of welfare subjects are prepared and supplied at small cost to member agencies and interested individuals, and a Directory of Welfare Services is issued and revised at regular intervals. A library on welfare subjects is available to members, and books and pamphlets may be borrowed. An information and consultation service by mail is also provided.

Some subjects in which the Council has been interested since its inception have been the regulation of child labour, adequate controls for juvenile immigration, assistance to Municipal and Provincial Governments in setting up relief administration, a study of Canadian adoption laws as a step towards uniform and high standards of adoption procedure in all provinces, the planning for the reception and placement of war guests, briefs on Dominion-Provincial relations, Indian affairs, and housing, and a large number of surveys on a variety of subjects, requested by agencies, communities and provinces.

CHAPTER VIII.—CRIME AND DELINQUENCY*

CONSPECTUS

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Canadian Criminal Law and Procedure.—A review of the development of the Criminal Code in Canada is given at pp. 1085-1087 of the 1934-35 edition of the Year Book; it includes a résumé of procedure and an account of the jurisdiction of the various classes of judges and magistrates.

The statistics presented in this Chapter are summarized from the "Annual Report of Statistics of Criminal and Other Offences", and are collected directly from the criminal courts in the different judicial districts throughout the Dominion. There are 148 judicial districts, including 2 sub-districts, divided by provinces as follows: Prince Edward Island 3, Nova Scotia 7†, New Brunswick 15, Quebec 26, Ontario 48, Manitoba 6, Saskatchewan 21, Alberta 12, British Columbia 8, Yukon 1, and the Northwest Territories 1.

Crime is divided into two definite classes, criminal or 'indictable' offences, which include all serious crimes covered by the Criminal Code (see pp. 277-278), and summary or 'non-indictable' offences, which comprise less serious crimes and breaches of municipal by-laws (see p. 283). Indictable offences consist of all cases proceeded against by the higher Courts of Justice—those triable before a Supreme Court Judge with jury and those triable by Judges under the Speedy Trials Act and Summary Trials Act. The most serious crimes, such as murder, manslaughter, robbery with violence, etc., are triable by a Supreme Court Judge with jury, without election of the accused. Lesser indictable offences are tried by County Judges with a jury, or "Speedy Trial" (trial by Judge without jury, by election of the accused). Non-indictable offences, breaches of municipal by-laws, traffic laws, etc., are usually dealt with summarily by Police Magistrates or other Justices and Recorders under the Summary Convictions Act.

* Except as otherwise indicated, this Chapter has been revised under the direction of J. T. Marshall, Acting Director, Health and Welfare Division, Dominion Bureau of Statistics, by Miss R. Harvey, Chief, Criminal Statistics Section. The 71st "Annual Report of Statistics of Criminal and Other Offences", for the year ended Sept. 30, 1946, is obtainable from the Dominion Bureau of Statistics, Price 50 cents.

† The 18 counties in Nova Scotia previously listed are grouped into seven Judicial Districts.

PART I.—CRIME OF ADULTS*

Section 1.—Total Offences

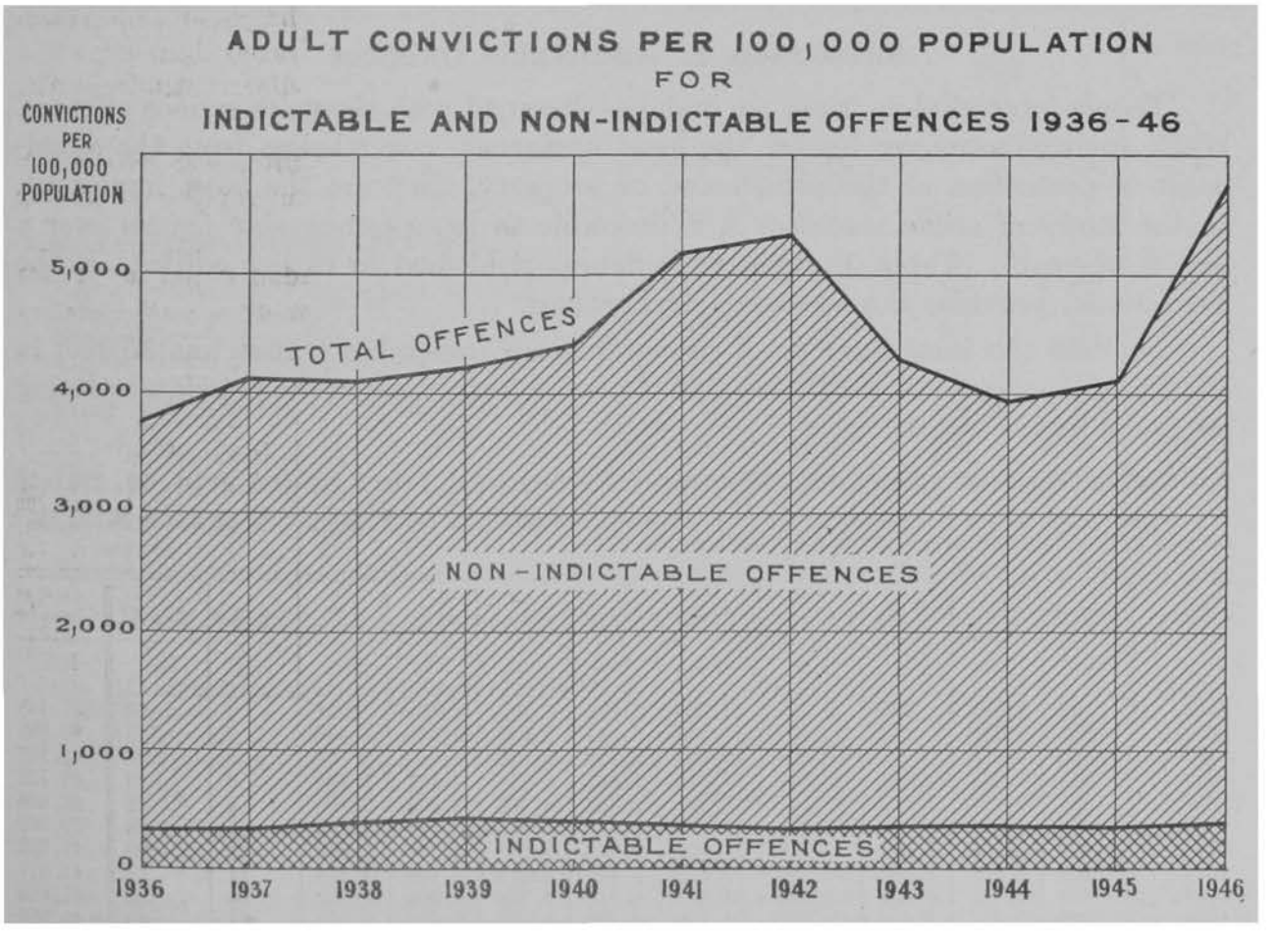
After the First World War, there was a gradual increase in crime. There is some reason to believe that a similar trend is in evidence to-day.

During 1946 there were 713,631 cases of adult offenders handled by the courts as compared with 504,181 cases in 1945. Of this total 53,959 charges were of an indictable nature while 659,672 were non-indictable. The corresponding figures for 1945 were 48,263 for indictable and 455,918 for non-indictable crimes. The total convictions in 1946 numbered 706,611 an increase of 41·9 p.c. over 1945.

* Persons 16 years of age or over.

ADULT CONVICTIONS PER 100,000 POPULATION

Post-War Period	*Indictable*	*Non-indictable*	*Total*
First World War—			
1917	193	1,221	1,414
1918	213	1,300	1,513
1919	222	1,343	1,565
1920	215	1,684	1,899
1921	221	1,795	2,016
Second World War—			
1944	355	3,597	3,952
1945	346	3,762	4,108
1946	381	5,360	5,741



Ontario led the provinces in total convictions per 100,000 estimated population during 1946, with a ratio of 9,157. Manitoba, with 5,344, changed places with Quebec for second place as compared with 1945; Quebec had 5,112. Figures for the other provinces were: British Columbia, 3,601; Prince Edward Island, 3,229; New Brunswick, 3,212; Yukon and the Northwest Territories, 2,525; Nova Scotia, 2,480; Alberta, 2,468; and Saskatchewan 1,979. Saskatchewan has held the most favourable position among the provinces since 1943.

1.—Total Convictions of Adults, Classified by Indictable and Non-Indictable Offences, Years Ended Sept. 30, 1942-46

NOTE.—Classification of indictable crimes is given in Table 3, p. 277, and of non-indictable crimes in Table 13, p. 283.

Class of Offence	TOTAL NUMBER OF CONVICTIONS				
	1942	1943	1944	1945	1946
Indictable offences.....	39,309	41,752	42,511	41,965	46,939
Non-indictable offences.....	581,364	465,315	430,727	455,918	659,672
Totals.....	**620,673**	**507,067**	**473,238**	**497,883**	**706,611**
	PERCENTAGE OF TOTALS AND PER 100,000 POPULATION				
	1942	1943	1944	1945	1946
	P.C. of Total / Per 100,000 Pop.	P.C. of Total / Per 100,000 Pop.	P.C. of Total / Per 100,000 Pop.	P.C. of Total / Per 100,000 Pop.	P.C. of Total / Per 100,000 Pop.
Indictable offences.....	6·3 / 337	8·2 / 354	9·0 / 355	8·4 / 346	6·6 / 381
Non-indictable offences.....	93·7 / 4,989	91·8 / 3,939	91·0 / 3,597	91·6 / 3,762	93·4 / 5,360
Totals.....	**100·0 / 5,326**	**100·0 / 4,293**	**100·0 / 3,952**	**100·0 / 4,108**	**100·0 / 5,741**

Subsection 1.—Indictable Offences

People interested in crime are mainly concerned with the more serious offences. While such offences are by far the least numerous, nevertheless from the standpoint of protection of the person and of property, they are the most important. In the study of crime statistics it is desirable to have comparable figures over a period of years. Table 2, along with figures published in earlier editions of the Year Book, provides the necessary background.

In 1936 the total number of convictions for indictable crimes was 36,059; in 1946 it had increased to 46,939 or by 30·2 p.c. The increase in the population during the same period was 12·4 p.c.

2.—Convictions for Indictable Offences, by Provinces, Years Ended Sept. 30, 1937-46

NOTE.—Figures for 1900-20 are given at p. 1016 of the 1933 Year Book, for 1921-30 at p. 908 of the 1942 edition and for 1931-36 at p. 1108 of the 1946 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1937....	98	1,081	759	7,781	14,569	2,839	3,083	3,589	3,331	8	10	37,148
1938....	225	1,269	912	10,277	17,248	3,041	2,555	3,619	4,443	7	3	43,599
1939....	268	1,635	1,107	10,804	19,804	3,220	3,450	4,087	3,701	7	24	48,107
1940....	251	1,573	1,131	12,152	17,558	3,353	2,886	4,411	3,392	3	13	46,723
1941....	207	1,675	1,185	11,514	15,861	2,811	3,106	3,263	2,996	6	22	42,646
1942....	205	1,646	1,063	10,269	15,070	2,419	2,621	3,193	2,792	5	26	39,309
1943....	174	1,725	1,211	11,669	16,779	2,060	2,213	2,787	3,092	22	20	41,752
1944....	262	1,782	1,310	10,386	17,613	2,420	2,074	3,164	3,418	71	11	42,511
1945....	231	2,116	1,248	9,592	17,287	2,517	2,204	3,201	3,480	84	5	41,965
1946....	320	2,261	1,492	8,578	21,379	2,834	2,503	3,526	3,916	81	49	46,939

Convictions in all six classes into which indictable crimes are divided for statistical purposes increased in 1946 over 1945. Crimes against the person increased by 25·6 p.c., malicious damage to property by 23·6 p.c. and forgery and uttering by 63·0 p.c. This last high increase was due to some extent to multiple convictions. Of the 610 persons convicted of forgery and uttering, 270 had an average of just under four convictions each.

Convictions for assaults of various kinds were up by 24·6 p.c. and manslaughter and murder by 47·5 p.c. Among the provinces, the highest increases for murder and manslaughter were shown in Quebec for manslaughter (10 cases in 1945 and 16 in 1946), in Ontario for both murder and manslaughter (8 cases of murder in 1945 and 13 in 1946, and 14 cases of manslaughter in 1945 as compared with 24 in 1946, 8 of which were originally murder charges), and in Alberta for murder (1 case in 1945 and 9 in 1946). The Alberta convictions included 5 against German prisoners of war for the murder of a fellow prisoner. Shooting and wounding increased by 54·8 p.c., the highest increases for this offence being in Ontario, Saskatchewan and Alberta.

Convictions for arson increased by 80·4 p.c. in 1946 over 1945 and dangerous and reckless driving by 119·3 p.c.

Theft, robbery and burglary (house- and shop-breaking) and assault (aggravated and common) accounted for 51·8 p.c. of the convictions for indictable offences in 1946. Theft, including theft of automobiles, comprised 26·7 p.c.

3.—Convictions for Indictable Offences, by Classes, Years Ended Sept. 30, 1945 and 1946

Class and Offence	1945		1946		Increase or Decrease in Convictions
	Charges	Convictions	Charges	Convictions	
	No.	No.	No.	No.	p.c.
Class I.—Offences Against the Person—					
Abduction	17	9	44	20	+122·2
Assault, common and aggravated	5,988	4,814	7,409	5,998	+24·6
Offences against females[1]	1,151	817	1,348	1,005	+23·0
Manslaughter and murder	137	59	201	87	+47·5
Attempted murder; shooting and wounding	132	91	184	138	+51·6
Non-support, desertion	404	290	514	368	+26·9
Other offences against the person	145	117	207	168	+43·6
Totals, Class I	**7,974**	**6,197**	**9,907**	**7,784**	**+25·6**
Class II. — Offences Against Property With Violence—					
Burglary and robbery	6,089	5,297	6,639	5,783	+9·2
Totals, Class II	**6,089**	**5,297**	**6,639**	**5,783**	**+9·2**
Class III.—Offences Against Property Without Violence—					
Fraud, embezzlement and false pretences	2,127	1,896	3,032	2,798	+47·6
Receiving stolen goods	1,895	1,376	1,797	1,266	−8·0
Theft	13,956	12,280	14,361	12,522	+2·0
Totals, Class III	**17,978**	**15,552**	**19,190**	**16,586**	**+6·6**

[1] Offences against females include the following crimes: abortion, assault against females, assault against wife, indecent assault, carnal knowledge, incest, procuration, rape, attempted rape, seduction and wife desertion.

3.—Convictions for Indictable Offences, by Classes, Years Ended Sept. 30, 1945 and 1946—concluded

Class and Offence	1945		1946		Increase or Decrease in Convictions
	Charges	Convictions	Charges	Convictions	
	No.	No.	No.	No.	p.c.
Class IV.—Malicious Offences Against Property—					
Arson	76	56	121	101	+80·4
Malicious damage to property	1,033	888	1,304	1,066	+20·0
Totals, Class IV	**1,109**	**944**	**1,425**	**1,167**	**+23·6**
Class V.—Forgery and Other Offences Against the Currency—					
Offences against currency	3	3	6	6	+100·0
Forgery and uttering forged documents	1,049	982	1,643	1,601	+63·0
Totals, Class V	**1,052**	**985**	**1,649**	**1,607**	**+63·1**
Class VI.—Other Offences Not Included in the Foregoing Classes—					
Dangerous or reckless driving	1,536	1,356	3,207	2,974	+119·3
Defence of Canada Regulations	438	421	89	82	−80·5
Driving car while drunk	1,441	1,269	2,113	1,898	+49·6
Gambling and lotteries	2,206	2,171	1,423	1,378	−36·5
Keeping bawdy houses and inmates	579	562	608	588	+4·6
Various other offences	7,861	7,211	7,709	7,092	−1·7
Totals, Class VI	**14,061**	**12,990**	**15,149**	**14,012**	**+7·9**
Grand Totals	**48,263**	**41,965**	**53,959**	**46,939**	**+11·9**

Analyses of Convictions for Indictable Offences.—Table 4 shows that at least 76·8 p.c. of those convicted of indictable crimes in 1946 had not gone beyond elementary school grades; that 23·4 p.c. of the crimes were committed by youths between the ages of 16 and 21 years; that approximately 82 p.c. of those convicted were dwellers in urban districts; and that approximately 10 p.c. were born outside Canada.

4.—Convictions for Indictable Offences, Classified by Occupation, Conjugal Condition, Birthplace, Religion, etc., of Person Convicted, Years Ended Sept. 30, 1945 and 1946.

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Item	1945	1946	Item	1945	1946
	No.	No.		No.	No.
Type of Occupation—			Type of Occupation—concluded		
Agriculture	2,491	2,668	Student	711	911
Armed Services	2,036	1,368	Trade	4,307	3,952
Clerical	1,031	1,068	Transportation	2,935	2,919
Electric light and power	161	176	Unemployed and retired	1,249	1,771
Entertainment and sport	81	125	Not given	2,784	5,095
Finance and insurance	49	40	**Totals**	**41,965**	**46,939**
Fishing and trapping	298	343			
Labour	15,190	17,070	Sex—		
Laundry and cleaning	88	83	Males	38,690	43,771
Lumbering	304	424	Females	3,275	3,168
Manufacturing and construction	4,585	4,784			
Mining	584	592	Conjugal Condition—		
Service—			Single	21,928	23,521
Domestic	1,736	1,841	Married	16,478	17,417
Personal	1,057	1,323	Widowed	491	471
Professional	187	263	Divorced	37	74
Public	101	123	Not given	3,031	5,456

4.—Convictions for Indictable Offences, Classified by Occupation, Conjugal Condition, Birthplace, Religion, etc., of Person Convicted, Years Ended Sept. 30, 1945 and 1946—concluded.

Item	1945	1946	Item	1945	1946
	No.	No.		No.	No.
Educational Status—			Birthplace—concluded		
Unable to read or write	514	768	Other foreign countries	3,105	2,562
Elementary	33,922	35,278	Not given	2,647	4,618
High school	4,495	5,534			
Superior	268	408	Religion—		
Not given	2,766	4,951	Anglican	3,910	4,763
			Baptist	828	878
Age—			Jewish	667	792
16 years and under 21	10,690	10,979	Presbyterian	1,751	1,922
21 years and under 40	19,091	22,113	Protestant	5,658	5,766
40 years or over	8,486	8,159	Roman Catholic	18,712	19,733
Not given	3,698	5,688	United Church	4,072	5,079
			Other denominations	2,908	2,359
Birthplace—			No religion	185	233
Canada	34,079	37,427	Not given	3,274	5,414
England and Wales	726	856			
Ireland	264	262			
Scotland	405	411	Residence—		
Other British possessions	106	103	Urban centres	34,465	38,306
United States	633	700	Rural districts	7,500	8,633

Convictions of Females.—Although the number of convictions against men has increased considerably since 1942, those against women have dropped to 3,168, just over one-half of the 1943 figure. Decreases were shown in all provinces except Ontario, Manitoba and Saskatchewan, and in Yukon and the Northwest Territories.

5.—Convictions of Females for Indictable Offences, by Provinces, Years Ended Sept. 30, 1942-46

Province or Territory	Numbers of Convictions					Percentages of Females Convicted to Totals Convicted				
	1942	1943	1944	1945	1946	1942	1943	1944	1945	1946
Prince Edward Island	23	15	20	12	6	11·2	8·6	7·6	5·2	1·9
Nova Scotia	108	100	94	89	69	6·6	5·8	5·3	4·2	3·1
New Brunswick	82	83	126	75	70	7·7	6·9	9·6	6·0	4·7
Quebec	3,313	3,422	1,574	783	620	32·3	29·4	15·2	8·2	7·2
Ontario	1,183	1,463	1,251	1,296	1,388	7·9	8·7	7·1	7·5	6·5
Manitoba	312	246	241	199	241	12·9	11·9	10·2	7·9	8·5
Saskatchewan	305	188	166	168	180	11·6	8·5	8·0	7·6	7·2
Alberta	267	253	258	281	229	8·4	9·1	8·2	8·8	6·5
British Columbia	298	361	372	369	353	10·7	11·7	10·9	10·6	9·0
Yukon and N.W.T	3	1	2	3	12	9·7	2·4	2·4	3·4	9·2
Canada	**5,894**	**6,132**	**4,104**	**3,275**	**3,168**	**15·0**	**14·7**	**9·7**	**7·8**	**6·8**

Multiple Convictions.—The total number of convictions for any one year must not be confused with the total number of persons convicted for the same period since persons tried for indictable offences are in many cases convicted for more than one offence at the same trial. The trend of such multiple convictions is of value to students of sociology.

6.—Persons Convicted of More than One Offence at the Time of Trial Compared with Persons Convicted of One Offence, Years Ended Sept. 30, 1942-46

Persons Convicted of—	1942	1943	1944	1945	1946
	No.	No.	No.	No.	No.
2 offences	1,838	2,330	2,248	2,155	2,387
3 "	453	590	617	597	627
4 "	222	249	261	293	304
5 "	130	132	134	136	129
6 "	81	101	103	112	111
7 "	55	36	55	60	68
8 "	49	37	50	33	51
9 "	26	19	22	34	34
10 "	22	16	20	17	17
11 to 20 offences	74	60	47	50	73
21 offences or over	15	11	11	11	16
Totals, Convicted of More than One Offence	2,965	3,581	3,568	3,498	3,817
Totals, Convicted of One Offence	29,340	31,019	31,716	31,097	34,886
Grand Totals	**32,305**	**34,600**	**35,284**	**34,595**	**38,703**

Recidivism.—The percentage of repeaters, approximately one in every three convicted persons, has remained relatively the same during the past five years. In these statistics, a person is considered a second offender, or repeater, if he is convicted of two crimes or more, even though there may be only one court hearing. This tends to exaggerate the problem of recidivism, and it should be recognized that Table 7, giving the number of convictions, is affected by multiple convictions.

7.—First Offences, Second Offences, and Reiterated Offences of an Indictable Nature, Years Ended Sept. 30, 1942-46

Class of Offence	Numbers of Convictions					Percentages of First, Second, etc., Convictions to Totals				
	1942	1943	1944	1945	1946	1942	1943	1944	1945	1946
First	26,212	27,716	29,016	28,832	31,708	66·68	66·38	68·25	68·70	67·55
Second	3,769	4,173	4,437	4,322	4,854	9·59	9·99	10·44	10·30	10·34
Reiterated	9,328	9,863	9,058	8,811	10,377	23·73	23·63	21·31	21·00	22·11
Totals	**39,309**	**41,752**	**42,511**	**41,965**	**46,939**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

Acquittals in Relation to Convictions.—The ratio of acquittals to convictions for indictable offences for the period 1942-46 averaged 14·5 p.c. The percentages varied greatly as between the provinces in different years. In 1946, Ontario showed the highest percentage of acquittals with Quebec second and British Columbia third. Yukon and the Northwest Territories had the lowest percentage.

8.—Charges, Acquittals and Convictions Respecting Indictable Offences, Years Ended Sept. 30, 1942-46

Item	1942	1943	1944	1945	1946
	No.	No.	No.	No.	No
Charges	45,283	47,420	48,624	48,263	53,959
Acquittals	5,934	5,633	6,072	6,257	6,983
Persons detained for insanity	40	35	41	41	37
Convictions	39,309	41,752	42,511	41,965	46,939
Males	33,415	35,620	38,407	38,690	43,771
Females	5,894	6,132	4,104	3,275	3,168
First convictions	26,212	27,716	29,016	28,832	31,708
Second convictions	3,769	4,173	4,437	4,322	4,854
Reiterated convictions	9,328	9,863	9,058	8,811	10,377

9.—Charges, Convictions, and Percentages of Acquittals Respecting Indictable Offences, by Provinces, Years Ended Sept. 30, 1945 and 1946

Province or Territory	1945			1946		
	Charges	Convictions	Acquittals	Charges	Convictions	Acquittals
	No.	No.	p.c.	No.	No.	p.c.
Prince Edward Island	241	231	4·1	341	320	6·2
Nova Scotia	2,406	2,116	12·1	2,510	2,261	9·9
New Brunswick	1,309	1,248	4·7	1,578	1,492	5·4
Quebec	10,718	9,592	10·5	9,850	8,578	12·9
Ontario	20,863	17,287	17·1	25,485	21,379	16·1
Manitoba	2,760	2,517	8·8	3,086	2,834	8·2
Saskatchewan	2,388	2,204	7·7	2,649	2,503	5·5
Alberta	3,573	3,201	10·4	3,907	3,526	9·8
British Columbia	3,915	3,480	11·1	4,421	3,916	11·4
Yukon and N.W.T.	90	89	1·1	132	130	1·5
Canada	**48,263**	**41,965**	**13·0**	**53,959**	**46,939**	**13·0**

Sentences.—The proportions of the different types of sentences to the total number of convictions remained relatively the same over the five-year period 1942-46. The most noteworthy change was in death sentences given, which numbered 32 in 1946, the highest recorded for any one year since 1915 when there were 34. Life sentences, of which there were 8 in 1946, were higher than for any year since 1933 when there were 15.

10.—Sentences for Indictable Offences, Years Ended Sept. 30, 1942-46

Sentence	1942	1943	1944	1945	1946
	No.	No.	No.	No.	No.
Option of fine	15,573	17,789	17,367	16,900	18,789
Gaol—					
Under one year	11,139	10,735	11,134	11,189	12,747
One year or over	1,516	1,587	1,569	1,664	1,976
Reformatory	2,241	2,614	3,038	2,912	3,138
Penitentiary—					
Two years and under five	2,173	2,532	2,594	2,389	2,874
Five years or over	347	356	426	559	708
Life	1	3	6	2	8
Death	15	9	14	17	32
Suspended sentence or other disposition	6,304	6,127	6,363	6,333	6,667
Totals	**39,309**	**41,752**	**42,511**	**41,965**	**46,939**

11.—Sentences for Indictable Offences, by Provinces, 1946

Sentence	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Option of fine	158	1,062	635	3,156	7,960	1,124	1,208	1,574	1,858	54	18,789
Gaol—											
Under one year	120	600	451	2,741	5,227	665	828	1,097	949	69	12,747
One year or over	4	44	17	677	397	209	172	258	198	Nil	1,976
Reformatory	Nil	6	17	99	2,735	83	18	Nil	179	1	3,138
Penitentiary—											
Two years and under five	14	169	108	784	1,075	235	98	139	252	Nil	2,874
Five years or over	Nil	26	9	248	302	55	3	13	51	1	708
Life	"	1	Nil	5	2	Nil	Nil	Nil	Nil	Nil	8
Death	"	1	1	4	13	2	2	9	"	"	32
Suspended sentence or other disposition	24	352	254	864	3,668	461	174	436	429	5	6,667
Totals	**320**	**2,261**	**1,492**	**8,578**	**21,379**	**2,834**	**2,503**	**3,526**	**3,916**	**130**	**46,939**

Subsection 2.—Non-Indictable Offences

The following statistics relate to non-indictable offences of adults disposed of by Police Magistrates or other Justices of the Peace, under authority of the Summary Convictions Act. Such convictions showed an increase of 44·7 p.c. during 1946 as compared with 1945 and were 13·5 p.c. higher than for 1942, the previous peak year. Increases were general in all the provinces and in the Northwest Territories but there were fewer convictions in Yukon.

12.—Convictions of Adults for Non-Indictable Offences, by Provinces, Years Ended Sept. 30, 1937-46

NOTE.—Figures for 1900-12 are given at p. 1020 of the 1933 Year Book, for 1913-30 at p. 913 of the 1942 edition and for 1931-36 at p. 1113 of the 1946 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1937..	1,438	6,249	5,706	99,404	237,309	28,500	7,580	10,910	22,997	62	57	420,212
1938..	1,497	6,552	5,299	89,443	238,224	32,748	7,113	10,973	22,695	60	60	414,664
1939..	1,293	7,503	5,095	91,607	247,609	31,467	8,147	13,816	21,881	89	101	428,608
1940..	1,237	9,138	6,213	93,965	267,166	31,018	9,276	14,702	23,190	98	106	456,109
1941..	1,664	10,254	7,703	152,330	288,874	32,481	10,499	15,434	28,096	80	141	547,556
1942..	1,521	10,386	8,170	195,672	285,240	32,209	8,541	14,543	24,905	86	91	581,364
1943..	1,033	8,857	7,619	181,425	204,227	21,986	7,810	11,598	20,510	145	105	465,315
1944..	1,287	8,760	9,533	146,593	199,938	22,602	7,788	11,950	21,866	336	74	430,727
1945..	1,394	9,786	9,818	158,580	209,713	22,820	8,996	11,576	22,887	312	36	455,918
1946..	2,715	12,915	13,925	176,996	354,154	36,014	13,985	16,289	32,203	234	242	659,672

Analyses of Convictions for Non-Indictable Offences.—In 1946, non-indictable crimes increased for all but four of the classes shown in Table **13.** Vagrancy, traffic infractions, and offences against the liquor, prohibition and temperance Acts showed the highest percentage increases in 1946 over 1945, and 44 p.c. more convictions are evidence that many people still persist in owning a radio without a licence.

The crimes that diminished to some extent were frequenting bawdy houses which decreased 26·3 p.c. and offences against gambling Acts which were less than half the 1945 figure. Quebec showed a surprising drop of nearly two-thirds for gambling offences (13,968 in 1945 to 4,941 in 1946) and convictions in that Province were lower than for any year since 1930. That drop was responsible for the decrease in Canada as a whole and offset a rise in Ontario where offences against the gambling Acts almost doubled (728 in 1945 to 1,444 in 1946).

In connection with these ups and downs, it should be remembered that, while the Criminal Code undergoes little change over a period of time, the figures for summary convictions are greatly influenced by the customs of the people and show a tendency to fluctuate as municipal regulations are strictly enforced or allowed to lapse.

13.—Convictions for Non-Indictable Offences, by Types, Years Ended Sept. 30, 1942-46

Offence	1942	1943	1944	1945	1946	Increase or Decrease 1945-46
	No.	No.	No.	No.	No.	No.
Assault	3,004	3,148	3,248	3,887	4,640	+753
Fishery and game Acts, offences against	2,412	2,219	2,485	2,297	3,597	+1,300
Gambling Acts, offences against	21,129	19,996	16,283	16,626	8,254	−8,372
Liquor, prohibition and temperance Acts, offences against	16,898	15,099	17,093	22,237	33,362	+11,125
Non-payment of wages	364	186	175	126	484	+358
Breaches of traffic regulations	399,957	274,573	270,021	286,825	453,630	+166,805
Breaches of by-laws	34,541	37,601	27,114	26,209	29,206	+2,997
Non-support of family and neglecting children	2,403	2,099	2,442	3,148	3,359	+211
Contributing to delinquency of children	1,158	902	1,006	1,095	1,085	−10
Revenue laws, offences against	2,052	1,749	1,058	1,656	2,179	+523
Vagrancy	7,212	9,289	9,200	7,679	15,212	+7,533
Drunkenness	44,801	42,292	41,521	46,745	64,076	+17,331
Frequenting bawdy houses	1,192	852	634	802	591	−211
Loose, idle, disorderly conduct, and disturbing the peace	9,684	5,536	7,082	9,161	9,136	−25
Radios without licences	21,706	34,434	7,194	7,534	10,867	+3,333
Various other offences	12,851	15,340	24,171	19,891	19,994	+103
Totals	**581,364**	**465,315**	**430,727**	**455,918**	**659,672**	**+203,754**

Convictions for Drunkenness.—The number of convictions for drunkenness increased by 37·1 p.c. in 1946 over 1945. Only Quebec showed a decrease, while Yukon remained the same. Of the other provinces, Prince Edward Island had the highest percentage increase, probably due to strict enforcement of the Province's prohibition law. The other provinces with an increase of over 50 p.c. were, in order, New Brunswick, Saskatchewan, Alberta, Nova Scotia and Ontario.

14.—Convictions for Drunkenness, by Provinces, Years Ended Sept. 30, 1937-46

NOTE.—Figures for 1900-10 are given at p. 1021 of the 1933 Year Book, for 1911-30 at p. 914 of the 1942 edition and for 1931-36 at p. 1114 of the 1946 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1937.....	559	2,577	2,809	7,544	15,960	1,050	425	929	2,720	14	19	34,606
1938.....	595	2,628	2,730	7,220	17,585	1,286	848	922	3,053	17	10	36,894
1939.....	546	2,463	2,179	6,427	18,120	985	895	1,130	3,226	23	13	36,007
1940.....	467	3,607	2,515	6,986	17,823	1,527	580	1,271	3,004	21	25	37,826
1941.....	539	3,654	3,332	8,292	17,831	1,472	591	1,353	2,871	23	44	40,002
1942.....	606	4,387	4,217	10,400	17,622	1,580	570	1,393	3,964	43	19	44,801
1943.....	332	2,380	3,489	10,363	17,482	1,885	778	1,462	4,055	51	15	42,292
1944.....	395	2,068	4,292	8,843	17,258	1,451	864	1,539	4,744	54	13	41,521
1945.....	612	3,064	4,158	10,336	19,573	2,040	1,010	1,515	4,342	85	10	46,745
1946.....	1,478	4,754	7,754	7,167	29,698	2,685	1,847	2,596	5,974	85	38	64,076

Offences Against the Liquor Acts.—Until the First World War, alcoholic liquors were generally sold under specified conditions by licensed hotels or licensed shops. Offences against the liquor Acts usually represented a breach of the conditions of sale. During that War prohibition was generally established but, in more recent years, the Provincial Governments have taken over the sale of liquor through commissions. Eight of the nine provinces now have such Liquor Commissions, Prince Edward Island being the only province in which prohibition prevails. In 1946, the number of convictions for offences against the liquor Acts reached the

highest figure on record, 33,362, an increase of 50 p.c. over 1945. All the provinces, except Quebec, contributed to this increase. Convictions in Prince Edward Island, British Columbia and the Northwest Territories more than doubled in numbers in one year while in New Brunswick, Saskatchewan and Alberta they increased by more than 50 p.c.

15.—Convictions for Offences Against the Liquor Acts, by Provinces, Years Ended Sept. 30, 1937-46

NOTE.—Figures for 1900-20 are given at p. 1022 of the 1933 Year Book, for 1921-30 at p. 915 of the 1942 edition and for 1931-36, at p. 1114 of the 1946 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.T.	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1937.....	166	706	596	1,376	4,788	849	734	1,018	874	28	7	11,142
1938.....	333	794	487	1,837	5,873	886	606	810	793	16	7	12,442
1939.....	230	1,181	619	2,423	5,144	1,052	593	913	1,307	24	27	13,513
1940.....	215	1,149	379	2,102	5,372	997	927	831	903	37	34	12,946
1941.....	250	1,273	431	3,206	6,346	624	894	1,298	994	25	28	15,369
1942.....	188	1,323	477	3,037	6,901	1,130	982	1,294	1,508	24	34	16,898
1943.....	118	1,369	473	2,070	6,751	1,086	1,099	1,106	944	47	36	15,099
1944.....	56	2,240	814	1,287	8,332	1,057	1,010	1,108	1,047	119	23	17,093
1945.....	155	2,324	911	2,626	10,655	1,429	1,416	1,454	1,215	39	13	22,237
1946.....	374	3,436	1,411	2,274	15,779	2,059	2,697	2,514	2,615	57	146	33,362

Breaches of Traffic Regulations.—At the beginning of the present century, when the motor-car was scarcely known and to-day's speeds even for freight movement were unheard of, convictions for breaches of traffic regulations numbered only 185 for all Canada. A strong influence in reducing convictions under breaches of traffic regulations in 1943, 1944 and 1945 was the removal, owing to wartime restrictions, of a large number of private and passenger vehicles from the highways. The lifting of these restrictions resulted in a record number of convictions in 1946. Such convictions accounted for 68·8 p.c. of those for all non-indictable offences in that year.

16.—Convictions for Breaches of Traffic Regulations, by Provinces, Years Ended Sept. 30, 1937-46

NOTE.—In 1938 and later years dangerous and reckless driving was classified as an indictable offence, as was leaving the scene of an accident from 1939 onwards. Figures for 1900-20 are given at p. 1023 of the 1933 Year Book, for 1921-30 at p. 915 of the 1942 edition and for 1931-36 at p. 1115 of the 1946 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	Canada
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1937.....	252	1,179	1,011	57,174	186,825	23,711	2,706	3,536	12,294	Nil	288,688
1938.....	200	1,572	835	52,395	185,709	26,682	2,939	4,068	11,550	1	285,951
1939.....	191	1,725	725	51,858	193,815	24,732	3,055	5,397	11,403	3	292,904
1940.....	240	2,388	2,064	47,927	210,834	23,795	3,815	6,709	13,906	Nil	311,678
1941.....	530	2,444	2,314	73,367	231,823	26,092	5,625	8,253	18,784	2[1]	369,234
1942.....	331	2,594	1,765	110,579	232,646	25,522	4,034	7,779	14,705	2[1]	399,957
1943.....	209	2,772	1,722	82,884	152,557	16,074	2,961	4,745	10,628	21	274,573
1944.....	326	1,591	1,838	85,134	146,849	16,268	2,864	4,754	10,387	10	270,021
1945.....	157	1,359	2,211	100,708	149,903	14,886	2,838	3,774	10,985	4	286,825
1946.....	327	1,707	2,014	123,915	271,379	26,266	5,253	5,574	17,193	2[1]	453,630

[1] Includes one in the Northwest Territories. No convictions were reported for the Northwest Territories for other years.

For the year 1946, Ontario, which had 43·8 p.c. of the registrations of motor-vehicles in Canada, had 59·8 p.c. of the total convictions; Quebec in the same year had 15·7 p.c. of the motor-vehicles and 27·3 p.c. of the convictions, and Manitoba 6·2 p.c. of the motor-vehicles and 5·8 p.c. of the convictions. In interpreting the figures in this way, however, it should be pointed out that traffic regulations are by no means uniform throughout Canada and no account is taken of the differences in the degrees of urbanization in the provinces. Thus, the above three provinces have large urban centres, while in provinces with lower degrees of urbanization such as the Maritimes, Saskatchewan and Alberta, convictions were low in proportion to the number of motor-vehicles registered.

Convictions of Females.—In 1946 all the provinces showed increases over the previous year in number of convictions of females for non-indictable offences except Nova Scotia and Quebec. Convictions of females in Ontario increased by 83·7 p.c. and in Prince Edward Island by 51·2 p.c. The increases in the other provinces were below 45 p.c.

Breaches of street-traffic regulations were the most numerous single offences by women, accounting for 18,017 in 1946 as against 9,001 in 1945. Drunkenness came next with 4,256, an increase of 805 over 1945. Convictions recorded as infractions of liquor Acts numbered 2,038 as against 1,829 in the previous year. Of a total of 33,805 convictions in 1946, no less than 1,021 were for the relatively minor offence of operating a radio receiving set without a licence.

17.—Convictions of Females for Non-Indictable Offences, by Provinces, Years Ended Sept. 30, 1941-46

Province or Territory	Number of Convictions						Percentages of Females Convicted to Totals Convicted					
	1941	1942	1943	1944	1945	1946	1941	1942	1943	1944	1945	1946
Prince Edward Island...	96	75	75	69	82	124	5·8	4·9	7·3	5·7	5·9	4·6
Nova Scotia.....	530	554	466	562	645	635	5·2	5·3	5·3	6·8	6·6	4·9
New Brunswick.....	379	320	321	430	424	515	4·9	3·9	4·2	4·7	4·3	3·7
Quebec.....	6,907	8,893	9,139	5,299	7,066	6,974	4·5	4·5	5·0	3·7	4·5	3·9
Ontario.....	15,159	13,521	9,455	10,343	10,780	19,804	5·2	4·7	4·6	5·5	5·1	5·6
Manitoba.....	1,563	1,459	1,234	1,293	1,211	1,688	4·8	4·5	5·6	6·1	5·3	4·1
Saskatchewan.....	401	360	425	402	427	616	3·8	4·2	5·4	5·4	4·7	4·4
Alberta.....	460	678	711	634	754	909	3·0	4·7	6·1	5·6	6·5	5·6
British Columbia.....	1,810	1,453	1,227	1,391	1,907	2,509	6·4	5·8	6·0	6·8	8·3	7·8
Yukon and N.W.T.....	8	9	25	19	27	31	3·6	5·1	10·0	4·9	7·8	6·5
Canada.....	**27,313**	**27,322**	**23,078**	**20,442**	**23,323**	**33,805**	**5·0**	**4·7**	**5·0**	**5·0**	**5·1**	**5·1**

Section 2.—Appeals

In the calendar year 1946, 15·0 p.c. of the appeals in indictable cases resulted in the convictions being quashed. Appeals were dismissed in 60·2 p.c. of the cases, and new trials were directed in 4·1 p.c. In non-indictable cases, 55·1 p.c. of the appeals were dismissed.

18.—Appeals in Indictable and Non-Indictable Cases, by Provinces, 1946

Province or Court	Appeals Disposed of by Courts	Method of Disposal			
		Convictions Quashed	Dismissed	New Trial Directed	Other
	INDICTABLE CASES				
	No.	No.	No.	No.	No.
Prince Edward Island	14	1	8	Nil	5
Nova Scotia	17	2	14	"	1
New Brunswick	12	3	3	"	6
Quebec	45	6	37	2	Nil
Ontario	346	45	203	13	85
Manitoba	38	2	27	2	7
Saskatchewan	15	1	7	2	5
Alberta	89	25	51	7	6
British Columbia	150	24	86	4	36
Supreme Court of Canada	3	Nil	3	Nil	Nil
Totals	**729**	**109**	**439**	**30**	**151**
	NON-INDICTABLE CASES				
	No.	No.	No.	No.	No.
Prince Edward Island	54	7	28	1	18
Nova Scotia	41	5	32	Nil	4
New Brunswick	9	3	6	"	Nil
Quebec	70	14	56	"	"
Ontario	278	104	128	1	45
Manitoba	11	2	7	Nil	2
Saskatchewan	22	7	13	"	2
Alberta	61	19	29	"	13
British Columbia	64	20	37	"	7
Totals	**610**	**181**	**336**	**2**	**91**

PART II.—JUVENILE DELINQUENCY

Section 1.—Causes and Court Treatment of Juvenile Delinquency

Information on the causes and court treatment of juvenile delinquency is given at pp. 247-248 of the 1947 Year Book.

Section 2.—Juvenile Delinquency Statistics

Statistics published by the Dominion Bureau of Statistics deal primarily with delinquency cases disposed of by the courts and serve to further the program of the treatment of young offenders. The fact that juvenile court statistics furnish the most comprehensive figures collected on a Dominion-wide basis makes it important that the possibilities and limitations of these statistics be understood.

In the first place, it is impossible for any report to give a complete picture of juvenile delinquency, as many instances of minor offences are not detected, while others are settled by the police, social agencies, or school authorities without the necessity of apprehending the child. This is particularly true in rural districts where the courts are not readily accessible.

Secondly, the number of cases brought before the courts is influenced by such factors as the personnel and facilities of the court, and community interest in, and understanding of, the function of a juvenile court. Furthermore, it must be

remembered that as time goes on more courts are established and the added returns may exaggerate an apparent increase in delinquency or may under-estimate a decrease.

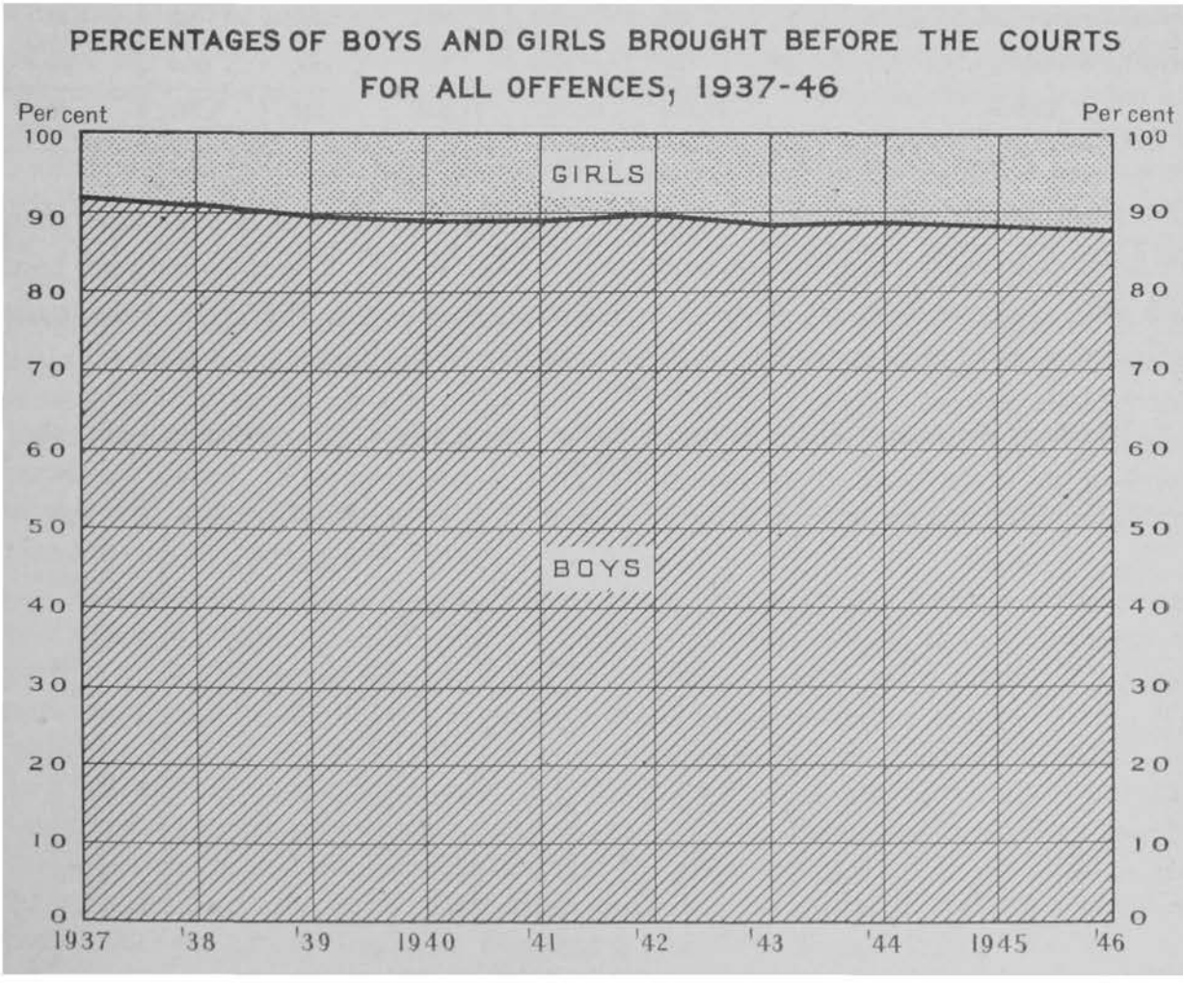
Thirdly, although the figures refer to offenders rather than offences, they do not represent the number of delinquent juveniles because some children may be brought to court more than once within a year, and in the tables of the report such children are recorded as separate individuals each time they appear on a new complaint.

Lastly, the number of delinquency cases reported by the courts is affected, to a considerable extent, by variations in the policies of the courts in the disposition of cases. Some courts handle certain cases unofficially, that is, in these cases legal papers are not prepared and the case is adjusted by the judge or other officer of the court without a formal court hearing. Although some of the courts report the cases as adjourned *sine die*, others consider the interview as an "occurrence", meaning that the case is not recorded as a charge.

Reports of juvenile offences were received in 1946 from 137 Judicial Districts. Yukon and the Northwest Territories were not included. Twenty Districts reported no offences, while one District failed to report. The reporting area for 1946, as for earlier years, is particularly representative of cities and towns, and includes 109 urban centres in Canada with populations of 4,000 or over.

Subsection 1.—Total Juvenile Offences

The terms 'indictable' and 'non-indictable' are applied only to offences of adults. Similar offences committed by juveniles are termed 'major' offences and 'minor' offences, respectively.



Delinquents Brought Before the Courts.—The statistics for 1946 show that the decline in juvenile delinquency, first noted in 1943, is continuing. Children brought before Canadian courts during 1946 numbered 8,707 as compared with 9,756 in 1945, a decrease of 10·8 p.c. The number of young offenders charged with major offences decreased from 6,121 in the previous year to 5,409 in 1946, or 11·6 p.c. The number of juveniles charged with minor offences which were disposed of by the courts was 3,298 during 1946 as against 3,635 in the preceding year, a falling-off of 9·3 p.c.

Table 1 shows the number of cases brought before the courts, by provinces, from 1942 to 1946. In 1946 a decrease was apparent in each of the provinces, except New Brunswick and British Columbia, as compared with the previous year.

1.—Juvenile Offenders Brought Before the Courts, by Provinces, Years Ended Sept. 30, 1942-46

Province	1942	1943	1944	1945	1946	Percentage Change, 1945-46
	No.	No.	No.	No.	No.	
Prince Edward Island	103	89	109	118	63	−46·6
Nova Scotia	555	715	689	598	491	−17·9
New Brunswick	352	430	475	341	385	+12·9
Quebec	4,284	3,373	2,621	2,390	2,183	−8·7
Ontario	5,835	5,573	5,388	4,190	3,684	−12·1
Manitoba	649	467	445	366	344	−6·0
Saskatchewan	483	429	437	339	203	−40·1
Alberta	908	493	599	563	455	−19·2
British Columbia	633	656	791	851	899	+5·6
Totals	**13,802**	**12,225**	**11,554**	**9,756**	**8,707**	**−10·8**

The peak in delinquency among girls was reached in 1943, a year later than for boys, followed by a decline in numbers for both sexes. The ratio between boys and girls charged in court shows a gradual up-grading for the girls, though the actual number of girls appearing in court in 1946 was the lowest since 1939.

2.—Ratio of Boys and Girls Brought Before the Courts, Years Ended Sept. 30, 1937-46

Year	Boys		Girls		Total Charges
	No.	p.c.	No.	p.c.	No.
1937	8,886	91·8	789	8·2	9,675
1938	8,086	90·6	843	9·4	8,929
1939	8,514	89·6	983	10·4	9,497
1940	8,857	88·8	1,119	11·2	9,976
1941	10,812	89·1	1,325	10·9	12,137
1942	12,388	89·8	1,414	10·2	13,802
1943	10,795	88·3	1,430	11·7	12,225
1944	10,274	88·9	1,280	11·1	11,554
1945	8,599	88·1	1,157	11·9	9,756
1946	7,617	87·5	1,090	12·5	8,707

3.—Percentage Changes in the Numbers of Boys and Girls Brought Before the Courts from the Preceding Year and from the Year 1936, 1937-46

Year	Percentage Change from Preceding Year			Percentage Change from 1936		
	Boys' Cases	Girls' Cases	All Cases	Boys' Cases	Girls' Cases	All Cases
1937	+10·2	+11·4	+10·3	+10·2	+11·4	+10·3
1938	−9·0	+6·8	−7·7	+0·3	+19·1	+1·8
1939	+5·3	+16·6	+6·4	+5·6	+38·8	+8·3
1940	+4·0	+13·8	+5·0	+9·9	+58·1	+13·8
1941	+22·1	+18·4	+21·7	+34·1	+87·1	+38·4
1942	+14·6	+6·7	+13·7	+53·7	+99·7	+57·4
1943	−12·9	+1·1	−11·4	+33·9	+102·0	+39·4
1944	−4·8	−10·5	−5·5	+27·5	+80·8	+31·8
1945	−16·3	−9·6	−15·6	+6·7	+63·4	+11·3
1946	−11·4	−5·8	−10·8	−5·5	+54·0	−0·7

Trends in Juvenile Delinquency.—The first three years of the Second World War were marked by serious and rapid increases in juvenile delinquency. This was to some extent the outcome of the 'broken home' situation brought about by the enlistment of the male parent, the resultant removal of the father's restraining influence and the increase in the responsibilities placed upon the mother during his absence. The figures for 1942 reached an all-time high with 11,758 major and minor convictions. Since then there has been a gradual decline to 7,856 in 1946, but this figure is still higher than for any year during the period 1931 to 1939. Though the recent decline is hopeful, the picture is not quite so encouraging when all offenders up to the age of 18 years are taken into account. (See Table 8, p. 292.)

Many factors are contributing to the apparent decline in cases of delinquency. Communities are realizing that the solution to this problem is to be found in an extension of opportunities that will provide wholesome occupation for after-school hours, early detection and treatment of delinquents, better psychiatric service for schools and mental hygiene clinics, trained personnel for probation and juvenile court work, extension of parent counselling and parent education classes, and better housing. Family life has been strengthened by the return of fathers and older brothers from overseas service and the cessation of factory work for mothers. There is no longer the opportunity for highly paid employment which lured young people from school during the War. There is a more sympathetic interest in the activities of youth on the part of the police as is evident in the assignment of special constables to juvenile cases and the 'police and youth' program inaugurated by the Royal Canadian Mounted Police and adopted in many centres by municipal and provincial police. The payment of Family Allowances for children under 16 years of age and the continuance of a high rate of employment assisted materially in maintaining the downward trend.

In recent years changes have been made in provincial legislation for the better protection of youth. For example, in 1942 Alberta prohibited the employment of persons under 18 years of age in or about billiard rooms and bowling alleys. Although an amendment in March, 1945, permitted the employment of pin-boys under 18 while the War lasted, they had to have written consent from parents or guardians. In 1943 British Columbia passed the Curfew (Unorganized Territory) Act and Quebec the Compulsory School Attendance Act. In 1944 New Brunswick passed the Juvenile Court Act and Saskatchewan the Act to amend the Child Welfare Act whereby children who were wards came under the authority of the Department of Social Welfare rather than the Department of Labour and Public Welfare. In

Ontario an amendment to the Mothers' Allowances Act, 1946, makes provision for a child reaching 16 years of age during the school year to continue to receive an allowance until the conclusion of that school year unless he or she leaves school.

Subsection 2.—Major Offences

Table 4 shows the convictions of juveniles for major offences for the years 1937-46.

4.—Convictions of Juveniles for Major Offences, by Provinces, Years Ended Sept. 30, 1937-46

NOTE.—Figures for the years 1933-36 are given at p. 254 of the 1947 Year Book.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
1937	46	344	276	1,392	2,016	196	311	344	299	5,224
1938	21	283	224	1,357	2,162	222	225	298	263	5,055
1939	45	228	244	1,245	2,164	293	201	321	277	5,018
1940	41	195	251	1,461	2,229	286	208	364	262	5,298[1]
1941	58	244	344	1,637	2,588	315	263	378	377	6,204
1942	60	220	279	1,617	3,071	503	397	472	301	6,920
1943	53	373	337	1,455	2,804	363	359	349	401	6,494
1944	82	362	363	1,212	2,901	345	356	431	477	6,529
1945	55	390	221	1,239	2,394	277	282	384	516	5,758
1946	54	293	257	1,122	1,993	238	182	327	483	4,949

[1] Includes one conviction in the Northwest Territories.

In the ten-year period 1937-46, the number of convictions for major offences per 100,000 of the population went as high as 60 in the peak year of 1942. The number in 1946 was 40, the lowest figure recorded since juvenile delinquency statistics have been compiled separately from those of adult offenders.

Offences against property made up the bulk of major delinquencies (93·3 p.c.) and more than half of those were offences against property without violence (52·4 p.c.). This group includes all thefts without violence (49·7 p.c.). Offences against property with violence (burglary, breaking and entering) which were on the increase until 1944 followed the general downward trend in 1946. However, they still comprised a little more than one-quarter of the total convictions for major offences (27·3 p.c.).

Figures for offences against persons have not been more than 4·2 p.c. of the total number of convictions for major offences in the ten-year period under consideration and in 1946 were 3·5 p.c.

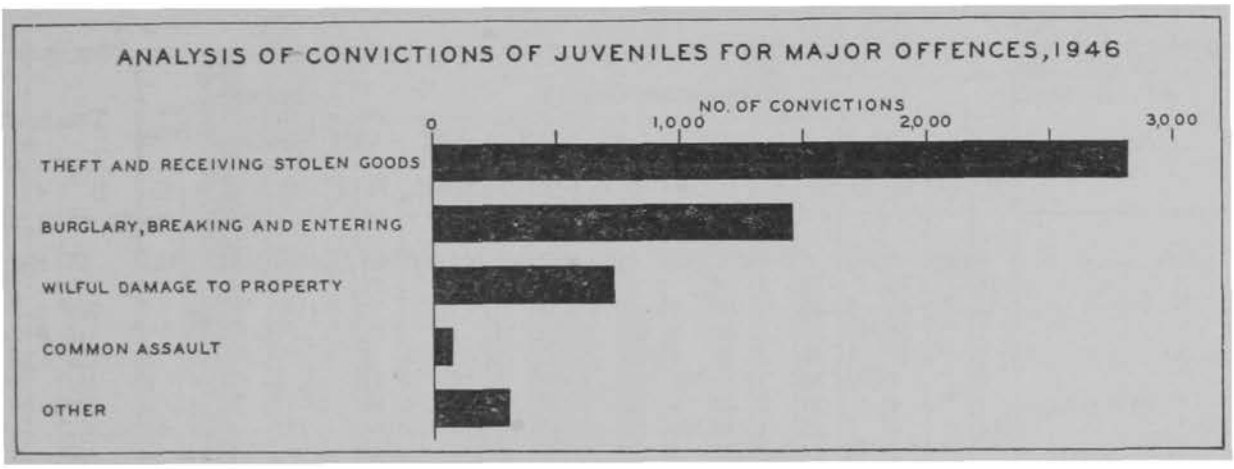
5.—Convictions of Juveniles for Major Offences, by Classes of Offence, Years Ended Sept. 30, 1937-46

NOTE.—Figures for the years 1922-36 are given at p. 255 of the 1947 Year Book.

Year	Offences Against the Person		Offences Against Property with Violence		Offences Against Property without Violence		Malicious Offences Against Property		Forgery and Offences Against Currency		Other Offences		Total Convictions	
	No.	Per 100,000 Pop.	No.	Per 100,000 Pop.	No.	Per 100,000 Pop.	No.	Per 100,000 Pop.	No.	Per 100,000 Pop.	No.	Per 100,000 Pop.	No.	Per 100,000 Pop.
1937	186	2	1,222	11	3,143	28	575	5	10	1	88	1	5,224	47
1938	184	2	1,122	10	3,062	27	612	5	9	1	66	1	5,055	45
1939	190	2	1,207	10	2,926	26	589	5	13	1	93	1	5,018	44
1940	208	2	1,261	11	3,058	27	662	6	8	1	101	1	5,298	47
1941	263	2	1,407	12	3,467	30	947	8	14	1	106	1	6,204	54
1942	206	2	1,536	13	4,039	35	1,015	9	11	1	113	1	6,920	60
1943	258	2	1,550	13	3,658	31	892	8	21	1	115	1	6,494	55
1944	215	2	1,739	15	3,393	28	1,022	9	22	1	138	1	6,529	55
1945	218	2	1,513	12	2,964	24	933	8	29	1	101	1	5,758	47
1946	173	1	1,353	11	2,594	21	668	6	23	1	138	1	4,949	40

[1] Too small to be shown.

Types of Major Offences Related to Age and Sex of Offenders.—The main reasons for reference to the court in boys' and girls' delinquency cases for major offences for the period 1942-46 are summarized in Table 6. The most frequent violations among the boys in 1946 were theft and receiving stolen goods (60·0 p.c.), burglary, breaking and entering (27·8 p.c.), being a form of misdemeanor offering more risk and excitement than any other, and malicious damage to property including arson (13·8 p.c.). The misdemeanors most prevalent among girls were theft and receiving stolen goods (52·7 p.c.) and offences against public morals (16·3 p.c.).



6.—Convictions of Juveniles for Major Offences, by Types and Sex, Years Ended Sept. 30, 1942-46

Offence	1942		1943		1944		1945		1946	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Manslaughter and murder	1	Nil	1	Nil	3	Nil	Nil	Nil	1	Nil
Rape, carnal knowledge and incest	5	"	1	"	5	"	13	1	8	"
Indecent assault	30	"	46	"	38	"	30	Nil	33	"
Aggravated assault and wounding	22	1	24	4	53	3	25	2	29	2
Common assault	94	13	95	23	71	9	103	12	60	8
Endangering life on railway	38	Nil	63	Nil	26	Nil	30	Nil	24	Nil
Other offences against the person	2	"	1	"	3	4	1	1	8	"
Burglary, breaking and entering	1,468	29	1,509	23	1,675	27	1,467	27	1,310	20
Robbery	39	Nil	18	Nil	37	Nil	15	4	20	3
Theft and receiving stolen goods	3,863	160	3,462	178	3,218	162	2,810	134	2,445	129
Embezzlement, false pretences and fraud	16	Nil	17	1	11	2	15	5	18	2
Arson	20	1	23	Nil	35	2	19	Nil	16	2
Wilful damage to property	978	16	839	30	969	16	895	19	631	19
Forgery and offences against currency	8	3	20	1	18	4	23	6	20	3
Immorality	25	28	16	47	21	48	23	26	22	40
Various other offences	54	6	40	12	62	7	47	5	59	17
Totals	**6,663**	**257**	**6,175**	**319**	**6,245**	**284**	**5,516**	**242**	**4,704**	**245**

As children become older, the percentage of major offences tends to increase. In 1946 almost half the major offences were committed by boys and girls of 14 and 15 years of age. Only 6·8 p.c. of the convictions for such offences involved children under 10 years of age. The nine-year-old boys and 11- and 15-year-old girls were the only ages to show increases over the number of offences committed in 1945.

Education and Delinquency.—Assuming that six is the age of entering school, 63·2 p.c. of the juvenile delinquents in 1946 known to have attended elementary school were two years or more behind in school work. This retardation may have been due to other factors besides dullness, such as illness, change of residence, etc. Only 2 p.c. of the delinquents in elementary school were ahead of the normal rating and 9·7 p.c. were known to have attended high school.

7.—Age, Sex and School Grade of Juvenile Delinquents Committing Major Offences, Year Ended Sept. 30, 1946

(B=Boys; G=Girls)

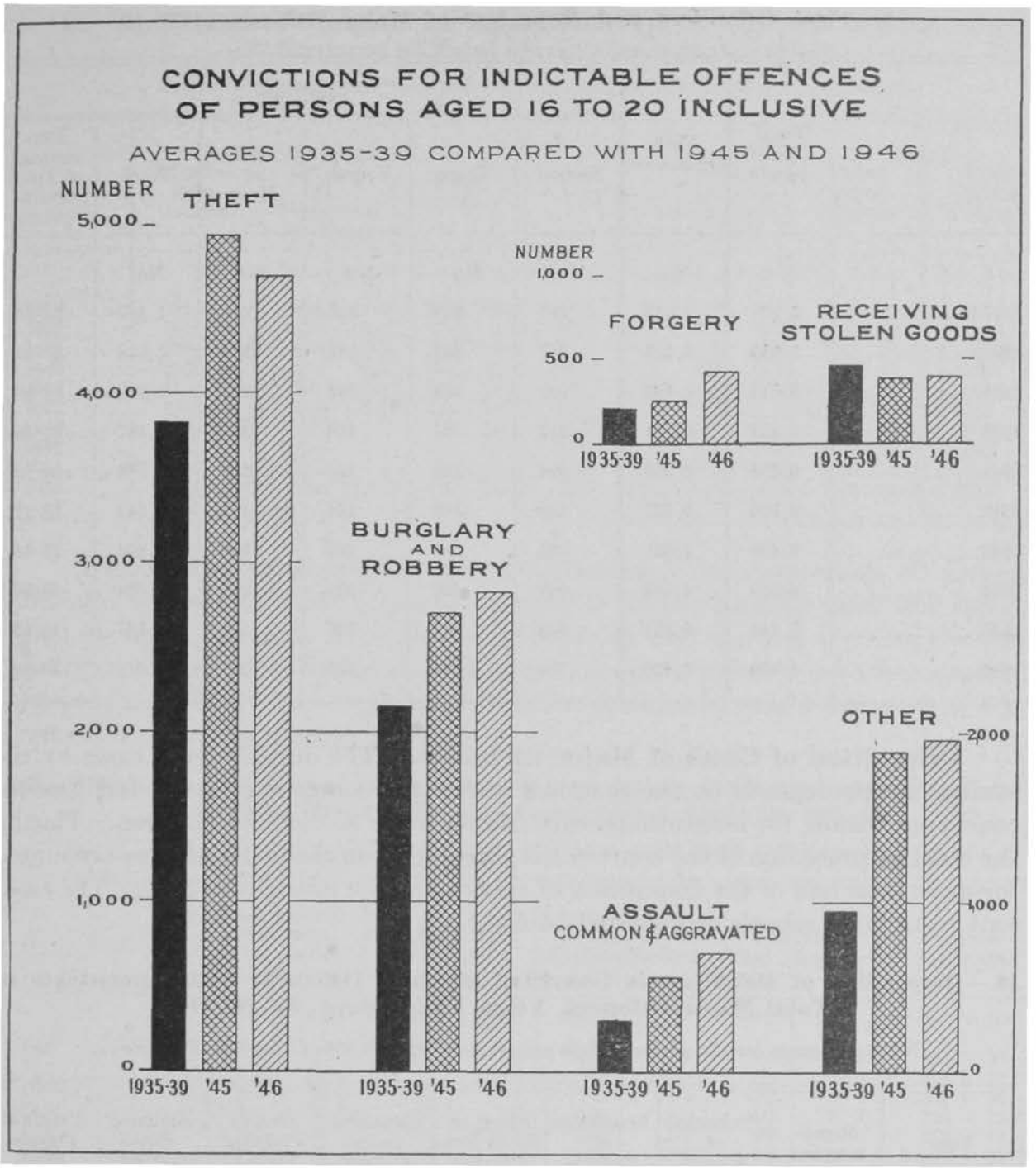
Age	Elementary Grades																Secondary Grades		Not Given		Totals	
	I		II		III		IV		V		VI		VII		VIII							
	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
7 years	8	Nil	6	Nil	1	Nil	Nil	Nil	1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	1	Nil	17	Nil
8 "	12	"	38	"	22	1	4	"	1	"	"	"	"	"	"	"	"	"	7	"	84	1
9 "	13	"	42	2	85	1	58	4	8	"	1	"	1	"	"	"	"	"	18	"	226	7
10 "	1	"	26	Nil	85	1	89	3	62	2	18	1	4	"	"	"	"	"	30	"	315	7
11 "	2	"	17	1	51	2	91	4	112	5	88	4	12	5	2	"	"	"	48	4	423	25
12 "	2	"	7	Nil	36	1	87	Nil	106	3	138	8	79	3	21	1	3	"	73	6	552	22
13 "	1	"	6	"	23	2	73	8	115	2	146	7	175	9	98	2	16	1	86	8	739	39
14 "	Nil	"	5	1	28	1	49	Nil	70	2	145	7	254	14	191	7	122	8	153	11	1,017	51
15 "	"	"	2	Nil	14	Nil	36	5	91	4	146	13	210	15	265	16	235	15	294	18	1,293	86
Not given	"	"	Nil	"	Nil	1	2	Nil	Nil	Nil	4	Nil	Nil	Nil	1	Nil	2	1	29	5	38	7
Totals	**39**	**–**	**149**	**4**	**345**	**10**	**489**	**24**	**566**	**18**	**686**	**40**	**735**	**46**	**578**	**26**	**378**	**25**	**739**	**52**	**4,704**	**245**

Convictions of Juvenile and Young Adult Offenders.—While, officially, juveniles are persons under 16 years of age, in response to increased public interest in offences committed by young persons, the following table has been compiled, in which the convictions for indictable offences of persons aged 16 to under 21 have been added to the figures of juveniles found guilty of major offences. The rates per 100,000 population show the proportions of the offences committed by persons in three different age groups.

8.—Convictions of Juveniles for Major Offences and of Young Adults for Indictable Offences, Years Ended Sept. 30, 1942-46

NOTE.—Population figures used are official estimates.

Year	Juveniles (7-15 inclusive)			Juvenile Adults (16-18 inclusive)			Adults (19-20 inclusive)		
	Convictions	Rate per 100,000 Population	Percentage Change from Preceding Year	Convictions	Rate per 100,000 Population	Percentage Change from Preceding Year	Convictions	Rate per 100,000 Population	Percentage Change from Preceding Year
	No.		p.c.	No.		p.c.	No.		p.c.
1942	6,920	358	+11·5	5,350	806	−1·6	3,118	720	−0·9
1943	6,494	338	−6·2	6,768	1,027	+26·5	3,287	752	+5·4
1944	6,529	341	+0·5	7,490	1,138	+10·7	3,940	893	+19·9
1945	5,758	304	−11·8	6,958	1,064	−7·1	3,732	852	−5·3
1946	4,949	258	−14·1	6,674	1,033	−4·1	4,305	991	+15·4



Repeaters.—Experience, which dispels or increases resentment of authority, may be a factor in encouraging or deterring repeaters. Some of the responsibility for the attitude that is built up, be it good or bad, rests on the police, the probation officer, the staff of the detention home and the judge. The recollection of how he was picked up the first time, how he was handled while awaiting hearing, the opinion of those in whose care he is placed as to the possibility of his readjustment, all make an impression on a child.

Over the ten-year period, 1937-46, approximately one in every four children brought before the court failed to heed the first warning of the court and made at least a second appearance. The figures for major offences in 1946 show that in more than two-thirds of the cases (69·4 p.c.) the children were brought before the court for the first time, 16·1 p.c. were second offenders, 6·9 p.c. third, 3·1 p.c. fourth and 4·5 p.c. were dealt with by the courts five or more times. Previous court experience of boys and girls who were committed for major offences is shown in Table 9, covering the period 1937-46.

9.—First Offenders and Repeaters of Major Offences, 1937-46

Year	Total Delinquents	First Offenders	Repeaters					
			Second	Third	Fourth	Fifth or More	Total	Percentage of Total Delinquents
	No.	No.	No.	No.	No.	No.	No.	
1937	5,224	3,637	787	359	197	244	1,587	30·38
1938	5,055	3,537	767	357	144	250	1,518	30·03
1939	5,018	3,588	709	306	192	223	1,430	28·50
1940	5,298	3,711	813	357	190	227	1,587	29·95
1941	6,204	4,356	994	396	199	259	1,848	29·79
1942	6,920	5,577	669	348	144	182	1,343	19·41
1943	6,494	4,831	865	386	183	229	1,663	25·61
1944	6,529	4,665	943	429	221	271	1,864	28·55
1945	5,758	4,231	812	337	137	241	1,527	26·52
1946	4,949	3,430	799	344	155	221	1,519	30·69

Disposition of Cases of Major Offenders.—The disposition of cases by the various courts depends on the practices within the courts and on the facilities for court supervision, for institutional care and for other services for children. Placing the child on probation of the court or his parents and suspended sentences accounted for more than half of the disposition of cases for major offences in 1946. The cases sent to training schools represented 14·5 p.c.

10.—Disposition of Delinquents Convicted of Major Offences, with Percentages of Total Major Offences, Years Ended Sept. 30, 1937-46

NOTE.—Figures for the years 1922-36 are given at pp. 259-260 of the 1947 Year Book.

Year	Reprimanded		Probation of Court		Protection of Parents		Fined or Made Restitution		Detained Indefinitely		Sent to Training School		Sentence Suspended		Corporal Punishment	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1937	474	9·1	2,510	48·1	37	0·7	346	6·6	39	0·8	568	10·8	1,201	23·0	49	0·9
1938	383	7·6	1,949	38·6	38	0·8	301	6·0	36	0·7	614	12·1	1,686	33·3	48	0·9
1939	404	8·0	1,631	32·5	28	0·6	228	4·5	119	2·4	639	12·7	1,941	38·7	28	0·6
1940	296	5·6	2,108	39·8	33	0·6	281	5·3	111	2·1	785	14·8	1,643	31·0	41	0·8
1941	422	6·8	2,836	45·7	130	2·1	411	6·7	108	1·7	820	13·2	1,442	23·2	35	0·6
1942	432	6·2	1,984	28·7	83	1·2	854	12·3	96	1·5	847	12·2	2,573	37·2	51	0·7
1943	464	7·1	1,798	27·7	140	2·2	1,001	15·4	92	1·4	906	14·0	2,041	31·4	52	0·8
1944	395	6·0	1,745	26·7	112	1·7	1,545	23·7	83	1·3	838	12·8	1,747	26·8	64	1·0
1945	352	6·1	1,581	27·5	109	1·9	1,514	26·3	54	0·9	753	13·1	1,372	23·8	23	0·4
1946	233	4·7	1,433	29·0	67	1·3	1,207	24·4	48	1·0	720	14·5	1,213	24·5	28	0·6

Subsection 3.—Minor Offences

Convictions for minor offences, like those for major offences, have declined steadily since 1942, the decrease in 1946 from 1945 being 7·8 p.c. Table **11** gives a summary of convictions of juveniles for minor offences by types of offence for the years 1937-46.

11.—Convictions of Juveniles for Minor Offences, by Types of Offence, with Percentages of Total Minor Convictions, 1937-46

NOTE.—Figures for the years 1922-36 are given at p. 261 of the 1947 Year Book.

Year	Traffic Regulations		Disorderly Conduct and Disturbing the Peace		Incorrigibility		Truancy		Vagrancy and Wandering Away from Home		Other Minor Offences		Total Minor Offences	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1937.....	193	7·7	428	17·2	702	28·2	274	11·0	117	4·7	778	31·2	2,492	100
1938.....	201	10·2	312	15·7	677	34·2	264	13·3	77	3·9	449	22·7	1,980	100
1939.....	273	10·5	454	17·5	761	29·3	264	10·2	138	5·3	705	27·2	2,595	100
1940.....	399	12·7	604	19·3	951	30·4	289	9·2	125	4·0	765	24·4	3,133	100
1941.....	835	20·4	501	12·2	1,145	27·9	366	8·9	209	5·1	1,050	25·5	4,106	100
1942.....	994	20·6	418	8·6	1,275	26·4	348	7·2	360	7·4	1,443	29·8	4,838	100
1943.....	463	12·2	283	7·4	984	25·9	372	9·8	435	11·4	1,265	33·3	3,802	100
1944.....	637	18·8	199	5·8	873	25·8	498	14·7	267	7·9	914	27·0	3,388	100
1945.....	487	15·5	216	6·8	838	26·6	424	13·5	222	7·0	964	30·6	3,151	100
1946.....	537	18·5	341	11·7	745	25·6	352	12·1	149	5·2	783	26·9	2,907	100

Disposition of Cases of Minor Offences.—The disposition of juveniles brought before the courts for minor offences is proportionately much the same as that for major offences. Over the ten-year period 1937-46, well over half the delinquents were reprimanded and allowed to go under supervision or have their sentences suspended. One in four made restitution for damages or paid a fine, and 13·6 p.c. were committed to training schools.

12.—Disposition of Delinquents Convicted of Minor Offences, with Percentages of Total Minor Offences, Years Ended Sept. 30, 1937-46

NOTE.—Figures for the years 1922-36 are given at p. 262 of the 1947 Year Book.

Year	Reprimanded and Allowed to Go Under Supervision		Detained Indefinitely		Sent to Training School		Fined or Paid Damage		Sentence Suspended	
	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.	No.	p.c.
1937.....	1,352	54·2	9	0·4	206	8·3	262	10·5	663	26·6
1938.....	756	38·2	9	0·4	233	11·8	171	8·6	811	41·0
1939.....	631	24·3	37	1·4	345	13·3	380	14·6	1,202	46·4
1940.....	1,340	42·8	52	1·7	409	13·0	542	17·3	790	25·2
1941.....	2,188	53·3	31	0·8	512	12·5	986	24·0	389	9·4
1942.....	1,085	22·4	22	0·5	607	12·6	1,448	29·9	1,676	34·6
1943.....	1,056	27·8	9	0·2	495	13·0	961	25·3	1,281	33·7
1944.....	1,035	30·5	9	0·3	538	15·9	1,002	29·6	804	23·7
1945.....	1,117	35·4	11	0·4	595	18·9	853	27·1	575	18·2
1946.....	858	29·5	5	0·2	460	15·8	647	22·3	937	32·2

PART III.—POLICE FORCES IN CANADA*

The Police Forces operating in Canada are organized under three groups: (1) the Federal Force, which is the Royal Canadian Mounted Police and whose operations cover a very wide field in addition to purely police work; (2) the Provincial Police Forces—the Provinces of Ontario, Quebec and British Columbia have organized their own Provincial Forces, but the other provinces engage the services of the Royal Canadian Mounted Police to perform parallel functions within

* The material under this heading has been obtained through the courtesy of Commissioner S. T. Wood, C.M.G., of the Royal Canadian Mounted Police. Section 2, dealing with Provincial Police Forces, was submitted to Commissioner Wood by Geo. A. Shea, O.B.E., Secretary-Treasurer, Chief Constables' Association of Canada, who, in turn, received the basic data from the individual Provincial Police Commissioners.

their boundaries; (3) the Municipal Police—every city of reasonable size employs its own police organization which is paid for by the local taxpayers and which attends to purely police matters within the borders of the municipality concerned.

The organizations under these three headings are described in turn below.

Section 1.—The Royal Canadian Mounted Police

Name and Status.—The Royal Canadian Mounted Police is a Civil Force maintained by the Dominion Government. It was organized in 1873 as the North West Mounted Police, whose duties were confined to what was then known as the Northwest Territories. By 1904, the work of the Force received signal recognition when the prefix "Royal" was bestowed upon it by King Edward VII. In 1905, when Alberta and Saskatchewan were constituted Provinces, an arrangement was made whereby the Force continued to discharge its duties as formerly, each Province making a contribution towards defraying the cost. This was continued until 1917.

In 1918, the Royal North West Mounted Police was assigned the duty of enforcing Dominion legislation for the whole of Canada west of Port Arthur and Fort William. Soon after the end of the First World War, an extension of governmental activities made it obvious that the enforcement of Dominion statutes throughout Canada must be the responsibility of a Dominion Force and, therefore, the jurisdiction of the Royal North West Mounted Police was extended to the whole of Canada early in 1920. In that year, the name of the Force was changed to the Royal Canadian Mounted Police and the former Dominion Police with Headquarters at Ottawa, whose duties were largely connected with guarding public buildings in that city and the Canadian Government dockyards at Halifax, N.S., and Esquimalt, B.C., were absorbed by the Royal Canadian Mounted Police.

Control and Organization.—The Force is controlled and administered by a Minister of the Crown (at present the Minister of Justice) and, as stated above, may be employed anywhere in Canada. Its officers are commissioned by the Crown and for many years have been selected from serving non-commissioned officers.

The Force is divided into 14 Divisions of varying strength, including the Marine Section, distributed over the entire country. The term of engagement for recruits is five years, and the minimum age for a third-class constable is 21 years. Recruits are trained at Regina, Sask., and Rockcliffe, Ont. Police Colleges are also maintained at these centres, where courses of training and instruction are given to keep the Force abreast of the latest developments in criminology.

From a total of 300 in 1873, the Force grew to over 4,700 by 1944 and in 1948 had a strength of approximately 3,200. Its means of transport consists of 192 horses, 754 motor-vehicles, 6 aeroplanes and 264 sleigh dogs; 17 trained police dogs are maintained for tracking. Its Marine Section at present consists of 219 officers and men and 19 vessels of various sizes. The R.C.M. Police Aviation Section has a personnel of 17.

In 1937 a Reserve was established which in 1948 numbered over 324: units are located principally at such large centres as Montreal, Toronto, Winnipeg, Edmonton, Calgary and Halifax, where men can be congregated easily, and where instruction can be given in the evenings.

Duties.—The Royal Canadian Mounted Police has the responsibility for enforcing Dominion laws throughout Canada and is specially empowered to deal with infractions against smuggling by sea, land and air. It also enforces the provisions of the Excise Act, and is responsible for the suppression of traffic in narcotic drugs. In all, the Force has responsibility in almost 50 Dominion Acts including the Indian Act. It also assists many departments of the Dominion Government in administrative duties and is responsible for the protection of Government buildings and property and some of the more important dockyards. It is the sole police force operating in the Northwest Territories and Yukon. Furthermore, it undertakes secret and security services for the Dominion Government. In addition to its Dominion duties, the Force has agreements with the Provinces of Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia and Prince Edward Island, whereby the services of the Royal Canadian Mounted Police can be secured to enforce provincial laws and the Criminal Code in rural districts upon payment for such services. These agreements have been in force for more than 15 years.

During recent years, the Force has also entered into agreements for the policing of more than 70 cities, towns and municipalities within the six provinces mentioned above.

Services to Other Police Forces.—The Royal Canadian Mounted Police maintains two scientific laboratories for the examination of exhibits of all kinds, and these services, as well as its central fingerprint, modus operandi, and firearms bureaus, anti-counterfeiting and other facilities are available to all police forces. It also maintains two Police Colleges which selected personnel from other police forces may attend.

Youth and the Police.—Since the autumn of 1945, members of the Royal Canadian Mounted Police have made a concerted effort to assist the youth of Canada in developing a healthful outlook towards the police, law, order and responsible citizenship. This is being done in many ways. Volunteer speakers, who are qualified for the work, go before youth groups of all kinds and speak on such subjects as Discipline in Everyday Life, History of the Royal Canadian Mounted Police, Courtesy and Kindness, and Functions of the Police in Society; considerable use is made of films. With the permission of the Departments of Education and local school boards, all the schools in each province are being covered as well as youth groups supervised by service clubs and churches. Interest is also being taken by members of the Force in various training schools set up to handle delinquents.

An effort is made to show the policeman as a public servant, essential to the well-being of the country, a referee in a game the rules of which have been made by members of the community for the greater comfort and security of all. The program does not compete with that of other organizations engaged in youth work; rather, it seeks to co-operate with these organizations. Indeed the work with youth has created a demand from adult groups interested in youth guidance for speakers to tell how the program functions.

The Force is also doing invaluable voluntary work in supervising recreational facilities, teaching first aid, coaching hockey and baseball teams and promoting many other recreational activities. This phase of youth work is in keeping with the thought that the excess energy of youth should be directed into healthful and

creative channels. The key-note of the program is co-operation between the Royal Canadian Mounted Police, other police forces and all agencies interested in the future of the youth of Canada.

Section 2.—Provincial Police Forces

Quebec Provincial Police Force.—The Quebec Provincial Police Force is responsible for upholding law and order over the whole territory of the Province, from the provincial boundary between Ontario and Quebec to the Magdalen Islands in the Gulf of St. Lawrence.

This Force, composed of about 600 men, is in charge of a Director who acts under direct orders from and is responsible to the Attorney-General of the Province.

To facilitate operations, the territory is divided into two almost equal parts designated as the District of Montreal and the District of Quebec. The Director has his office at Montreal and an Assistant Director at Quebec city. Working under these Directors are two deputies.

The Police Force is itself divided into three sections: the detective corps, the constabulary and the traffic officers, each of which, in the two Districts, is in charge of a captain supported by a number of lieutenants and sergeants. This Police Force, which has for years enjoyed an enviable reputation for the successful policing of Quebec's highways and for its great efficiency in solving crimes, has been in course of reorganization for the past three years. During this time, the highway motorcycle patrol has been gradually replaced by a fleet of automobiles which have proved much more efficient, especially during the winter months.

The first installation of a province-wide frequency modulation radio-communication system has been established in the District of Montreal. A main station, using the 35·22 band and operating on the top of Mount Royal, directs radio-equipped cars within a radius of between 60 and 80 miles around Montreal. Statistics are not available at the present time, but an idea of the amount of work done is easily conceived from the fact that over 20,000 calls were sent out over the antenna of the main radio station during 1946. Sub-stations operate at each of the eight bridges giving access to or exit from the city of Montreal itself and a number of cars, all equipped with frequency modulation three-way radio units, patrol the surrounding country day and night.

The Quebec Provincial Police Force, well-trained and alert, is in a position to provide the citizens of the Province with the protection they have a right to expect from it.

Ontario Provincial Police.—The Ontario Provincial Police is maintained by the Government of the Province of Ontario under the Attorney-General's Department. The Force is responsible for law enforcement in the rural and unorganized parts of the Province, and in certain municipalities by contract.

History relates that in July, 1875, John Wilson Murray was appointed to act as "Detective for the Provincial Government of Ontario" to pursue criminals and "run them down" in their havens of refuge. Murray performed his varied duties under the direction of Sir Oliver Mowat, the Attorney-General of the Province. At the time of Confederation and the first session of the first Parliament of Ontario in December, 1867, there were a number of rural or Provincial Police. These officers were unpaid and if any remuneration was received for their services it was derived through the fee system.

In 1877 a major reform occurred when under the Constables Act (R.S.O. 1877, c. 72) the necessity for giving certain constables jurisdiction throughout the Province was recognized. County judges were authorized to allocate Provincial Constables to every county and district in Ontario.

Later, the opening up of the mining areas in the north of the Province and the accompanying lawlessness brought to the fore the realization that more adequate law-enforcement measures were a necessity. Consequently, an Order in Council dated Oct. 13, 1909 (confirmed by 10 Edw. VII, c. 39, 1910) was passed providing for the establishment of the "Ontario Provincial Police Force", to be composed of a Superintendent and such inspectors and constables as were deemed necessary. The officers were stationed throughout the northern portion of the Province and at all border points in southern Ontario. The Force was completely reorganized; in 1921, under the authority of the Ontario Provincial Police Act, the appointment of a Commissioner of Police for Ontario was made and the strength of the Force considerably increased.

The Constables Act was amended in 1929 with a view to establishing closer relationship and co-operation between the Provincial Police Force and County Constabularies. Twenty-eight counties took advantage of this legislation and a member of the Ontario Provincial Police was appointed as Acting High Constable in each of these counties. In 1929 also, an Ontario Provincial Police Training School was established at General Headquarters for the tuition and guidance of recruits.

In March, 1930, the control and administration of the officers who had been enforcing the Highway Traffic Act under the supervision of the Department of Public Highways was transferred to the Department of the Attorney-General under the Commissioner of the Ontario Provincial Police. A combined Provincial and Municipal Police Training School was inaugurated at Toronto in March, 1935. This school provides advanced training in medical, legal, scientific and technical activities for provincial and municipal police officers.

By the Police Act, 1946, proclaimed Feb. 1, 1947, all former legislation and amendments dealing with constables were repealed. Under this Act, the duties and responsibilities of police forces are, for the first time in the history of the Province, clearly defined. Up to Mar. 31, 1948, 52 municipalities have availed themselves of the provisions of the Police Act, for the policing of their municipalities by the Ontario Provincial Police.

At present the Force, with a strength of approximately 811, consists of a General Headquarters at Toronto and 16 Districts with headquarters at: Chatham, London, Dundas, Niagara Falls, Aurora, Mount Forest, Barrie, Peterborough, Belleville, Perth, Cornwall, Haileybury, Sudbury, Cochrane, Port Arthur, and Kenora. Each district has detachments adequate to meet law-enforcement requirements. A Criminal Investigation Branch of the Force, under the command of a Chief Inspector, is maintained at Toronto. This Branch investigates crimes of a major nature. A frequency modulation radio-communication system is being installed to assist the Force in coping with the ever-increasing demands of law enforcement.

British Columbia Provincial Police.—The organization of a permanent police force in British Columbia followed the influx of gold seekers on the Fraser River in 1858. Prior to that time police protection on Vancouver Island had been of a volunteer nature, the settlers themselves forming posses to apprehend flagrant law breakers.

On July 7, 1858, a Commissioner of Police was appointed together with a chief constable, a sergeant and four or five constables and a staff to maintain a gaol for Vancouver Island. The Governor was alive to the necessity of a police force for the gold-field area of British Columbia and Gold Commissioners were appointed under the Goldfields Act to each of whom were assigned six police officers. Instructions, however, came from the Governor.

The Commissioner continued the supervision of the police on Vancouver Island, acting at the same time as Magistrate for the community at Victoria.

It will be seen from these regulations that control of the police was somewhat divided but in 1866 the Crown colonies of Vancouver Island and British Columbia were united and the police came under one head at Victoria. New territory was opened up and local justices of the peace were empowered to swear in special constables in cases of necessity.

In these early days the duties of a constable were interwoven with the tasks of other Government branches such as the collection of revenue and other offices unrelated to law enforcement. As time went on, however, the duties gravitated to full-time police service and police districts were established under the control of a Chief Constable who, in turn, was responsible to the Chief Inspector (later the Superintendent). With minor changes, this system continued until 1923 when, by the Police and Prisons Regulations Act 1923, semi-military ranks were adopted and the Province was divided into Divisions, Districts and Detachments for administration purposes. There are now 5 Divisions, 2 Subdivisions, 27 Districts and 114 Detachments, with a total strength of 431 all ranks.

A Criminal Investigation Branch is operative at Headquarters together with a training school. Shortwave radio is used extensively connecting 23 key stations throughout the Province and eight police boats patrolling the coast are also equipped with shortwave and voice transmission.

Provincial Police also assist Dominion as well as Provincial Departments seeking their aid and municipalities in 1925 were afforded the opportunity to contract Provincial Police Protection; 44 cities have signed these contracts since the amendment.

The Provincial Police has contributed invaluable help to youth activities. Talks are given on such subjects as behaviour, good citizenship, traffic safety, firearms and explosives, camping and camp precautions, first aid, etc. Voluntary assistance is also rendered to promote sports and games, and youth organizations call upon individual members of the Provincial Police for instruction.

Section 3.—Municipal Police Statistics

In 1946 police statistics were collected from 189 urban centres with 4,000 or over population. The aggregate population of these centres was 5,103,849 (1941) and the total number of policemen was 6,954 or one for every 734 of the population.

A total of 508,646 offences were reported to the police, arrests numbered 158,291 and 322,715 summonses were issued. Of the 10,013 automobiles reported stolen, 9,958 were recovered, and 16,616 of the 18,959 bicycles reported stolen were recovered. The value of other goods reported stolen was $4,634,287 and the value of stolen goods recovered $2,092,218.

There were 60,801 automobile accidents reported, as a result of which 541 persons were killed and 16,098 injured; in other accidents reported, 747 persons were killed and 7,821 injured. Persons given shelter in police stations numbered 49,526 and 11,056 stray children were returned to their homes.

1.—Summary Police Statistics, by Urban Centres of 10,000 Population or Over, 1946

Province and Urban Centre	Population 1941	Police on Force	Arrests	Summonses	Prosecutions	Convictions
	No.	No.	No.	No.	No.	No.
Prince Edward Island—						
Charlottetown	14,821	15	1,230	370	1,600	1,518
Totals, Prince Edward Island[1]	**19,855**	**21**	**1,811**	**428**	**2,239**	**2,123**
Nova Scotia—						
Halifax	70,488	109	3,488	803	4,290	3,840
Sydney	28,305	30	1,668	91	2,141	1,975
Glace Bay	25,147	19	1,475	80	1,323	1,235
Dartmouth	10,847	11	424	99	523	501
Truro	10,272	6	1,289	12	1,289	1,073
Totals, Nova Scotia[1]	**211,651**	**213**	**11,534**	**1,723**	**13,135**	**12,020**
New Brunswick—						
Saint John	51,741	73	4,318	2,411	6,992	6,848
Moncton	22,763	33	1,839	199	2,038	1,964
Fredericton	10,062	15	1,018	330	1,089	1,047
Totals, New Brunswick[1]	**107,000**	**142**	**8,339**	**3,053**	**11,028**	**10,693**
Quebec—						
Montreal	903,007	1,575	23,717	53,697	77,414[2]	68,898[2]
Quebec	150,757	198	2,663	3,017	3,017	2,774
Verdun	67,349	65	1,347	80	1,870	1,812
Three Rivers	42,007	74	1,594	148	1,594	1,589
Sherbrooke	35,965	49	997	219	1,216	1,214
Hull	32,947	41	1,269	1,362	2,620	2,412
Outremont	30,751	41	1,837	1,017	2,750	104
Westmount	26,047	46	2,665	306	3,012	2,952
Shawinigan Falls	20,325	34	584	46	702	211
Lachine	20,051	22	273	41	273	268
St. Hyacinthe	17,798	26	385	[3]	101	92
Valleyfield	17,052	26	218	48	237	191
Chicoutimi	16,040	17	492	43	168	126
Granby	14,197	12	81	42	42	123
Jonquière	13,769	11	100	[3]	[3]	[3]
St. Jean	13,646	15	38	5	43	42
Joliette	12,749	19	11	11	11	11
Thetford Mines	12,716	11	159	13	12	12
Sorel	12,251	18	269	[3]	35	18
Lévis	11,991	16	181	126	2	181
Cap-de-la-Madeleine	11,961	13	77	[3]	53	53
St. Jérôme	11,329	18	92	37	129	97
Drummondville	10,555	12	231	18	231	231
Totals, Quebec[1]	**1,691,246**	**2,565**	**43,562**	**60,999**	**99,705**	**87,728**
Ontario—						
Toronto	667,457	1,101	24,248	136,284	158,779	142,409
Hamilton	166,337	175	4,210	19,682	28,749	27,695
Ottawa	154,951	182	2,419	7,628	9,148	8,424
Windsor	105,311	144	3,410	4,699	8,135	6,268
London	78,264	87	2,087	3,212	5,074	4,335
Kitchener	35,657	28	643	3,580	4,223	3,784
Sudbury	32,203	30	1,874	3,089	4,963	3,955
Brantford	31,948	30	654	2,026	2,218	2,148
Fort William	30,585	30	1,030	265	1,295	1,208
St. Catharines	30,275	37	730	621	1,471	1,244

[1] Includes figures for all urban centres having populations of 4,000 or over. [2] Estimated. [3] Not reported.

1.—Summary Police Statistics, by Urban Centres of 10,000 Population or Over, 1946—concluded

Province and Urban Centre	Population 1941	Police on Force	Arrests	Summonses	Prosecutions	Convictions
	No.	No.	No.	No.	No.	No.
Ontario—concluded						
Kingston	30,126	28	678	2,435	3,113	2,863
Timmins	28,790	25	991	1,025	2,021	1,760
Oshawa	26,813	25	591	1,307	1,898	1,832
Sault Ste. Marie	25,794	25	733	500	1,450	1,280
Peterborough	25,350	27	1,058	1,097	2,155	1,876
Port Arthur	24,426	28	2,206	204	2,410	2,371
Guelph	23,273	23	485	1,083	1,674	1,597
Niagara Falls	20,589	37	895	557	1,452	1,267
Sarnia	18,734	20	305	746	1,051	999
Chatham	17,369	20	510	965	1,475	1,350
St. Thomas	17,132	14	496	167	3,058	3,008
Stratford	17,038	15	280	680	960	926
Belleville	15,710	16	889	1,525	2,414	2,252
North Bay	15,599	16	629	923	1,552	1,402
Galt	15,346	10	250	320	554	506
Cornwall	14,117	18	422	290	811	785
Owen Sound	14,002	11	558	1,827	2,385	1,756
Welland	12,500	22	265	1,764	2,049	1,897
Woodstock	12,461	15	401	505	965	871
Forest Hill	11,757	19	52	1,310	1,340	1,304
Brockville	11,342	14	773	251	956	919
Pembroke	11,159	9	414	371	791	743
Totals, Ontario[1]	**2,021,470**	**2,530**	**61,803**	**212,382**	**277,974**	**251,560**
Manitoba—						
Winnipeg	221,960	334	5,977	9,260	37,389	34,964
St. Boniface	18,157	16	238	1,242	1,580	1,180
Brandon	17,383	16	318	151	538	479
Totals, Manitoba[1]	**279,759**	**386**	**7,150**	**10,957**	**40,591**	**37,644**
Saskatchewan—						
Regina	58,245	62	1,458	2,665	3,756	3,740
Saskatoon	43,027	40	1,123	1,548	2,749	2,623
Moose Jaw	20,753	22	773	528	1,180	1,116
Prince Albert	12,508	13	747	62	1,016	955
Totals, Saskatchewan[1]	**160,639**	**163**	**4,555**	**5,415**	**10,125**	**9,784**
Alberta—						
Edmonton	93,817	122	2,131	728	2,859	2,527
Calgary	88,904	120	3,272	3,793	8,336	6,744
Lethbridge	14,612	17	667	349	1,601	1,465
Medicine Hat	10,571	13	202	201	403	375
Totals, Alberta	**207,904**	**272**	**6,272**	**5,071**	**13,199**	**11,111**
British Columbia—						
Vancouver	275,353	493	9,708	14,640	21,374	16,975
Victoria	44,068	69	765	5,378	6,143	5,831
New Westminster	21,967	22	625	254	2,225	2,181
Totals, British Columbia[1]	**404,325**	**662**	**13,265**	**22,687**	**34,291**	**29,347**
Grand Totals[1]	**5,103,849**	**6,954**	**158,291**	**322,715**	**502,287**	**452,010**

[1] Includes figures for all urban centres having populations of 4,000 or over.

PART IV.—PENITENTIARY AND REFORMATORY INSTITUTIONS

Section 1.—Penitentiary Statistics*

The Penitentiaries Branch of the Department of Justice is charged with the administration of the various penitentiaries of Canada. Seven institutions are included in the system, the two largest of which are at Portsmouth, Ont., and St. Vincent de Paul, Que., while the other five are at Dorchester, N.B.; Prince

* Revised in co-operation with the Superintendent of Penitentiaries, Department of Justice, Ottawa.

Albert, Sask.; Stony Mountain, Man.; New Westminster, B.C.; and Collins Bay, Ont. During the fiscal year ended Mar. 31, 1947, the average daily population of these institutions was 3,541 and the total net cash outlay for the year was $3,654,072 or $2·83 per convict per diem, compared with 3,028 average daily population and $2,689,059 total net cash outlay or $2·43 per convict per diem for the year 1941.

Female convicts given penitentiary sentences in the different provinces are sent to the penitentiary at Kingston, Ont., where special quarters and staff are maintained for their detention and supervision. Female convicts in custody on Mar. 31, 1947, numbered 56 compared with 43 in 1944 and 46 in 1941.

Movement of Population of Penal Institutions.—Penal institutions may be classified under three headings: (1) penitentiaries, with slow turnover, since prisoners have long sentences; (2) reformatories and training schools, also with rather slow turnover; and (3) common gaols, where the turnover is extremely rapid. If the average population for the year be taken as the average of the figures for inmates at the beginning and at the end of the year, and the number discharged be the turnover, the percentage turnover in fiscal year 1946-47 was: in penitentiaries, 48·1 p.c.; in reformatories and training schools, 164 p.c.; in gaols, no less than 1,728 p.c. In dealing with these figures it must be borne in mind that the common gaol population changes from day to day, and is partly made up of accused persons awaiting trial who may be either liberated or sent to a penitentiary or reformatory.

1.—Population of Penal Institutions, for Twelve-Month Periods (Circa) 1945 and 1946

Year and Type of Institution	In Custody Beginning of Year	Admitted During Year	Discharged During Year	In Custody End of Year
1945				
Penitentiaries	3,078	1,472	1,421	3,129
Reformatories and training schools[1]	4,409	7,647	7,818	4,224
Gaols[2]	3,206	53,801	53,026	3,981
Totals, 1945	**10,693**	**62,920**	**62,265**	**11,334**
1946				
Penitentiaries	3,129	1,794	1,561	3,362
Reformatories and training schools	4,224	8,063	8,183	4,104
Gaols	3,958	65,768	65,545	4,181
Totals, 1946	**11,311**	**75,625**	**75,289**	**11,647**

[1] Revised since the publication of the 1947 Year Book. The list of training schools was changed to include new institutions and delete those not caring for delinquent children committed through the courts.
[2] Revised due to a change in the Quebec reporting year from a fiscal to the calendar year.

Tables 2 to 4 give the more important penitentiary statistics as reported to the Bureau of Statistics.

2.—Movement of Convicts in Penitentiaries, Years Ended Mar. 31, 1943-47

Item	1943	1944	1945	1946	1947
In Custody, Beginnings of Years	**3,232**	**2,969**	**3,078**	**3,129**	**3,362**
Received—					
From gaols	1,154	1,348	1,312	1,579	1,685
By transfer	143	320	157	206	219
By cancellation of ticket-of-leave	Nil	2	1	Nil	3
Revocation of licence	"	Nil	Nil	1	Nil
From Military Authorities (prisoners of war)	2	"	"	8	1
Paroled for Active Service and returned	Nil	"	2	Nil	Nil
Totals, Received	1,299	1,670	1,472	1,794	1,908
Discharged—					
By expiry of sentence	1,081	928	880	1,014	982
By transfer	143	320	157	206	219
By ticket-of-leave	264	243	320	216	255
By deportation	15	10	22	13	9
By unconditional release	28	35	15	9	10
By death	11	7	11	11	7
By pardon	13	9	8	10	3
Released to Military Authorities	Nil	Nil	2	77	22
By release on order of court	4	6	4	3	5
By return to provincial authorities	3	2	1	2	5
By transfer to Boys' Industrial School	Nil	1	1	Nil	Nil
By instructions from Immigration Department	"	Nil	Nil	"	1
Totals, Discharged	1,562	1,561	1,421	1,561	1,518
In Custody, Ends of Years	**2,969**	**3,078**	**3,129**	**3,362**	**3,752**

3.—Ages of Convicts in Penitentiaries, as at Mar. 31, 1940-47

Age Group	1940	1941	1942	1943	1944	1945	1946	1947
Under 21 years	463	465	421	447	486	455	452	519
21 to 30 "	1,574	1,473	1,283	1,168	1,288	1,386	1,529	1,659
31 to 40 "	1,040	995	837	705	676	676	750	916
41 to 50 "	430	477	420	395	398	395	390	404
51 to 60 "	188	191	191	182	160	152	174	181
Over 60 "	77[1]	87	80	72	70	65	67	73
Totals	**3,772**	**3,688**	**3,232**	**2,969**	**3,078**	**3,129**	**3,362**	**3,752**

[1] Includes one unknown.

4.—Convicts in Penitentiaries, Classified by Birthplace, Religion, etc., as at Mar. 31, 1940-47

Item	1940	1941	1942	1943	1944	1945	1946	1947
Place of Birth—								
Canada	3,028	3,010	2,645	2,451	2,599	2,700	2,989	3,301
British Isles and possessions	302	259	190	163	179	169	143	187
Austria and Hungary	52	44	43	37	34	13	14	18
Italy	33	32	29	24	15	13	11	8
Poland	65	67	54	43	35	34	33	37
Russia	41	38	41	37	33	42	30	34
Other Europe	37	58	44	49	31	58	43	52
United States	118	112	117	111	95	91	83	101
Other countries	96	68	69	54	57	9	16	14

4.—Convicts in Penitentiaries, Classified by Birthplace, Religion, etc., as at Mar. 31, 1940-47—concluded

Item	1940	1941	1942	1943	1944	1945	1946	1947
Conjugal Condition—								
Single	2,539	2,446	2,154	1,983	1,990	1,987	2,144	2,376
Married	980	994	878	785	875	936	1,019	1,134
Widowed	145	143	121	110	120	117	105	105
Divorced	33	105	47	40	35	31	29	53
Separated	75	[1]	32	51	58	58	65	84
Sex—								
Male	3,741	3,642	3,195	2,917	3,035	3,077	3,310	3,696
Female	31	46	37	52	43	52	52	56
Religion—								
Anglican	548	513	483	505	506	516	587	710
Baptist	162	134	135	126	122	136	122	135
Doukhobor	5	6	4	3	2	19	16	2
Eastern religions	[1]	5	[1]	[1]	[1]	3	[1]	[1]
Greek Catholic	41	32	33	27	20	11	12	15
Greek Orthodox	54	39	40	35	36	27	34	27
Jewish	52	62	56	52	55	44	48	63
Lutheran	76	81	76	67	62	59	57	54
Methodist	35	44	29	34	37	34	28	33
Presbyterian	348	358	274	214	233	275	294	287
Roman Catholic	1,897	1,841	1,614	1,473	1,597	1,534	1,705	1,884
Salvation Army	22	18	17	16	20	21	21	28
United Church	370	369	328	302	293	323	309	381
Other	162	186	143	115	95	127	129	133
Totals	**3,772**	**3,688**	**3,232**	**2,969**	**3,078**	**3,129**	**3,362**	**3,752**

[1] None reported.

Section 2.—The Ticket-of-Leave System*

The Ticket-of-Leave or Parole System rests on the power of the court to suspend, conditionally, the imposition or the execution of a sentence.

Its aim is to achieve, through the substitution of a form of control or treatment, the reformation or civil rehabilitation of a prisoner outside of close imprisonment. The British ticket-of-leave system began in 1660 when statutory power was given judges to transport prisoners to the colonies, where, after a penal settlement period was fulfilled, they were allowed for the remainder of their sentence the freedom of the colony, under certain restrictions. All such prisoners were prohibited from carrying firearms and had to report monthly, quarterly or yearly for inspection to the authorities. By 1840, transportation of prisoners was disallowed but a new policy of imprisonment was inaugurated under which all long-term convicts must pass through the prisons for a period before conditional release on Ticket-of-Leave could be granted. When released, the convict is kept under the surveillance of the police and reports at stated periods. He is returned to prison for any infraction of this Ticket-of-Leave licence. The British system is altogether automatic in operation.

Other countries have also adopted the parole system. It was accepted in Germany in 1871, the Netherlands in 1881, Japan in 1882, the French Republic in 1885 and has since been used by Austria, Italy and Portugal. A number of the States in the United States have now a system of parole or conditional liberation in force for prisoners.

* Prepared under the direction of Commissioner S. T. Wood, C.M.G., of the Royal Canadian Mounted Police.

In Canada the parole system was first adopted for penitentiaries in 1899 and was later extended to include gaols and reformatories. In this the Canadian system differs from every other parole system in the world. The parole system was legalized under the Ticket-of-Leave Act (R.S.C. 1927, c. 107).

It is the duty of the Minister of Justice to advise the Governor General on all matters connected with or affecting the administration of the Ticket-of-Leave Act. By an order in writing, under the hand and seal of the Secretary of State, the Governor General may grant to any prisoner under sentence of imprisonment in a penitentiary, gaol or other public prison or reformatory Ticket-of-Leave to be at large in Canada or any specified part thereof during such portion of his or her term of imprisonment and upon such conditions in all respects as the Governor General may see fit.

The working of the Ticket-of-Leave Act in Canada is in the following manner. Any convict serving a prison term, or any person on behalf of a prisoner, may make application through the Minister of Justice for a Ticket-of-Leave. Each application, whether received from the most humble petitioner or from a person of high standing in the State or the community, receives the same very careful attention. Reports and opinions are requested from the trial Judge, the police who handled the case and the warden of the prison where the prisoner is incarcerated. The past environment and the previous criminal record, if any, of the prisoner are studied. All the circumstances in each case are carefully considered by well qualified investigators in the Remission Service Branch of the Department of Justice. If the consensus of opinion is that the prisoner has profited by the time spent in prison and it is felt that an exercise of clemency will result in the prisoner becoming rehabilitated and again a useful member of society, and if honest, gainful employment and proper supervision are assured, then the Solicitor General recommends to His Excellency the Governor General that the subject be released to serve the remainder of his sentence under the restraint of a Ticket-of-Leave. The Governor General approves by placing his official signature thereon. The offender is then issued with a Ticket-of-Leave licence under the hand and seal of the Secretary of State and is released from prison to serve the remaining portion of his sentence at large, subject to the conditions and provisos laid down in his licence.

The Commissioner of the Royal Canadian Mounted Police has been designated by the Ticket-of-Leave Act to enforce the conditions under which each Ticket-of-Leave subject is liberated. This he does through the Ticket-of-Leave Section, Identification Branch, located at Ottawa.

Every holder of a Ticket-of-Leave licence, upon release, is required to notify the place of his residence to the Chief Officer of Police or Sheriff of the city, town or district in which he resides and, whenever he is about to leave a city, town, county or district he is obliged to notify such intention to the said Police Officer or Sheriff of that place stating the place to which he is going and, if possible, his intended address. Upon arrival at his new destination he is required to notify the local Police Officer or Sheriff. Further, each male Ticket-of-Leave subject

is required to report once each month, so long as his Ticket-of-Leave period is in force, to the Chief Police Officer or Sheriff of the place in which he resides, unless this condition has been remitted by the Order of the Governor General.

A Ticket-of-Leave subject must produce his licence if called upon to do so by a magistrate or police officer; he is required to abstain from any violation of the law; shall not habitually associate with notoriously bad characters such as reputed thieves and prostitutes; he shall not lead an idle and dissolute life without visible means of obtaining an honest livelihood and is required to carry out any additional condition that has for reason been attached to his licence.

The Ticket-of-Leave Branch receives very efficient co-operation from the police forces throughout the country. Through their help, record is kept of each Ticket-of-Leave subject at large in Canada and monthly reports are forwarded to Headquarters. Most police forces treat Ticket-of-Leave information as strictly confidential; exercise care in protecting those concerned from embarrassment; give sympathetic consideration to the problems of these unfortunates and are ever ready to give assistance and helpful advice to anyone who is honestly endeavouring to rehabilitate himself.

He who fails to carry out the minor provisions of his release is at first admonished and given another chance. If, however, no heed is taken of rebuke, the Governor General may order the licence of the subject so transgressing to be revoked. In this case the culprit will be, by warrant, recommitted to prison to serve the portion of his sentence that was unsatisfied at the time he was granted Ticket-of-Leave.

If any holder of a licence under the Ticket-of-Leave Act is convicted of an indictable offence, his licence is forfeited. This is the only automatic feature of the Canadian Ticket-of-Leave system. In the case of forfeiture, the subject must first complete the sentence given on account of the indictable offence; he is then recommitted by warrant to prison to serve the portion of the former sentence that remained unsatisfied when he was granted Ticket-of-Leave.

The Ticket-of-Leave subject is not pampered. He is made to realize that he has been justly punished by imprisonment for offence committed and that judgment has been tempered with mercy by permitting him to serve part of his just sentence at large under the mild restraint of a Ticket-of-Leave licence. On the other hand, no unjust advantage may be taken of him. He has all the rights and liberties of any free Canadian citizen to engage in any honest enterprise or occupation and is fully protected by law from any impositions whatever.

The number of convicts released on Ticket-of-Leave each year from penitentiaries, gaols and reformatories varies between 700 and 1,000 persons. From the time the system was inaugurated in the year 1899 to the fiscal year ended Mar. 31, 1947, 35,043 offenders have been so released. During the 48 years Ticket-of-Leave has been in operation in Canada only 5·4 p.c. of the total number released have lapsed into crime that has necessitated return to prison.

Criticism is occasionally heard when publicity is given to some case of a Ticket-of-Leave subject who is again convicted of crime. Because of the strictly confidential nature of this work, nothing is ever heard of the more than 90 p.c.

of subjects who become useful and respected citizens. The Canadian Ticket-of-Leave system has indeed proven well worth while from a humanitarian as well as from an economical standpoint. The following statement gives a report of the Ticket-of-Leave Section from its inauguration to Mar. 31, 1947.

	No.
Released on Ticket-of-Leave from penitentiaries	15,755
Released on Ticket-of-Leave from gaols and reformatories of all classes	19,288
Total Releases	35,043
Revocations and cancellations of licences for failure to comply with conditions	944
Forfeitures of licences on account of convictions for indictable offences	958
Sentences completed on Ticket-of-Leave in good standing	32,633
Sentences not yet completed	508
Delinquent percentage	5·4

Section 3.—Statistics of Corrective and Reformative Institutions

A census of corrective and reformative institutions is taken at five-year intervals, the latest being for June 1, 1946. At that date there were 28 such institutions in Canada, 25 of which reported: one institution in Quebec, one in Ontario and one in Manitoba failed to report. The reporting institutions had a total inmate population of 3,662, of whom 2,930 were males and 732 females. The males were confined in 13 institutions and the females in 12.

5.—Inmates of Corrective and Reformative Institutions, by Age Groups, as at June 1, 1946

Institutions and Age Group		N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
		No.	No.	No.	No.	No.	No.	No.	No.	No.
Institutions	M.	2	1	2	5	1	1	Nil	1	13
	F.	2	2	2	3	1	Nil	1	1	12
Under 10 years	M.	23	3	15	22	Nil	1	Nil	1	65
	F.	Nil	5	7	Nil	"	Nil	"	Nil	12
10–14 "	M.	137	44	361	253	19	20	"	39	873
	F.	57	31	74	48	10	Nil	15	7	242
15–19 "	M.	15	12	250	576	28	18	Nil	34	933
	F.	39	63	77	93	32	Nil	16	10	330
20–24 "	M.	Nil	Nil	Nil	436	Nil	"	Nil	Nil	436
	F.	2	19	"	35	"	"	1	"	57
25–29 "	M.	Nil	Nil	"	201	"	"	Nil	"	201
	F.	"	9	"	15	"	"	"	"	24
30–34 "	M.	"	Nil	"	116	"	"	"	"	116
	F.	1	5	"	17	"	"	"	"	23
35–39 "	M.	Nil	Nil	"	92	"	"	"	"	92
	F.	"	3	"	14	"	"	"	"	17
40–44 "	M.	"	Nil	"	73	"	"	"	"	73
	F.	"	1	"	15	"	"	"	"	16
45–49 "	M.	"	Nil	"	76	"	"	"	"	76
	F.	"	"	"	9	"	"	"	"	9
50–59 "	M.	"	"	"	44	"	"	"	"	44
	F.	"	1	"	1	"	"	"	"	2
60 years or over	M.	"	Nil	"	21	"	"	"	"	21
	F.	"	"	"	Nil	"	"	"	"	-
Totals	**M.**	**175**	**59**	**626**	**1,910**	**47**	**39**	**-**	**74**	**2,930**
	F.	**99**	**137**	**158**	**247**	**42**	**-**	**32**	**17**	**732**

CHAPTER IX.—EDUCATION AND RESEARCH

CONSPECTUS

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According to the British North America Act, education is a function of the Provincial Governments and, therefore, the schools and universities, teacher training and other matters involved in the formal educational field are planned, financed and controlled by the provinces.

However, in a broad sense, education cannot be limited to merely what is taught in schools and colleges. It is as broad as life and experience itself and, for that reason, this Chapter of the Year Book deals also with such subjects as libraries, art and scientific research. Certain agencies of the Federal Government, while not in any sense in conflict with the formal field of education ascribed by the Constitution to the provinces, have functions that concern education. Among these agencies are the National Film Board and the Canadian Broadcasting Corporation. Thus, while the Canadian Broadcasting Corporation is engaged more in the field of entertainment and recreation than in that of education, there are aspects of its work that are properly included in the broader field. These are dealt with in Section 3 of Part II of this Chapter and cross references are given to the non-educational features of these agencies that are dealt with elsewhere in the Year Book.

PART I.—THE FORMAL EDUCATIONAL FIELD IN CANADA

Section 1.—Current Trends in Canadian Schools*

In a period of freer money and rising costs, education in Canada finds itself with more money to spend but with greater expenses to meet. While increased revenue is available for construction of buildings, improvements and salaries, building costs have mounted tremendously, many materials are still scarce, and salary increases to administrators and teachers have hardly kept pace with the cost of living. Nevertheless, the interchange of ideas and population during the War, the recognition that immense sums of money could be found for waging war, and a realization of the importance of an educated and trained population in time of emergency, have led provincial and many municipal authorities to regard education as of special significance in modern society, and accordingly to give it greater financial support.

* Prepared by the Canadian Education Association, Toronto.

Larger Units in School Administration.—A notable trend in Canadian education has been toward the larger school unit. This permits a greater equalization of educational costs and a greater degree of equality of educational opportunity for the pupils. In most provinces progress has been made in this regard, particularly in the past two or three years. Since 1946 the larger unit has been in operation in all Nova Scotia's 24 municipalities. In New Brunswick the County Schools Finance Act was passed in 1943 and by January, 1948, all counties had agreed to adopt this method of school administration. In consequence 1,350 administrative school units have been reduced to 37, embracing 15 counties and 22 urban centres. In Ontario the larger unit is known as a Township School Area. The formation of the 484 Township School Areas now in existence has involved the dissolution of 3,070, or approximately 53 p.c., of the former rural school areas of the Province. Rural schools in Saskatchewan have been set off into 60 proposed units, 45 of which, embracing 3,794 former units, have been established. In both Alberta and British Columbia the larger unit is an accomplished fact; indeed in the former Province it has been established for 10 or 15 years. In Alberta, where there are 57 School Divisions, on the average a School Division has an area of 2,000 square miles, employs 70 teachers, and instructs 1,500 pupils. British Columbia is divided into 74 large administrative areas, and 15 small rural unattached School Districts. In Manitoba an experimental larger school unit has been established, with consideration being given to an additional one; prior to 1920, however, this Province had moved towards the consolidation of School Districts, though not necessarily to the more modern School Area built around a logical community centre. In Quebec (Protestant) ten (or over one-half the total desired) Central School Boards have been established. The Catholic School Commissions in Quebec are not larger units, properly speaking; the basic unit there is generally the Parish. It should be recognized that the consolidation described above may have varying effects, dependent upon the province. In some cases it may involve only elementary rural schools, in others regional high schools, and in others a combination of both. In each instance better educational opportunities for children in rural areas are provided.

The establishment of the larger administrative unit, while resulting in an over-all economy, has increased the problem of the transportation of school children. In a number of cases conveyance is obtained by the hiring, on a contract basis, of buses owned by individuals or by transportation companies, though there is a marked trend towards purchasing rather than hiring buses for purposes of school transportation. In Quebec the first 'snowmobile' was purchased in 1943 and the Protestant Department operates 49 of these machines which transport more than 1,500 pupils. In Ontario, Public or Separate School Boards have authority to transport pupils to their own or secondary schools, and in June, 1947, 350 vehicles transported 8,400 children to 160 secondary schools. Their average trip required 65 minutes and the cost for such transportation was about one cent per pupil per mile. In Alberta in 1947-48 there were 713 school conveyances transporting a daily total of 14,753 pupils. Various safety standards are maintained in all provinces where pupils are conveyed by departmental arrangements.

Modern Types of School Facilities.—Both New Brunswick and Nova Scotia have extensive plans for new regional Composite High Schools. In New Brunswick 25 have been approved and are under construction; nine are now in operation. The rural high school in Nova Scotia, where enrolment in a con-

solidated area makes its establishment desirable, will provide services and facilities for Grades VII to XII. Plans include a minimum of four academic classrooms, mechanic and domestic-science facilities, school garden and demonstration plot, adequate playground space and, where necessary, hostels for boarding of pupils. Tenders for two such schools have been called for, and five or six additional ones were projected during 1948.

A Committee on Planning, Construction, and Equipment of Schools in Ontario presented an Interim Report in 1945. In 1947 a demonstration school, the V. K. Greer Memorial School, was completed at a cost of $78,000, to exemplify the findings of this Committee. Details of its construction are suggestive, since it illustrates a rural central school adapted to more efficient teaching and greater flexibility of classroom procedure. Economical in design, the four-classroom, one-storey building is constructed without a basement. Pastel shades are used on walls and ceilings which are of acoustical material to reduce the carrying of noise. Floors are of asphalt tile laid in mastic on a concrete slab. Woodwork has been given two coats of white shellac and two coats of wax to prevent dirt from adhering. Blackboards are of green glass composition, on which contrasting chalk is used. There are special lights over the blackboard as well as indirect lighting. Drapes have replaced window shades. The rooms are equipped with form-fitting, adjustable desks or individual study desks and chairs of correct sizes. There are well-equipped rooms for home economics and industrial arts and crafts, and a large playroom-auditorium. The construction of this model school has influenced considerably plans for other schools now built, or in the process of building. The total cost of elementary schools completed in 1947 in Ontario was about $10,500,000.

A modern Composite High School is being erected at Ottawa at a cost of $1,650,000 with projected accommodation for 950 pupils. In Winnipeg, Man., a by-law was endorsed by the electors in October, 1947, to build a Technical-Vocational High School at a cost of $1,500,000. The school will be organized to cover certain "families of occupations" such as electrical crafts, metal crafts, household and personal service occupations, etc. In Saskatchewan there is a greater emphasis upon vocational education, use of the library, adult education, and the use of the school as a community centre. Fourteen centres in the Province have converted their present high schools into Composite Schools which include the above features. In Alberta the Red Deer Composite High School was established in 1947-48. This has an enrolment of 473 pupils, a staff of 23 teachers, operates dormitories for boys and girls accommodating 270 students, and offers both academic and vocational subjects. The trend in British Columbia is toward Composite High Schools with special technical and commercial departments, rather than toward separate specialized institutions. However, a Vocational School is now being built at Vancouver at an estimated cost of $1,800,000.

Teacher Supply.—In spite of a general increase in salaries the shortage of fully qualified teachers has grown more acute. The most serious problem is in one-room rural schools where there was, in 1947-48, a total shortage of 6,575 fully qualified teachers. Of these schools 318 were closed because no teachers at all could be secured, and 6,257 were in the hands of teachers who were not fully qualified. On the other hand there was an increase in enrolment in teacher-training institutions across Canada from 6,866 in 1946-47 to 7,833.

The improved relationship of salaries to the teacher supply situation is most marked in the Maritime Provinces. Taken as a unit, they show not only the greatest relative improvement in statutory minimum salaries, but in teacher supply and in

enrolment in teacher-training institutions. While the other provinces do not show any improvement in the past year in statutory minimum salaries, they do indicate a general increase in their estimates of median salaries in rural schools.

Many School Boards in Canada have revised their salary scales during the past year, paying increased salaries or cost-of-living bonuses. Outside of the Maritime Provinces, whose schools are largely rural, this is not reflected as yet in any change in statutory minimum salaries authorized by the provinces. As a result, the teacher who begins his professional career in the rural school or, as is often the case, continues to teach in such a community, is generally unaffected by improvement in conditions of urban teachers. For example, the secondary teacher supply situation, which is largely urban, showed a marked improvement in 1947. The shortage of secondary teachers was 198 as compared with 400 in 1946. There were 2,319 secondary trainees enrolled in teacher-training institutions in 1947 against an annual enrolment required of 1,515.

In 1947 both Nova Scotia and Saskatchewan adopted salary scales which showed substantial increases and were related to the experience and the class of certificate of the teacher.

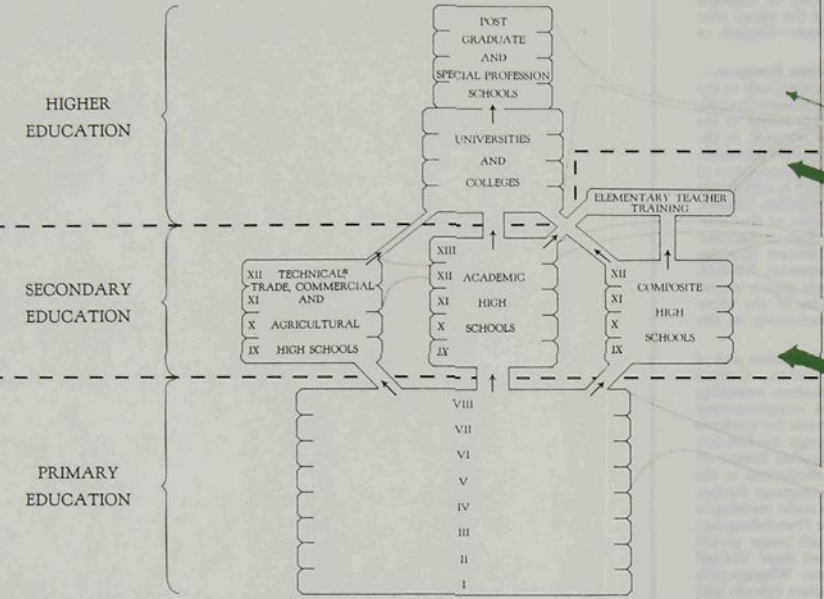
Among the steps taken by various Provincial Departments of Education to meet the present teacher shortage, in addition to encouraging increased salaries, have been loans without interest to Normal School students, provision of scholarships, the issuing of permissive or provisional licences, accelerated teacher-training courses or special emergency training classes, the closing of some schools and the transportation of the pupils to schools in an adjacent area, and some increase in the use of correspondence courses. Arrangements have been made for giving greater supervision and teaching assistance to teachers who temporarily lack full qualifications.

Employment of Teachers—

In September, 1947, the Canadian Education Association appointed a Committee to study and report on the status of the teaching profession. The report was presented at the Winnipeg meeting of the Association in September, 1948. The Committee, using the questionnaire method with sample groups in each province, obtained from a cross-section of those in education and industry views regarding teachers and the teaching profession. Of the 4,920 questionnaires distributed, 60 p.c. were returned, with general agreement that: (1) salaries and pensions for teachers must be increased substantially; (2) living and working conditions as they affect housing, school plant, school equipment, class load and other factors must be improved; (3) those accepted as candidates for the teaching profession must have a higher standard of general education, acceptable character and personality traits and above-average intelligence; (4) assistance should be given selected trainees by means of scholarships and other financial aid. A Committee was appointed to initiate a program of action designed to carry out the recommendations of the report.

Other Trends.—Increased emphasis is being laid throughout Canada on Audio-Visual Aids in education. This is shown by the purchase of projectors, films and radio receiving sets by school units, and central provincial libraries. Audio-visual aids courses were held in both Toronto and Victoria in the summer of 1947 with special attention being given to selection, evaluation and utilization techniques. The Canadian Broadcasting Corporation, as well as a number of

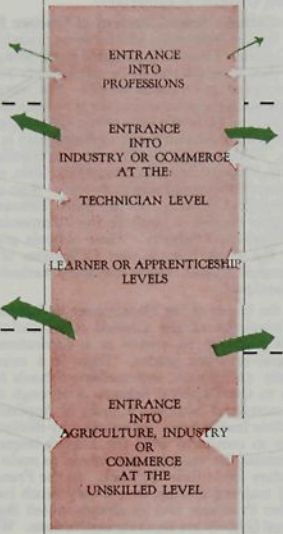
EDUCATIONAL LADDER FOR PUBLICLY CONTROLLED ENGLISH LANGUAGE PROVINCES



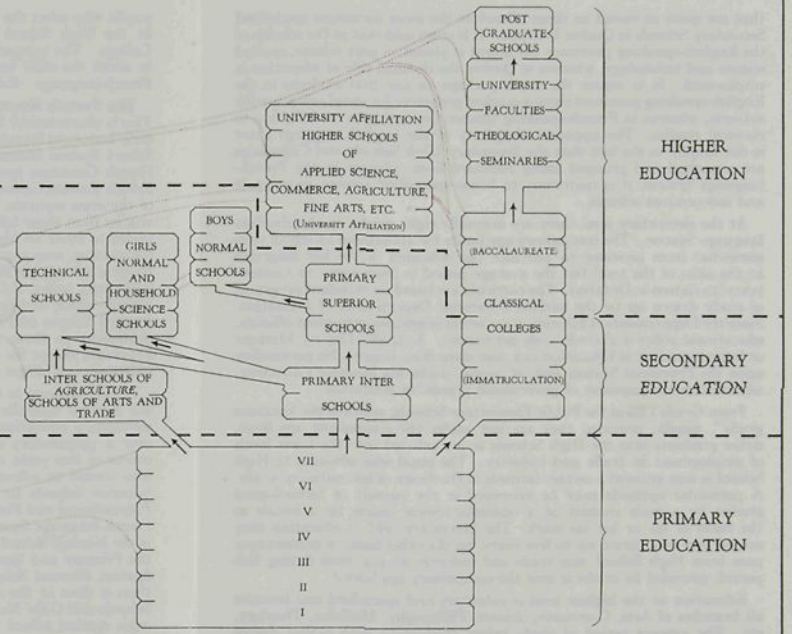
*Ontario has specially organized full-time and part-time advanced Technical and Polytechnical Institutes where pupils proceed usually from Grade XII to the higher technician level after a few years of special training.

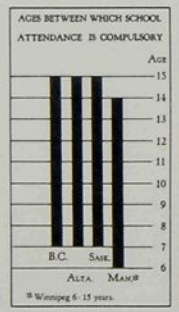
ENTRANCE INTO OCCUPATIONS

Note.— The approximate percentage flow of English and French language pupils, respectively, from the Educational Systems into or from occupations, is indicated by the thickness of the red and green arrows.



EDUCATIONAL LADDER FOR PUBLICLY CONTROLLED FRENCH LANGUAGE SYSTEM





*Winnipeg 6-15 years.

EDUCATION in Canada is assigned by the British North America Act to the Provincial Governments and two clearly defined systems have grown up: (1) the English-language Provincial System; and (2) the French-language System of Quebec Province.

The above charts are designed to illustrate these systems and indicate the stages of progress from the lowest grades of the public elementary schools to the highest university levels. Of course, it is a practical impossibility to show in chart form the differences that exist between the separate provincial systems. The aim has been to reduce these to a general pattern. The heavy dotted lines drawn horizontally across the charts indicate the Primary, Secondary, and Higher levels of education, respectively, and the red centre panel with directional arrows shows the stages at which occupational entrance normally takes place.

A significant development in education in all provinces is the growing popularity of evening classes for adults. A wide variety of subjects is offered, both cultural and practical, and the fees charged are merely nominal. Skilled instructors, in a wide variety of subjects, are engaged and generally speaking the classes are held at the institutions of Secondary education—Technical Schools, High Schools or Collegiates. This movement is shown in the charts by the return arrows (green) from the centre panel to the educational systems at Secondary School level.

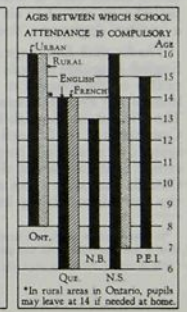
The English-Language System.—This is common to eight of the nine provincially organized areas and also to the English-language schools of Quebec Province. Each of these has established standardized Elementary, High School and University grades and a student can move from one Province to another with some degree of assurance that his or her studies can be continued without too severe a break. A recent development in city schools has been the establishment of Kindergartens preliminary to Grade I, these serve as an admirable introduction to work in the elementary public schools. Many of the English-language provinces have organized French-language schools to meet the needs of French-speaking sections of their population. For instance, in Ontario and New Brunswick there are both English and French schools established under the same broad system.

On paper, the chart of the English-language provinces seems much less complex at the Secondary level than that depicting the educational system of French-speaking Quebec. The contrast is actually not as marked as would appear: the two main types of High Schools* in the English-language provinces, viz., (a) the Academic and (b) the Technical and Commercial†, offer a variety of courses from which the student may select programs of study

(SEE OVER→

*The Composite High School, as the name indicates, attempts to provide varied courses of study under one roof where a student may select agriculture, arts, home economics or trade subjects, or a combination of these.

†In certain provinces graduates from Technical High Schools are permitted to enter Normal School for training as instructors.



*In rural areas in Ontario, pupils may leave at 14 if needed at home.

(CONTINUED FROM CHART)

that are quite as varied as those offered at the more numerous specialized Secondary Schools in Quebec Province. It is often said that in the schools of the English-speaking provinces the accent is placed on pure science, applied science and technology, whereas in Quebec the classical side of education is emphasized. It is nearer the truth perhaps to say that students in the English-speaking provinces show a marked preference for social and scientific subjects, whereas in French-speaking Quebec the preference is definitely to classical studies. The apparent simplicity of the English-language chart is due largely to the fact that the Secondary High Schools and Collegiates are organized and grouped along standard lines, whereas in the French-language System, it is customary to house specialized courses in separate and independent schools.

At the elementary level there are normally eight grades in the English-language System. The compulsory age limits for attendance at school vary somewhat from province to province (as indicated in the bar diagrams at the sides of the text) but the average period is from seven to fourteen years (to sixteen in Ontario). The curricula are based on standard programs of study drawn up by the various Provincial Departments of Education. Since the Departments of Education are administered by permanent officials, educational policy is also relatively permanent. A capable Deputy Minister or Superintendent of Education can, and often does, impress his personality upon the Provincial System and, of course, under his Minister's direction, administers the payment of government grants for education.

From Grade VIII of the Public Elementary Schools, which is the 'entrance grade'*, pupils, provided they are not under the compulsory age limit, either graduate into the High Schools or are enlisted into the lower levels of employment in trade and industry. The pupil who advances to High School is now granted a certain latitude in the choice of his courses of study. A particular aptitude may be expressed in the pursuit of technological studies by a male student or a domestic-science course by a female as the basis of his or her life work. The Secondary field of education may extend over any period up to five years: on the other hand, a student may pass from High School into trade and industry at any time during this period, provided he or she is over the compulsory age limit.†

Education at the highest level is voluntary and specialized and includes all branches of Arts, Commerce, Science, Philosophy, Medicine, Theology, etc. The average period of study before graduation with a first degree (B.A., B.Sc., etc.) is four years, although for Medicine or Theology this period may extend to six or seven years. Post-graduate courses leading to a 'master' degree or a 'doctorate' may take another three or four years.

The English-Language Schools of Quebec Province.—The Roman Catholic English-language schools are under the control of a Roman Catholic Committee of the Council of Education and the curricula follow the general lines of the French Roman Catholic System (see under following heading). The Protestant English-language schools are controlled by a Protestant Committee of the Council of Education. Here the curricula and the general system of education correspond closely to those in the other provinces, except that instead of distinctive High Schools, there are eleven grades. Outside the larger cities all the grades are included in the same building, the four highest being known as High School Grades. From Grade XI pupils who select the required subjects and obtain the necessary standing in the High School examinations are admitted to McGill or Bishop's College. The compulsory school age is six to the end of the school year in which the child becomes fourteen as in all Quebec schools—English- or French-language—Roman Catholic or Protestant.

The French Roman Catholic School System of Quebec Province.—This is characterized by unique differences which can be traced back to the early history of French Canada. These have persisted in the Roman Catholic School System because they have proved to be particularly suited to the French Canadian temperament and outlook on life. For instance, in the French Roman Catholic Schools the general practice is to keep the education of the sexes separate. From an early age boys follow different programs of studies than those laid down for girls although each program is sufficiently varied to cover all needs. Girls leaving the Primary Intermediate Schools, for instance, may enter the Primary Superior Schools for Girls, or the Girls' Normal Schools, or Regional Household Science Schools. Boys on the other hand may select the Technical Schools, or the Boys' Primary Superior Schools which lead to higher courses of study in the Commercial, Normal, Applied Science and Polytechnical Schools. These Schools give a course equivalent to those of the High Schools and Collegiates of the other Provinces, except for classical studies which are given exclusively in the independent *Collèges Classiques*.

Administration is in the hands of the Department of Education and of the Roman Catholic Committee of the Council of Education. General elementary education is provided by means of a curriculum extending over a preparatory course of seven grades. There is a complementary course of two years study at Primary Intermediate Schools for students who intend to advance to the Technical Schools or through the Primary Superior Schools to Commercial Studies, Schools of Applied Science or Polytechnical and Fine Arts Institutions. A noteworthy distinction in the French-language System as compared with the English-language System is the Normal School training for students who intend to make teaching in the Primary and Secondary fields their life work. In the French-language System, Normal School training extends over a very much longer period than it does in the other Provinces and as already noted Boys' Normal Schools and Girls' Normal Schools are separate institutions. Whereas girls enter normal school training from the Primary Intermediate Schools and take a four-year course, the boys commence normal school training after two years work in the Primary Superior Schools.

A special feature of the French-language System is the *Collèges Classiques*. These feature studies along old-established classical lines. Entrance to them may be gained directly from Grade VII of the Primary Schools and they offer eight years of specialized study. The first year is devoted to elementary classical work; the second to 'Syntax'; the third to 'Method'; the fourth to 'Versification'; the fifth to 'Belles Lettres'; the sixth to 'Rhetoric'; the seventh to Philosophy; and the eighth to Advanced Philosophy. The senior four-years work in the *Collèges Classiques* leads to a baccalaureate degree. In fact, these colleges provide the only channel of entry into university work for the traditional professions, although a boy from a Primary Superior School may proceed with Secondary education at certain recognized institutions to become an architect or engineer by completing a course at a university. The close affiliation of the *Collèges Classiques* with the Universities enables the prescribed course of study for a degree to be covered and the final university examinations to be taken from the colleges.

*In those Provinces which have Junior High Schools pupils usually enter after completing Grade VI and remain for three or four years after which they graduate to Senior High.

†Or in certain Provinces when the student has passed Grade VIII (whatever his age).

local stations, co-operates with the National Advisory Council on School Broadcasting and with Provincial Departments of Education in the production and arrangement of school programs suitable for broadcasting. (See also p. 336.)

One of the primary objectives of education is the production of good citizens and Departments of Education have kept this before them in the preparation of courses. The arrival of thousands of immigrants in this country has raised problems in post-school education and assimilation which Provincial Departments and local School Boards have taken special measures to meet, usually with the active co-operation of numerous voluntary agencies. Stimulation of national interest in citizenship training, and assistance in the production of booklets and in the exchange of information is given by a voluntary organization known as the Canadian Citizenship Council.

There has been increased interest in the study and improvement of curricula in general, in some cases shown by the appointment of a full-time Director of Curriculum or in others by the action of Curriculum Committees.

Educational Associations.—There are several associations for the promotion of various interests in the field of public education. Among them are the Canadian Education Association, the Canadian Teachers' Federation and the Canadian Federation of Home and School.

The Canadian Education Association is an interprovincial association of education authorities financially supported by the Departments of Education in the nine provinces of Canada, and Newfoundland. In addition to departmental support, an appreciable number of urban School Boards across Canada also make financial grants to the Canadian Education Association. The Association maintains an office and small staff to act as a clearing house for educational information and as a liaison office on matters of common interest. Two national research projects in education are being sponsored by the Canadian Education Association, one on school health, financed by the Canadian Life Insurance Officers' Association, and the other concerned with the practicality of present secondary-school education for those who do not go on to university training. The latter is financed jointly by industry, labour and retail business.

The Canadian Teachers' Federation established a national office at Ottawa with a full-time Secretary-Treasurer on Jan. 1, 1948. This has permitted better liaison between provincial teachers' federations or associations, and has enabled more emphasis to be placed on matters of general concern to teachers. An important objective is to obtain co-operation and co-ordination of all provincial teachers' organizations on policies and activities of common interest.

The Canadian Federation of Home and School has as its objective a closer liaison between the home and school, and regards the home and school as partners in the education of children. It co-ordinates and stimulates the work of the various provincial home and school federations.

On an international scale the *ad hoc* Canadian Council for Reconstruction through UNESCO, comprised of representatives of many national organizations, carried on a campaign in February, 1948, to aid in the educational, scientific and cultural reconstruction of Europe. The Canada-United States Committee on Education has published, through the C.E.A., a *Study of National History Text Books Used in the Schools of Canada and the United States*, which focuses attention on the existing lack of balance and objectivity in the texts used in the two countries. The Committee is undertaking a somewhat similar study on geography textbooks.

Section 2.—Schools, Colleges and Universities*

This Section summarizes the enrolment in all the educational institutions in Canada which include four types: provincially controlled schools, privately controlled schools, universities and colleges and Dominion Indian schools. The provincially controlled schools are the most important group and account for about 90 p.c. of the total enrolment shown in Table 1. A system of public elementary and secondary education, financed mainly by local school authorities but assisted by provincial grants, has developed in each province. There are private schools in all provinces (i.e., schools that are not conducted by publicly elected or publicly appointed boards and are not financed out of public money) but their enrolment is not large in comparison with that of the public schools. At the level of higher education, there is a provincial university in each of six provinces and one or more colleges supported out of provincial funds in the remaining three provinces. (Agricultural schools and colleges are dealt with at pp. 203-213 of the 1943-44 Year Book.)

* Revised, except where otherwise indicated, under the direction of J. E. Robbins, Director, Education Statistics Division, Dominion Bureau of Statistics.

1.—Enrolment in Educational Institutions, by Provinces, School Year 1945-46

Type of School	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
Provincially Controlled Schools—	No.	No.	No.	No.	No.
Ordinary and technical day schools	18,085	120,655	95,227	559,161	666,451
Evening schools	Nil	4,025	2,029	15,825	38,198
Correspondence schools	549	1,230	625	1,000	2,528
Special schools[1]	Nil	358	Nil	1,225	3,552
Normal schools	60	146	143	4,767	1,359
Privately Controlled Schools—					
Ordinary day schools	804	3,362	2,903	67,751	16,336
Business training schools	181	1,080	805	7,850	14,901
Universities and Colleges—					
Preparatory courses	608	554	904	19,102	4,920
Courses of university standard	299	4,109	2,847	20,334	35,080
Other courses at university[2]	18	2,280	212	13,686	11,183
Dominion Indian schools	28	533	357	1,548	4,426
Totals	**20,632**	**138,332**	**106,052**	**712,249**	**798,934**
Population, 1946 (estimated)	94,000	612,000	480,000	3,630,000	4,101,000

	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
Provincially Controlled Schools—	No.	No.	No.	No.	No.
Ordinary and technical day schools	121,272	173,559	155,455	131,538[3]	2,041,403
Evening schools	1,853	2,564	450	33,072	98,016
Correspondence schools	3,995	10,967	9,132	7,960	37,986
Special schools[1]	525	215	298	235	6,408
Normal schools	295	1,304	[4]	281	8,355
Privately Controlled Schools—					
Ordinary day schools	4,643	3,682	4,057	5,576	109,114
Business training schools	4,099	1,568	3,482	4,021	37,987
Universities and Colleges—					
Preparatory courses	1,099	938	747	Nil	28,872
Courses of university standard	6,354	8,165	4,844	9,779	91,811
Other courses at university[2]	9,479	2,082	776	55	34,771
Dominion Indian schools	2,650	2,652	1,987	4,624[5]	18,805
Totals	**151,264**	**207,696**	**181,228**	**197,141**	**2,513,528**
Population, 1946 (estimated)	727,000	833,000	803,000	1,027,000[6]	12,307,000

[1] Schools for the blind, deaf, or mentally defective. These are boarding schools and many of the pupils are from provinces other than the one in which they are at school. Based on estimates. [2] Includes also those in the departmental summer schools for teachers in British Columbia, not held at universities or colleges. [3] Includes 933 in ordinary day schools for Yukon and the Northwest Territories. [4] Included with "Universities and Colleges—Preparatory courses". [5] Includes 464 in Dominion Indian schools for Yukon and the Northwest Territories. [6] Includes 24,000 population for Yukon and the Northwest Territories.

Subsection 1.—Provincially Controlled Schools*

Enrolment and Attendance.—Enrolment in provincially controlled schools is given for the latest school year available in Table 1 and average daily attendance is shown in Table 2. The average daily attendance figures are more comparable, as between provinces, and probably more significant for most purposes than those of enrolment.

2.—Average Daily Attendance in Provincially Controlled Schools, by Provinces, School Years Ended 1937-46

NOTE.—Figures for years prior to 1911 will be found at pp. 839-840 of the 1932 Year Book, those from 1911-25 at p. 963 of the 1937 edition and for 1926-36 at p. 1028 of the 1946 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1937....	13,313	92,713	72,691	541,681	605,778	117,244	165,465	133,109	104,044	1,846,038
1938....	13,498	93,231	73,041	549,398	607,851	116,650	173,205	135,163	106,515	1,868,552
1939....	13,439	93,291	73,248	560,021	605,501	115,655	163,356	138,392	107,660	1,870,563
1940....	13,598	93,359	73,046	555,835	607,693	114,800	163,580	139,886	108,826	1,870,623
1941....	12,855	89,379	69,321	542,938	582,466	110,826	155,937	135,386	103,192	1,802,300
1942....	12,975	89,915	72,119	532,759	576,711	106,631	152,354	139,886	102,085	1,785,435
1943....	12,759	86,630	69,814	510,224	553,954	100,169	138,019	127,214	93,473	1,692,256
1944....	12,621	89,490	73,268	506,062	559,796	99,471	136,752	128,051	102,999	1,708,510
1945....	12,984	93,831	76,323	512,349	571,625	100,971	135,336	130,095	107,599	1,741,113
1946....	14,321	99,367	79,476	472,602[1]	590,801	104,666	138,267	133,162	114,590[2]	1,747,252

[1] Excludes independently controlled schools, which were included in previous years. [2] Subject to revision.

Grade Distribution.—A record of the grade distribution of pupils in the provincially controlled schools of all provinces is presented in Table 3. The grades of boys and girls are not shown separately.

3.—Grade Distribution of Pupils Enrolled in Provincially Controlled Schools, by Provinces, School Year 1945-46

Grade	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Kindergarten	Nil	Nil	Nil	2,464	24,661	Nil	Nil	Nil	Nil
Grade I	3,088	22,634	15,153	80,528	77,680	20,289	23,858	18,668	15,554
II	1,972	13,718	11,864	73,196	67,373	13,047	18,195	16,111	13,810
III	1,949	14,147	11,021	77,722	62,690	12,290	18,194	15,999	12,850
IV	2,084	12,975	10,790	75,459	60,893	11,847	17,324	15,722	12,091
V	1,899	12,473	10,056	68,783	63,104	11,935	17,550	15,234	11,841
VI	1,716	10,913	8,705	59,120	60,491	10,955	16,307	14,619	11,658
VII	1,503	9,744	7,562	43,796	56,911	10,702	15,252	14,018	11,228
VIII	1,472	8,045	6,789	25,048	58,142	9,303	14,323	12,906	10,833
IX	1,073	6,641	3,790	16,595	46,060	8,285	11,693	11,352	9,841
X	880	4,825	2,262	8,244	34,261	6,308	8,878	8,338	7,946
XI	95	3,396	1,529	4,665	20,986	4,682	7,030	6,378	5,747
XII	9	1,144	66	1,665	15,197	1,629	4,955	6,110	4,338
XIII	Nil	Nil	Nil	2,061	10,589	Nil	Nil	Nil	744
Unclassified	345	"	5,640	18,626	7,413	"	"	"	2,124
Totals	**18,085**	**120,655**	**95,227**	**557,972**	**666,451**	**121,272**	**173,559**	**155,455**	**130,605**

Teaching Staffs.—The teaching staffs of day schools under provincial control in Canada consisted, in 1946, of 50,344 teachers (38,660 males and 11,684 females). Table 4 gives statistics of rates of salary by provinces, except for Quebec for which

* Day and technical schools only.

comparable data are not available. A separate report, "Teachers' Salaries and Qualifications in Eight Provinces, 1946", deals in detail with the classification of teachers, their teaching experience and rates of salary paid.

4.—Teachers in Provincially Controlled Schools Classified According to Salary, by Provinces, School Year 1945-46

NOTE.—Comparable figures for Quebec are not available.

Salary	Prince Edward Island	Nova Scotia	New Brunswick	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
	No.	No.	No.	No.	No.	No.	No.	No.
Less than $525....	104	26	73	125	Nil	Nil	Nil	Nil
$ 525 -$1,024.....	484	2,007	1,729	1,844	833	712	448	38
1,025 - 1,524.....	64	960	591	10,778	1,957	5,069	2,871	1,827
1,525 - 2,024.....	11	450	263	3,661	577	820	1,178	1,198
2,025 - 2,524.....	5	155	77	3,052	290	180	528	729
2,525 - 3,024.....	Nil	65	37	1,283	142	100	160	302
3,025 - 3,524.....	"	37	5	945	62	104	113	273
3,525 - 4,024.....	"	3	Nil	604	24	15	10	56
4,025 or over.....	"	3	1	61	6	7	8	13
Unspecified.....	"	Nil	Nil	Nil	38	24	129	Nil
Totals.....	**668**	**3,706**	**2,776**	**22,353**	**3,929**	**7,031**	**5,445**	**4,436**

Financial Statistics.—Table 5 presents a comparable statement of the finances of the Boards operating provincial schools so far as this can be done with existing records.

5.—Financial Support of Provincially Controlled Schools, by Provinces, for Provincial Fiscal Years Ended 1939, 1945 and 1946

NOTE.—The receipts shown in this table do not include any amounts raised by loans or the sale of bonds or debentures, as all revenue of this nature must be repaid ultimately with money raised by local taxation. With the exception of the Maritime Provinces, for which the information is not available, the total net debenture indebtedness of the schools of each province is given annually, thus showing the net increase or decrease per year. Figures for 1914-25 will be found at pp. 985-987 of the 1936 Year Book and those for 1926-44 in the corresponding tables of subsequent editions.

Province and Year	Provincial Government Grants	Local Taxation	Other Sources	Total Current Revenue Recorded	Debenture Indebtedness[1]	Administrative Units Operating Schools
	$	$	$	$	$	$
Prince Edward Island—						
1939.....	274,323[2]	175,244	[3]	449,567	[3]	474
1945.....	318,460[2]	250,741	[3]	569,201	[3]	463
1946.....	349,422[2]	292,935	[3]	642,357	[3]	463
Nova Scotia—						
1939.....	718,546[2]	3,341,689[4]	[3]	4,060,235	[3]	1,775
1945.....	2,009,583[2]	4,009,024[4]	[3]	6,018,607	[3]	1,753
1946.....	2,447,414[2]	4,217,834[4]	[3]	6,665,248	[3]	1,738
New Brunswick—						
1939.....	534,315[2]	2,637,820[4]	[3]	3,172,135	4,659,650	1,553
1945.....	1,027,033[2]	3,124,416[4]	[3]	4,151,449	4,337,400	1,488
1946.....	1,233,286[2]	3,590,569[4]	[3]	4,823,855	4,203,500	[3]
Quebec—						
1939.....	2,386,965	19,716,324	1,572,832	23,676,121	68,043,977	1,905
1944.....	6,768,395	23,554,568	2,015,294	32,338,257	72,618,071	1,966
1946.....	[3]	[3]	[3]	[3]	[3]	[3]
Ontario—						
1939.....	7,015,225	41,638,332[4]	[3]	48,653,557	59,499,543	6,600
1945.....	26,621,749[5]	36,799,767[4]	1,896,515	65,318,031	41,997,096	5,649
1946.....	29,203,092[5]	37,652,809[4]	1,828,768	68,684,669	43,745,893	5,138

For footnotes, see end of table, p. 317.

5.—Financial Support of Provincially Controlled Schools, by Provinces, for Provincial Fiscal Years Ended 1939, 1945 and 1946—concluded

Province and Year	Provincial Government Grants	Local Taxation	Other Sources	Total Current Revenue Recorded	Debenture Indebtedness[1]	Administrative Units Operating Schools
	$	$	$	$	$	$
Manitoba—						
1939	1,172,783	6,850,783	139,756	8,163,322	8,045,764	1,889
1945	1,573,319	7,946,663	300,994	9,820,976	3,936,649	1,816
1946	1,482,380	8,477,203	550,763	10,510,346	3,699,614	1,815
Saskatchewan—						
1939	2,305,375	7,254,500	451,143	10,011,018	12,936,569	4,933
1945	3,191,011	10,780,060	217,054	14,188,125	7,228,414	4,489
1946	3,843,550	11,625,302	278,916	15,747,768	6,196,065	[3]
Alberta—						
1939	1,809,392	8,387,514	253,252	10,450,158	7,653,468	3,592
1945	3,042,302	10,856,052	329,637	14,227,991	5,838,853	2,595
1946	3,231,727	11,690,825	276,913	15,199,465	6,422,084	2,722
British Columbia—						
1939	2,722,702	7,009,070	[3]	9,731,772	14,379,553	721
1945	3,783,818	8,660,474	[3]	12,444,292	14,298,366	650
1946	4,076,212	9,053,420	[3]	13,129,632	[3]	86[6]

[1] The net figure, after deduction of sinking funds, is given for all provinces except British Columbia, for which the gross figure is given. [2] Includes contributions to teachers' salaries in the Maritime Provinces and, in New Brunswick, grants made to schools by the Vocational Education Board. [3] Not available. [4] Includes amounts raised by counties and, in Ontario, the township grants on salaries of rural public school teachers. [5] Day school grants only. An additional $86,000 was received for night classes. [6] In 1946 school districts were amalgamated into larger administrative units.

Subsection 2.—Private Schools

Private Elementary and Secondary Schools. — Enrolment in private elementary and secondary schools in the eight provinces, other than Quebec, has increased during the past ten years at about the same rate as the total population. In 1938 there were 34,109 pupils enrolled, 8,679 of whom were in residence, while in 1946, 41,363 were enrolled and 12,188 were in residence. Girls were slightly in the majority in 1938 but were about one-third above the enrolment of boys in 1946. In 1938 there were 2,018 teachers, 570 of whom were males and in 1946 there were 2,298 teachers of whom 632 were males and 441 were classed as part-time teachers.

The age of the school population in private schools does not follow the usual pyramid form found in the public schools. It increases regularly from age 6 to age 15 where it is two and a half times as great. Almost 10 p.c. drop out at 16, 25 p.c. of the remainder at 17, 40 p.c. the following year and for ages 19 or over the number is about equal to attendance at age 6. In the publicly controlled schools attendance is at its peak from 9 to 13, then falls rapidly. At age 15 it is considerably below that at age 7 while total enrolment from 16 up is less than at age 7.

The ratio of male to female teachers in private schools in 1946 was about one to three whereas in the the publicly controlled schools it was about one to four.

6.—Enrolment in Private Elementary and Secondary Schools, by Provinces, Specified School Years Ended 1921-46

NOTE.—Figures for intervening years will be found in the corresponding tables of the 1937, 1942 and 1946 Year Books.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1921	682	3,047	2,607	54,671	9,961	3,149	1,608	2,274	3,159	81,158
1926	580	2,956	3,528	54,767	10,126	4,534	2,358	2,281	4,624	85,754
1931	570	2,746	3,625	57,320	12,214	5,864	2,853	2,944	5,276	93,412
1940	576	2,719	2,707	53,561	13,515	4,632	2,037	3,739	4,911	88,397
1941	638	2,986	2,935	55,847	13,458	4,509	1,985	3,813	5,003	91,174
1944	803	3,452	3,631	60,803	14,967	4,659	2,545	3,767	5,757	100,384
1945	754	3,913	2,843	61,828	15,911	4,593	3,544	2,032	5,704	101,122
1946	804	3,362	2,903	[1]	16,336	4,643	3,682	4,057	5,576	[1]

[1] Not available.

Business Colleges.—Business colleges in 1938 (exclusive of Quebec) enrolled 18,576 pupils of whom 9,648 were full-time day students, 2,141 part-time day students, and 6,787 evening students. About one-third of the pupils were males. In 1946, enrolment numbered 30,137 including 14,271 full-time, 2,029 part-time, and 13,837 evening pupils. This increase is no more than should be expected considering the increase in population. In 1938, there were 441 teachers and in 1946, 642 teachers. The number of male teachers increased from 133 to 205 during the same period.

7.—Enrolment in Private Business and Commercial Schools (Business Colleges), by Provinces, Specified School Years Ended 1921-46

NOTE.—Figures for intervening years will be found in the corresponding tables of the 1937, 1942 and 1946 Year Books.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1921	85	1,280	740	4,319	14,537	3,538	1,333	2,216	1,986	30,034
1926	114	766	722	2,743	10,314	3,502	1,436	2,739	2,230	24,566
1931	140	775	671	2,807	9,732	3,087	1,400	1,629	2,180	22,421
1940	179	740	308	4,032	7,749	1,858	973	1,562	1,955	19,356
1941	168	1,019	329	3,707	9,119	1,782	1,431	2,145	2,010	21,710
1944	197	881	348	6,256	11,724	2,988	1,869	2,780	3,415	30,458
1945	104	684	816	6,957	11,141	3,532	1,200	2,726	2,906	30,066
1946	181	1,080	805	[1]	14,901	4,099	1,568	3,482	4,021	[1]

[1] Not available.

Subsection 3.—Higher Education

For every 100 pupils enrolled in grade one, there are roughly three in the first year of university. To provide for this small but important percentage of the population, Canada has some 18 universities and a number of other institutions of higher learning. In addition there are some 200 schools of college or junior college status, affiliated with or independent of the universities. About 100 of these institutions in 1944 had a complete degree course and some 19 offered post-graduate work in Arts and Pure Science.

The English-speaking universities are chiefly under-graduate schools although many have provided for the master's degree. Five, of which McGill and Toronto are the largest, accept candidates for the doctor of philosophy degree. Many French-speaking universities offer work for the "license" or master's degree and for various doctorates.

Apart from Arts and Science in 1944 there were some 34 junior colleges and classical schools of Roman Catholic Orders offering courses preparatory to Theology. Other professional schools include 9 colleges or faculties of Agriculture, 5 Architecture,

17 Applied Science and Engineering, 15 Commerce, 5 Dentistry, 13 Education, 4 Forestry, 13 Home Economics, 10 Law, 5 Library Science, 10 Medicine, 10 Music, 15 Nursing, 2 Optometry, 7 Pharmacy, 3 Physical Education, 4 Secretarial Science, 2 Therapy, 2 Veterinary Science and 58 Theology.

Teaching Personnel.—With the influx of ex-service students during 1945-47, the problem of staff became acute. One potential source of teaching personnel was the student veteran group enrolled for post-graduate training. Through co-operation with the Department of Veterans Affairs, a system of part-time teaching was developed for such students to the mutual advantage of university and veteran. The personnel reported for the school years ended in 1944, 1945 and 1946 was as follows:—

Academic Year	*Faculties of Arts and Sciences*		*Professional and Other Schools*	
	Full-time	*Part-time*	*Full-time*	*Part-time*
1943–44	2,026	489	1,983	2,031
1944–45	2,251	463	2,123	1,946
1945–46	2,466	1,010	2,645	2,440

Financial Status.—Including the grants made by the Federal Government for the training of student veterans, the resources of the universities were heavily taxed during 1945-47 to meet the necessary expansion of permanent buildings and teaching facilities. Considerable capital expenditure was necessary to overcome the effects of delayed expansion and building projects deferred during the War. The latest available statistics do not include all such expenditures.

Current expenditures increased more than $7,765,000 in 1945-46 over the previous year for the larger institutions. Colleges and universities responsible for 80 p.c. of the enrolment reported current expenditures amounting to $25,236,000. About 38 p.c. of this expenditure was covered by Government grants including Dominion and municipal contributions. Student fees represented 38 p.c. of the current income of $25,592,000 reported by the same group.

The value of land, buildings and equipment advanced about $5,173,000 over 1944-45 to a total of $102,627,000. Endowment and trust funds increased $4,811,000 to a high of $89,377,000. About 85 p.c. of this amount was centralized in the institutions of Ontario and Quebec.

8.—Statistics of Income and Capital Resources of Universities and Colleges, Specified School Years Ended 1921-46

NOTE.—The larger universities and many of the colleges in Canada are included and represent an enrolment of approximately 80 p.c. of the full-time students of university grade throughout the period. The institutions omitted are mainly those conducted by religious orders where teachers receive little or no salary and the financial returns consequently do not represent a comparable record.

Year	Current Income					Deficit[2]	Surplus[2]	Value of Capital Resources		
	From Endowment	Government Grants	Student Fees[1]	Miscellaneous	Total			Land, Buildings and Equipment	Endowment	Trust Funds
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
1921...	1,497	4,522	1,826	1,244	9,089	80	194	48,124	28,328	–
1926...	2,148	5,471	2,380	1,236	11,235	192	132	65,708	42,157	–
1931...	2,258	6,925	3,323	1,455	13,961	600	126	82,403	48,459	–
1941...	2,046	6,804	5,143	2,054	16,047	224	116	95,680	55,082	17,422[3]
1944...	2,323	7,712	5,488	2,730	18,253	48	163	97,006	58,478	22,661
1945...	2,469	8,305	5,701	2,677	19,153	114	192	97,454	60,403	24,163
1946...	2,420	9,721	9,733	3,718	25,592	77	447	102,627	60,384	28,993

[1] Board and lodging not included. [2] Combined deficits or surpluses of schools reporting.
[3] First year available.

University and College Graduates.—The following table shows the number of graduates from Canadian universities and colleges in recent years.

9.—Graduates from Canadian Universities and Colleges, School Years Ended 1939, 1945 and 1946

NOTE.—Figures for 1920-36 are given at pp. 993-997 of the 1938 Year Book and for 1937-44 in the corresponding table of subsequent editions.

Course	1939		1945		1946	
	Total	Women	Total	Women	Total	Women
	No.	No.	No.	No.	No.	No.
Graduates in Arts, Pure Science and Commerce—						
Bachelors of Arts[1]	3,354	1,119	3,045	1,251	3,829	1,441
Bachelors of Science (in Arts)	356	55	436	90	582	142
Bachelors of Commerce[2]	242	29	260	45	338	139
Totals	3,952	1,203	3,741	1,386	4,749	1,722
Graduates in Applied Science—						
Bachelors of Applied Science or Engineering	629	Nil	749	Nil	1,007	2
Bachelors of Architecture[3]	30	3	20	4	29	4
Bachelors of Forestry	21	Nil	26	Nil	40	Nil
Totals	680	3	795	4	1,076	6
Graduates in Agriculture, Veterinary Science and Household Science—						
Bachelors of Agricultural Science	258	3	168	10	202	10
Graduates in Veterinary Science	77	1	49	4	43	1
Bachelors of Household Science	194	194	160	160	187	187
Totals	529	198	377	174	432	198
Teachers' Diplomas and Graduates in Education and Social Service—						
Teachers' diplomas	485	[4]	301	[4]	499	[4]
Degrees in Education or Pedagogy	100	25	138	36	251	64
Librarians' degrees and diplomas	60	56	45	41	57	49
Physical Training degrees and diplomas	39	38	33	28	34	30
Social Service degrees and diplomas	62	58	89	82	74	66
Totals	746	177[5]	606	187[5]	915	209[5]
Graduates in Medicine and Related Studies—						
Medical Doctors	565	27	575	34	628	45
Dentists	111	2	172	3	77	1
Pharmacists	190	18	78	16	95	15
Degrees and diplomas in Nursing	204	204	405	405	457	457
Physio-therapy and Occupational Therapy	34	34	83	83	153	153
Totals	1,104	285	1,313	541	1,410	671
Graduates in Law and Theology—						
From Law Schools	264	10	121	8	161	12
From Roman Catholic Theological Colleges	348	Nil	305	Nil	319	Nil
From Protestant Theological Colleges	154	19	129	19	154	25
Post-Graduate and Honorary Degrees—						
Honorary Doctorates	102	9	114	4	134	6
Doctorates in Courses	80	7	89	11	104	12
Masters of Arts[6]	286	75	183	59	318	59
Masters of Science[7]	120	2	82	8	145	5
Bachelors of Divinity	42	Nil	40	Nil	51	Nil
Licentiates (except in Theology)	133	10	213	22	299	18
Other post-graduate degrees and diplomas[8]	85	7	259	114	579	252
Totals	848	110	980	218	1,630	352

For footnotes, see end of table, p. 321.

9.—Graduates from Canadian Universities and Colleges, School Years Ended 1939, 1945 and 1946—concluded

Course	1939		1945		1946	
	Total	Women	Total	Women	Total	Women
	No.	No.	No.	No.	No.	No.
Estimates of students receiving first degrees	6,882	1,689	6,562	1,824	8,249	2,257
Deductions for duplication	567	13	509	21	591	27
Net Totals	**6,315**	**1,676**	**6,053**	**1,803**	**7,658**	**2,230**

[1] Includes Bachelors of Letters and of Social Science. [2] Includes Bachelors of Accountancy and Secretarial Science. [3] Includes diplomas in architecture from the Schools of Fine Arts of Montreal and Quebec. [4] Not available. [5] Excludes teachers' diplomas. [6] Includes M. Com. and M. Ed. or M. Paed. [7] Includes M.A. Sc., M.S.A., M.Sc.F., M. Arch., M.V. Sc., M. Sc. Dent., M. Surgery (where conferred separately). [8] Except diplomas for teachers and theologians.

University Training under the Veterans Rehabilitation Act.*—The Veterans Rehabilitation Act provides for the payment of tuition and other fees as well as an allowance of $60 per month with extra allowances for dependents for each veteran commencing a regular university course, or course in preparation for university entrance, within fifteen months after discharge. The allowances are paid only while the student is actually at college and are continued, if needed, for as many months as his active service, provided that he makes satisfactory progress. If he fails in a year's work, assistance from the Department is discontinued. A veteran who has failed a year may be reinstated on allowances provided he completes the failed year, or an equivalent year in another course, at his own expense and provided he has shown to the satisfaction of the university concerned promise of successful completion of the course. If a veteran is of scholarship calibre allowances may be continued on a year-to-year basis beyond his period of entitlement, and an outstanding or exceptionally able student may be assisted in post-graduate study when such is in the public interest.

On the recommendation of the Advisory Committee on University Training for Veterans (P.C. 3206, May 3, 1945) legislation was introduced to assist Canadian universities financially in their efforts to provide adequate facilities for qualified veterans. In addition to the regular tuition and other fees the Department of Veterans Affairs was authorized to pay a grant to a university not to exceed $150 per veteran. The payment of an additional grant was authorized (P.C. 1235, Apr. 1, 1947) for the period July 1, 1946, to June 30, 1947, in accordance with a formula based on the university's statement of current revenue and expenditure.

Authority was also granted (P.C. 4061, Oct. 1, 1946) to the Department to provide any university in Canada with moneys for the purpose of making small loans to meet emergency conditions among veterans being paid allowances pursuant to Sects. 8 and 9 of the Veterans' Rehabilitation Act. Up to Nov. 1, 1947, 373 applications for student veterans' loans amounting to $102,863 had been approved.

At least 40 p.c. of the veterans wishing to enter university either lacked certain entrance requirements or needed refresher courses. Through the facilities of Canadian Vocational Training, tutorial classes and facilities for approximately 24,000 veterans were organized to meet the needs of such veterans. By the commencement of the 1947-48 academic year all veterans requiring pre-university

* Revised by the Department of Veterans Affairs, Ottawa.

training had completed that training with the exception of 500 who, by reason of illness, late discharge from the Armed Forces, or other good reason, had not been able to commence their training at an earlier date.

The provision of classroom and living accommodation in universities presented a major problem which could be solved only on an emergency basis. At least 25 p.c. of the veterans were married and about 19 p.c. of the unmarried students were living at home. To meet the emergency, a Committee on University Requirements was set up (P.C. 7129, Dec. 4, 1945) and, through the co-operation of the Department of National Defence, the Department of Public Works and War Assets Corporation, temporary facilities were made available to the universities.

Provision was made (P.C. 4161, Aug. 7, 1945) for certain Service personnel discharged overseas to resume or commence special studies, usually at the graduate level, in overseas institutions prior to return to Canada.

To shorten the delay between the date of discharge and that of admission to university, the larger institutions adopted a system of staggered admission dates during the year. In addition to the annual opening date and the summer-school terms, special courses were begun in mid-term, usually January and May, for first- and second-year courses in Arts and Science where the greatest bottleneck was experienced. Three continuous sessions during the year made it possible for some students to shorten the time required to obtain a degree by as much as six months or a year. As the peak of enrolment passed, this system, except in a few cases, was discontinued. It was recognized that the strain on teaching staffs and students alike was too great.

Up to Dec. 31, 1947, some 52,609 primary grants had been made to veterans to enable them to receive university or pre-university training. Approvals for such grants, by provinces, were as follows: Prince Edward Island, 204; Nova Scotia, 2,249; New Brunswick, 1,657; Quebec, 6,635; Ontario, 20,435; Manitoba, 4,597; Saskatchewan, 4,291; Alberta, 3,997; British Columbia, 7,129; and Head Office (training outside Canada), 1,415.

A survey was prepared in mid-November, 1947, to determine the status of veterans who registered in universities at the beginning of the 1947-48 academic year, the results of which are given in Table **10**.

10.—Ex-Service Personnel Receiving Government Assistance in University Training, by University or College and Year of Study, Academic Year 1947-48

Province and University or College	First Year	Second Year	Third Year	Fourth and Subsequent Years	Post-Graduate	Total
	No.	No.	No.	No.	No.	No.
Prince Edward Island—						
Prince of Wales College	27	26	Nil	Nil	Nil	53
St. Dunstan's University	7	10	5	1	"	23
Nova Scotia—						
Acadia University	77	145	76	23	Nil	321
Collège Ste-Anne	2	Nil	1	2	"	5
Dalhousie University and University of King's College	243	273	191	47	8	762
Nova Scotia Agricultural College	26	24	Nil	Nil	Nil	50
Nova Scotia Technical College	[1]	[1]	[1]	[1]	[1]	59
St. Francis Xavier University	88	117	61	9	Nil	275
St. Mary's College	3	4	4	2	"	13

[1] Breakdown of total not available.

10.—Ex-Service Personnel Receiving Government Assistance in University Training, by University or College and Year of Study, Academic Year 1947-48—concluded

Province and University or College	First Year	Second Year	Third Year	Fourth and Subsequent Years	Post-Graduate	Total
	No.	No.	No.	No.	No.	No.
New Brunswick—						
Collège du Sacré-Coeur	1	Nil	Nil	Nil	Nil	1
Mount Allison University	73	100	75	22	"	270
St. Thomas College	1	6	2	Nil	"	9
Université Saint-Joseph	1	6	3	1	"	11
University of New Brunswick	98	323	274	44	2	741
Quebec—						
Bishops' University	7	19	20	2	Nil	48
Loyola College	4	16	10	Nil	"	30
McGill University	682	1,024	920	528	290	3,444
Sir George Williams College	40	122	49	26	Nil	237
Université de Montréal	21	107	38	7	17	190
Université Laval	101	73	36	7	19	236
Ontario—						
Assumption College	28	47	40	4	1	120
Carleton College	47	118	89	11	Nil	265
College of Optometry of Canada	96	83	64	Nil	"	243
McMaster University	131	114	108	6	1	360
Ontario Agricultural College	64	149	169	43	9	434
Ontario College of Art	212	142	102	23	Nil	479
Ontario College of Education	105	15	Nil	Nil	"	120
Ontario Veterinary College	115	119	87	14	"	335
Osgoode Hall Law School	209	193	173	Nil	"	575
Queen's University	346	513	439	261	49	1,608
St. Patrick's College	1	16	17	25	Nil	59
Université d'Ottawa	15	30	19	17	"	81
University of Toronto	1,807	2,487	1,904	374	286	6,858
University of Western Ontario	220	302	288	91	36	937
Waterloo College	16	19	11	7	Nil	53
Manitoba—						
University of Manitoba (and affiliated colleges)	424	783	637	331	28	2,203
Saskatchewan—						
Regina College and Lutheran College Seminary	47	1	Nil	Nil	Nil	48
University of Saskatchewan	380	769	819	201	18	2,187
Alberta—						
Mount Royal College	9	9	Nil	Nil	Nil	18
University of Alberta	563	893	654	120	44	2,274
University of Alberta (Calgary Branch)	32	24	8	Nil	5	69
British Columbia—						
University of British Columbia	925	1,409	1,160	554	65	4,113
Victoria College	43	66	Nil	Nil	Nil	109
Totals	**7,337**	**10,696**	**8,553**	**2,803**	**878**	**30,326**
Training in United States	–	–	–	–	800	1,112
Training overseas	–	–	–	–	200	224
Final pre-matriculation classes	–	–	–	–	–	500
Grand Total	–	–	–	–	–	**32,162**

Subsection 4.—Dominion Indian Schools*

The administration of Indian affairs by the Indian Affairs Branch of the Department of Mines and Resources is dealt with in Chapter XXX.

Educational work carried on by the Federal Government for the benefit of Indians is now very extensive. In the year ended Mar. 31, 1947, a total of 347 Indian schools were in operation, including 76 residential schools for Indians with an

* Revised by the Indian Affairs Branch, Department of Mines and Resources, Ottawa.

enrolment of 9,304 and 265 day schools for Indians with an enrolment of 10,181 Indian pupils, also 6 combined public and Indian schools with 137 Indian pupils enrolled. The total enrolment of Indian pupils at school increased from 12,799 in 1915-16 to 19,622 in 1946-47; average attendance fluctuated during the period between 62·7 and 82·4 p.c. of enrolment. Continuation and high-school work is taught in several of the day and residential schools. The amount spent on Indian education in the school year 1946-47 was $2,538,721.

11.—Enrolment and Average Attendance at Indian Schools, School Years Ended 1938-47

NOTE.—Figures for the years 1916-29 will be found at p. 1063 of the 1940 Year Book, and for 1930-37 at p. 929 of the 1942 edition.

Year	Residential Schools		Day Schools[1]		All Schools		
	Enrolment	Average Attendance	Enrolment	Average Attendance	Enrolment	Attendance	
						No.	P.C. of Enrolment
	No.	No.	No.	No.	No.		
1938	9,233	8,121	9,510	5,978	18,743	14,099	75·2
1939	9,179	8,276	9,573	6,232	18,752	14,508	77·4
1940	9,027	8,643	9,369	6,417	18,396	15,060	81·9
1941	8,774	8,243	8,651	6,110	17,425	14,353	82·4
1942	8,840	8,283	8,441	5,837	17,281	14,120	81·7
1943	8,830	8,046	8,046	5,395	16,876	13,441	79·6
1944	8,729	7,902	7,858	5,355	16,587	13,257	79·9
1945	8,865	8,006	7,573	5,159	16,438	13,165	80·1
1946	9,149	8,264	9,656	6,779	18,805	15,043	80·0
1947	9,304	8,192	10,318	7,449	19,622	15,641	79·7

[1]Includes enrolment and attendance of Indians in combined public and Indian schools.

The enrolment by provinces for the year 1946-47 was as follows: Prince Edward Island, 28; Nova Scotia, 575; New Brunswick, 373; Quebec, 1,648; Ontario, 4,719; Manitoba, 2,742; Saskatchewan, 2,742; Alberta, 2,218; British Columbia, 4,119; Yukon, 200; and the Northwest Territories, 258.

Subsection 5.—Education in the Northwest Territories

The education of the white, native and half-breed children in the Mackenzie District is carried on largely at residential and day schools operated under the supervision of the Federal Government by missions of the Church of England in Canada and the Roman Catholic Church. Located in the principal settlements, these schools were constructed by or with the assistance of the Federal Government, and their maintenance is assisted by annual grants from the same source. In addition, the Northwest Territories Administration furnishes liberal amounts of school supplies and equipment. Residential schools are operated by the Church of England mission at Aklavik, and by the Roman Catholic missions at Fort Resolution, Fort Providence and Aklavik. Day schools are located at Port Brabant, Fort Norman, Port Radium, Fort Smith and Fort Simpson.

A fine modern public and high school building has been completed recently at Yellowknife, and is designed to serve as a school of opportunity for children residing at other settlements in the Territories. The Yellowknife school is the

only one in the Territories maintained chiefly by local taxation and administered by a local school board. A non-denominational school at Fort Smith is maintained by fees and grants. In addition, a day school for Indian children is operated at Fort McPherson by the Indian Affairs Branch of the Department of Mines and Resources.

Public and high school students in remote areas of the Territories have access to correspondence study courses issued by the Alberta provincial educational authorities, and costs in this connection are borne by the Administration.

Eskimo children in the Eastern Arctic are given some education at mission day schools. Because of their nomadic tendency, however, Eskimo seldom remain very long at the settlements and the periods available to the missions for teaching the children are therefore comparatively short. Eskimo children along the Western Arctic Coast and in the Mackenzie Delta attend the mission residential schools at Aklavik. The Eskimo of the Eastern Arctic have mastered a system of syllabic writing (geometric characters similar to a type of shorthand), which most of them can now read and write proficiently. Advantage of this has been taken to provide educational material in the Eskimo language for the benefit both of children and adults, giving advice on health matters, hygiene and native economics. It is planned to provide a measure of teaching service in connection with government nursing stations which are to be established in Eskimo territory in the near future.

Educational matters come under the jurisdiction of the Northwest Territories Council and, on its recommendation, an Inspector of Schools was appointed in 1946. As a result of subsequent inspections made throughout the Mackenzie District, the administration of education in the Territories is being reorganized and new facilities made available. Among the improvements inaugurated recently are an extensive circuit for the regular distribution of educational films and the institution of special school radio programs broadcast to the classrooms. Present plans include the provision of additional equipment and supplies, increased attention to methods of instruction, and the establishment of new day schools in areas where facilities for educational instruction are not as yet available.

PART II.—OTHER EDUCATIONAL ACTIVITIES

Section 1.—The Relationship of Art to Education*

Fine Art.—Fine art appears as an elective subject in the curricula of the Faculties of Arts in a number of universities, where it may be taken as one subject among five for a year or two. In some, e.g., Acadia University, N.S., there are half a dozen or more elective courses. In Mount Allison University, N.B., and in the University of Saskatchewan, there is a sufficient number of courses to allow the taking of a Bachelor degree with specialization in fine art. At the University of Toronto, Ont., an Honour B.A. in Art and Archæology is offered as well as graduate work in this field. McGill University, Que., opened a Department of Fine Arts in 1947-48.

* Revised under the direction of H. O. McCurry, Director, National Gallery of Canada, Ottawa.

There are also Schools of Art, both English and French, not requiring any fixed academic standing for admission, which concern themselves more exclusively with the technical development of the artist. The most widely known of these are:—

Nova Scotia College of Art, Halifax, N.S.
Ecole des Beaux-Arts, Quebec, Que.
Ecole des Beaux-Arts, Montreal, Que.
School of Art and Design, Art Association of Montreal, Montreal, Que.
Ontario College of Art, Toronto, Ont.
Winnipeg School of Art, Winnipeg, Man.
Provincial Institute of Technology and Art, affiliated with the University of Alberta, Calgary, Alta. (Summer session at Banff, Alta.)
Vancouver School of Art, Vancouver, B.C.

Courses in these schools vary in length with the requirements of the individual student, but may extend over as many as four years.

Public art galleries and museums in the principal cities perform valuable educational services among adults and children. Children's Saturday classes, conducted tours for school pupils and adults, radio talks, lectures and often concerts are features of the programs of the various galleries. In many cases these institutions supply their surrounding areas with travelling exhibitions, while the National Gallery of Canada carries on a nation-wide program of this nature (see pp. 327-328).

The principal art galleries and museums* are:—

New Brunswick Museum, Saint John, N.B.
Museum of the Province of Quebec, Quebec, Que.
Art Association of Montreal and Museum of Fine Art, Montreal, Que.
National Gallery of Canada, Ottawa, Ont.
National Museum of Canada, Ottawa, Ont.
London Public Library and Art Museum, London, Ont.
Art Gallery of Toronto, Toronto, Ont.
Royal Ontario Museum, Toronto, Ont.
Willistead Library and Art Gallery, Windsor, Ont.
Winnipeg Art Gallery, Winnipeg, Man.
Saskatoon Art Centre, Saskatoon, Sask.
Edmonton Museum of Arts, Edmonton, Alta.
Vancouver Art Gallery, Vancouver, B.C.

Creative Arts.—A development of special interest in the field of the creative arts was the establishment, in December, 1945, of the Canadian Arts Council. The Council grew out of the united action taken by its constituent associations in the spring of 1944, when they presented an integrated series of briefs to the Special Committee of the House of Commons on Reconstruction and Re-establishment. These briefs looked forward to a post-war society in which the arts would be "more widely distributed and more closely integrated with the life of our people". The Council has accordingly taken a very active interest in the development of the Community Centre idea.

The basic situation claimed by the Council is that "in Canada there are millions who have never seen an original work of art, nor attended a symphony concert or a professionally produced play, while in our largest cities thousands of professional creative artists enjoy a field so limited that they are forced into activities unsuited to their talents". Chief among the proposals for remedying the situation is the establishment of "a government body to promote a national cultural program and provide music, drama, art, and film services for all our people". Other proposals have in view the improvement of industrial design, and housing and town planning.

* A complete list of Canadian art museums, societies and schools is included in the *American Art Annual* (New York, 1948).

To list the names of the 16 bodies constituting the Council is to give some indication of the range of professional organization in the field of the arts in Canada:—

The Royal Canadian Academy of Arts
The Royal Architectural Institute of Canada
The Sculptors' Society of Canada
The Canadian Society of Painters in Water Colour
The Canadian Society of Painter-Etchers and Engravers
The Canadian Group of Painters
The Canadian Society of Graphic Arts
The Federation of Canadian Artists
The Canadian Authors' Association
La Société des Ecrivains Canadiens
The Music Committee
The Canadian Society of Landscape Architects and Townplanners
The Dominion Drama Festival
The Canadian Handicrafts Guild
The Canadian Guild of Potters
The Arts and Letters Club.

The Role of the National Gallery of Canada.—Founded in 1880 by the Marquis of Lorne, the National Gallery at first served as an exhibition gallery. Provided with an Advisory Arts Council in 1907 and incorporated under a Board of Trustees in 1913, it has assembled its permanent collection largely during the past 40 years. This collection of pictures and sculpture representing the styles of past and present of various parts of the world was assembled for public enjoyment, study and the improvement of arts and industrial products and as the necessary basis for any program of art education. The collection of the National Gallery to-day is of international repute and is accessible to the whole country by means of catalogues, photographs and colour reproductions and to a limited extent by loans. The Canadian section, naturally the most inclusive, is the best available source for the study of Canadian art.

In 1946, the Massey Collection of English Painting was presented by the Right Honourable Vincent Massey, C.H., and Mrs. Massey as trustees of the Massey Foundation. Comprising 75 pictures, the collection makes the National Gallery a leading centre for the study of modern British art, and is the largest gift in the history of the Gallery. Among other recent acquisitions and gifts are paintings by Daumier, Courbet, Whistler, Monet, Pissarro, Cézanne and Gauguin. In 1947 the National Gallery was given charge of the collection of over 4,000 works by Canadian war artists during the Second World War.

The National Gallery carries out a program of extension work throughout Canada. Travelling exhibitions of the art of Canada and other countries are shipped throughout the country under the auspices of the National Gallery. About twenty such exhibitions, including those of the several chartered art societies, are circulated annually. Art galleries and other responsible organizations in various regions draw annually upon the services of the Gallery as the source of most of their offerings to the public. Recent developments have led to the fitting of new community centres into this scheme, and these in turn send exhibits (their own and those from the National Gallery) to smaller communities in their districts. An instance is at London, Ont., where the regional circuit includes Kitchener, St. Thomas, Ingersoll, Chatham and other centres. Loans of pictures from the National Gallery to small or new museums have had much the same beneficial effect as the travelling exhibitions. In these ways actual works of art are constantly being

brought to the attention of the people throughout the entire country and much more may be done if an integrated system of community centres throughout the Dominion develops.

As the latest development in its general educational work the National Gallery in 1946 made a survey of Canadian industrial design and held exhibitions in various cities. A Design Index was established in 1948 as the result of the interest aroused in bringing the design of Canadian goods up to the best international standards and in fostering distinctive Canadian designs.

Other methods of education in the arts apply more specifically to young people and are designed, in part, to supplement regular school work. Thus the Gallery provides material such as written lectures illustrated by lantern slides on all aspects of art history, reproductions of paintings with introductory texts for art appreciation, school broadcasts, classes for school children at the Gallery, exhibitions of children's work, conducted tours of the Gallery's collections and educational demonstrations, public lectures at Ottawa, and lecture tours throughout Canada.

The National Gallery also lends art films including the colour and sound film, *Canadian Landscape*, made in conjunction with the National Film Board and featuring the work of modern Canadian artists against a historical background of landscape painting in Canada since Krieghoff. The silk screen prints by Canadian artists, already famous in many parts of the world as the result of their distribution during the War, are available to schools and the public generally. These and other reproductions are listed in the Gallery's publication, *Reproductions on Sale and Loan Collections*. The magazine *Canadian Art*, in the organization of which the National Gallery took a leading part, is an important channel of information.

Museums and Art Galleries.—At pp. 1025-1026 of the 1939 Year Book a list of the museums (including art galleries) in Canada employing full-time staff is published, showing floor space and average daily attendance of each. There has been no official detailed report published by the Dominion Bureau of Statistics on this subject since 1938.

In 1947 the Canadian Museums Association was formed with the object of aiding in the improvement of the services of museums as educational institutions by promoting co-operation between them, by exchanges with other countries, and by the training and securing of expert staffs.

Section 2.—Scientific and Industrial Research in Canada*

Subsection 1.—Research Facilities

The field of scientific research in Canada is too broad to be covered in detail in each edition of the Year Book but, since the National Research Council is the central national organization for research, a description of the development and work of the Council is given in Subsection 2.

Research work is carried on by the Departments of Agriculture, Mines and Resources, Fisheries, the Board of Grain Commissioners and the Dominion Observatories. These bodies have trained permanent scientific staffs for investigation and research in their own fields such as soil problems, crops, breeding and testing of animals, processing and marketing, extractive and physical metallurgy, sylvicultural and forest products, hydrography, ocean and mollusk fisheries, etc.

* Revised under the direction of C. J. Mackenzie, President, National Research Council, Ottawa.

The Board of Grain Commissioners employs a staff of seven chemists and 21 assistants in the main research laboratories for milling, baking, malting, etc., while the Dominion Observatories carry out research in the fields of solar physics, astrophysics, seismology, terrestrial magnetism, gravity and other studies.

Universities often show bold initiative in exploring the field of scientific research but with the limited facilities at their disposal the task of carrying their discoveries to a conclusion is not always easy. Government and industrial laboratories are often able to pick up and carry on where the universities leave off.

A number of Research Foundations have their own special fields of research. The Ontario Research Foundation at Toronto, Ont., established in 1928, is an independent non-profit-seeking scientific organization available to the public and to industry for assistance in matters of a technological character.

The Banting Research Foundation supports the work of the Banting and Best Chair of Medical Research in the University of Toronto and aids medical research throughout Canada.

The Rockefeller Foundation assists various agencies in Canada in the furtherance of scientific research in medical science, natural science, social science and public health.

A detailed account of scientific and industrial research in Canada is given at pp. 970-1012 of the 1940 Year Book. This has been revised to cover developments to 1947 and is available in reprint form from the Dominion Statistician.

Subsection 2.—The National Research Council

Historical.—Organized research on a national basis in Canada dates from 1916 when, at the suggestion of the Government of Great Britain, the Canadian Government established the "Honorary Advisory Council for Scientific and Industrial Researches" under a Committee of the Privy Council. Fifteen members were thus brought together primarily in order that the ingenuity and skill of Canadian scientists in all branches might be brought to bear on the solution of the many urgent problems confronting the Government of that day in the prosecution of the First World War. A secondary purpose was to promote research on peacetime problems of national interest. A survey, made in 1917, showed that industrial research in Canada was practically non-existent and that the supply of men, with such post-graduate training as to enable them to undertake independent investigations, was entirely inadequate to permit of any general application of scientific research to Canadian industrial problems.

Provision was therefore made for the planning and integration of research work and the organization of co-operative investigations; the post-graduate training of research workers; and the prosecution of research through grants-in-aid to university professors. This was the basis of the Council's work from 1916 to 1924.

The Council early recommended the establishment of national laboratories and a Special Committee of Parliament, appointed to study this recommendation, endorsed the proposal after having heard the opinions of many experts. Financial difficulties intervened, but in 1924 public opinion made it possible to have the Research Council Act passed by Parliament. Temporary laboratories were secured and research on the utilization of magnesian limestones for refractories was carried out so successfully that a wartime industry, established during the First

World War, was re-established on a large scale, and has become an important producer of materials that have found world-wide markets. As a result, in 1929-30, the Government provided funds for new laboratories.

Establishment of Laboratories.—The National Research Building on Sussex Street, Ottawa, was commenced in February, 1930, and was opened at the time of the Imperial Conference in 1932. Laboratory divisions were established in applied biology, chemistry, physics, and electrical engineering, and there was a division of research information. In April, 1936, the division of physics and electrical engineering was reorganized and mechanical engineering was established as a separate division. The work of this division continued in temporary laboratories but these quarters soon became inadequate.

Early in 1939 a site of 85 acres, adjacent to the Ottawa Air Station, was secured and 45 acres adjoining this site were transferred to the Council by the Department of National Defence. Plans for the construction of new buildings on this site were made but, as the inevitability of war became more apparent, it was decided to proceed immediately with the construction of only such structures as would have a direct wartime use in dealing with aeronautical engineering problems. Construction of the aerodynamics building was started on Oct. 17, 1939, and later several other buildings were erected. These included the shops and separate laboratories for research on engines, gas and oil, hydraulics, explosives and structures. Wood-working and metal-working shops were also provided. Since then these facilities have been enlarged and extended. New buildings have been provided for engineering and for low-temperature studies.

A résumé of the wartime activities of the National Research Council will be found at pp. 301-302 of the 1947 edition of the Year Book.

Recent Activities.—Three new divisions and several new sections of the National Research Laboratories have been recently established; radar and other kinds of war equipment are being adapted to commercial use; hundreds of investigations are in progress; and the Council is actively engaged in the promotion and correlation of scientific research in all parts of the Dominion.

An Atomic Energy Research Division has been established at Chalk River, Ont., to investigate the applications of atomic energy and the use of its products in industry and medicine. A Division of Medical Research has been organized to stimulate and support investigations in this broad field of human interest. A Building Research Division has been set up to study practical problems relating to construction materials and their use. Work is progressing on the building of a Prairie Regional Laboratory at Saskatoon, Sask., for studies on the better utilization of agricultural surpluses, notably wheat, and farm waste products such as straw. A Maritime Regional Laboratory has been authorized and is soon to be constructed at Halifax, N.S. An Electrical Engineering and Radio Branch has been created to co-ordinate and direct work in this growing field. The activities of the Chemistry Division have been regrouped into two new branches: (1) Fundamental Chemistry, and (2) Chemical Engineering. A Flight Research Section has been established at Arnprior, Ont., in co-operation with the Royal Canadian Air Force. A new section of the Mechanical Engineering Division has been formed to deal with problems in gas dynamics, including work on gas turbines and jet propulsion.

Atomic Energy Research.—In June, 1946, the Dominion Parliament passed the Atomic Energy Control Act. This Act provides means for the development of atomic energy and for the control of work in this field as may be required in the interest of public safety and in the fulfilment of international obligations. A Board of five members was set up to act under the general direction of, and to report to the Chairman of the Committee of the Privy Council on Scientific and Industrial Research. The President of the National Research Council is ex officio a member of the Atomic Energy Control Board; other members are appointed by the Governor in Council and hold office during pleasure.

The engineering, construction and operation of the vast plant and townsite at Chalk River, Ont., were carried out by Defence Industries Limited, under contract with the Department of Reconstruction and Supply. As the project developed, both Defence Industries Limited and the Government authorities came to the conclusion that, as the undertaking was really a pilot plant which must be closely integrated with the research laboratories, it would be better if one Government organization were to assume the operating responsibilities of both the research laboratories and the industrial establishments. On consideration of this problem, the Atomic Energy Control Board at its first meeting recommended that the National Research Council be asked to undertake the integration of the various projects and their operation on behalf of and in accordance with the policy of the Atomic Energy Control Board. This was agreed to and on Feb. 1, 1947, the Council took over responsibility for the administration and operation of the entire atomic energy development at Chalk River, and will carry on these activities in accordance with broad general policies fixed from time to time by the Atomic Energy Control Board.

Building Research.—For several years the National Research Council has been engaged in various research projects that have had for their object the improvement of building materials or the betterment of housing construction. Intensive work was initiated some years ago on the requirements for structures and the National Building Code was subsequently published. This is a document designed for use as a model in the drafting of municipal building by-laws. A model zoning by-law was also prepared. Both of these publications have been used extensively as reference works by Canadian municipalities. In 1947 a "Building Code for Smaller Municipalities" was issued that has proved very useful as a residential building code.

The new Division of Building Research provides for the integration of work in this important field and serves as an advisory body to the Central Mortgage and Housing Corporation in all technical activities. Information on building techniques is being assembled as a matter of public service and research projects will be carried out across Canada whenever possible in conjunction with existing research agencies and universities.

Food Research.—In food chemistry much of interest to industry has been done. Work is continuing on refrigerated storage of meats, on processing of liquid and dried eggs, and on dairy products. It has also been found that the baking properties of sugar-egg powders improve as the nozzle size is reduced within practical limits. Considerable progress has been made on the German Fritz continuous butter machine with a view to its adaptation to Canadian requirements. Dried whey has been tested as a component in sponge cakes.

New freezing mixtures have been assessed for use in railway refrigerator cars. Two test shipments of frozen fish, sent from Vancouver to Eastern Canada, showed good results.

Fermentation studies, which earlier produced butanediol from low-grade wheat and surplus crops for use as antifreeze and as a source material for numerous organic chemicals, have been extended. Progress has been made in the fermentation of beet molasses for the production of glycerol. Papers of a glassine or parchment type have been made from several of the cereal straws. A flash-drying unit for processing gluten is currently yielding a product of high quality.

Medical Research.—Most of the activities of the Division of Medical Research will be carried on, as heretofore, in the laboratories of the medical schools and hospitals throughout Canada. In addition to considering applications for grants-in-aid for research and making recommendations to the Council concerning these, the Division, through its Advisory Committee, reports to the Council in respect of medical research fellowships, which were established in 1946. Over $236,000 was awarded in the form of grants-in-aid by the Division of Medical Research in 1947-48, and 33 medical research fellowship appointments were made. It is hoped that these fellowships, which are open to Canadian medical graduates, will be the means of training young men and women so that their lives may be devoted to research and teaching in the medical schools of Canada.

Radar and Electronics.—In radar and electronics substantial contributions have been made. In harbour control, the original installation was made at the Naval Signal Station located at Camperdown, N.S., overlooking the entrance to Halifax Harbour. Since then, a nine-inch display with accurate ranging facilities has been added. The design of a second antenna has been completed. Procedures are being worked out for the use of shore-based radar in the identification and guidance of incoming ships that are not equipped with radar. Merchant marine radar equipment provides assistance to navigation in restricted waters and serves to give anti-collision warnings. A small low-cost ship-borne radar set has been designed for the use of merchant shipping. Trials during 1947 showed that blind navigation of the entrances to Toronto harbour and identification of every wharf within the harbour is possible. Great interest has been shown by lake navigators in the specially fitted motor vessel "Radel" during operations on Lake Ontario off the Scarboro Field Station. Demonstrations of the usefulness of radar are arranged from time to time for the benefit of ship owners and navigators.

A direct-reading electronic instrument, designed to locate hot joints on power lines, has been given extensive field tests that have demonstrated its practical value. Comparison has been made of the pulse method and the resonance method used to locate faults in electric power cables.

Physics.—In the Division of Physics many practical problems have been studied and fundamental work has been done in several fields.

Magnetometer surveys were carried out during the latter part of 1947 in co-operation with the Department of Mines and Resources and with the assistance of the Royal Canadian Air Force. The magnetometer, trailed by a cable behind an aircraft, records the changes in the earth's magnetic field as the aircraft passes over the land to be surveyed. The results, automatically recorded in the aircraft, provide the data for accurate topographic maps and indicate the location of mineral

areas. A recording radar altimeter has been developed that will greatly expedite contouring in the preparation of topographical maps, and hence will be a valuable aid in surveying.

A new rod thermostat is being developed for use in railway refrigerator cars. Sensitivity of 1·3°F. has been secured under semi-operating conditions but further work is required before it can be adapted to commercial use.

Radiant panel heating and panel cooling investigations were carried out during the year.

Chemistry and Chemical Engineering.—A co-operative research with Noranda Mines Limited has had for its object the development of a method of roasting pyrite for the recovery of elemental sulphur. Indications are that this process can be carried to the commercial stage in the near future. A study is in progress on the direct reduction of iron sulphides of which large tonnages are being mined in Canada for both gold and base-metal recovery.

The rain repellent for aircraft wind screens, which was developed in the Council's laboratories, is becoming widely used and its commercial production is expected to begin in the near future. Action of inhibitors in water and antifreeze systems is being investigated, and work has begun on the study of corrosion at high temperatures.

The textile research laboratory is now providing members of the Canadian Institute of Launderers and Cleaners with a technical service mainly for control of the laundering and cleaning efficiency of commercial plants.

The rubber laboratory has undertaken an investigation into the correlation of laboratory abrasion tests with actual road tire tests to provide information in regard to slipping or holding of tires on icy roads. Some forty samples of rubber of different compositions have been tested over a wide range of temperatures to determine their frictional properties.

Work has continued on the chemistry of certain fatty acids present in drying oils with the object of increasing their usefulness in paints or of producing drying oils from more readily available materials.

A lubrication problem of considerable industrial and scientific interest on which work is proceeding, relates to the lubrication of railway car journals.

A new and very rugged catalyst has been developed for use in the determination of carbon monoxide by direct oxidation. An improved continuous carbon monoxide recorder using this catalyst has been designed.

Mechanical Engineering.—The National Research Council has two model-testing basins, fully equipped for work on seaplane floats, ships' hulls, etc. From towing tests, the power required to propel a full-scale hull at any given speed, or the speed obtainable from a given engine installation, can be accurately estimated.

A large portion of the work in the aeronautics section is devoted to the wind-tunnel testing of new aircraft designs for Canadian firms. At the Flight Research Station at Arnprior, Ont., in co-operation with the Royal Canadian Air Force, more than 250 hours flying were undertaken on research projects during the year. In one investigation, a wake-rake was installed behind Frise ailerons of various contours on a Harvard aircraft and the boundary layer at the trailing edge over a range of aileron angles was measured using an automatic observer.

With a specially equipped experimental aircraft, the low-temperature laboratory has continued the flight investigation of aircraft icing, electro-thermal de-icing for wings and propellers and the study of meteorological conditions associated with ice.

In co-operation with the Meteorological Service of the Department of Transport, a snow-cover survey has been initiated to obtain data on the type and condition of snow encountered in different parts of Canada for use in the development of snow-clearing equipment and the study of other subjects, such as aircraft skis, associated with winter transportation.

The tailless glider has been modified to incorporate fighter-type cockpit canopies and further wind-tunnel tests have been carried out. Flight tests at Edmonton, Alta., during 1947, were interrupted early in the season by an accident to the glider.

Work continues on the improvement of fuels and lubricants for low-temperature use and includes observation of the performance of fuels and lubricants under cold-weather conditions at Churchill, Man., and the study of low-temperature lubrication problems for the Armed Services.

In co-operation with the Department of National Defence, road tests have been made to determine the limit of sulphur which can be tolerated in gasoline without harmful effects to motor-vehicles. This has become a problem because of the higher sulphur content of presently available crude oils. Research on fuels and combustion in jet engines has been initiated. A comprehensive theoretical and experimental investigation of turbine icing was begun in 1947.

Provision of static equipment for the testing of full-scale aircraft components was begun during the year and is nearing completion.

Work is being continued on the study of wing flutter, stressed shells, stresses in ski undercarriages, and prostheses.

Relations with Industry.—Problems suggested to the Council that are deemed of national interest may be undertaken entirely at the Council's expense. In other cases, when a company has an interest in a project, arrangements can be made on a mutually satisfactory basis whereby the expense of the research is shared by the company and the Council. In exceptional cases, especially when facilities for a given investigation are not available elsewhere in Canada, the Council may undertake a specific piece of research for an industry on a fee basis in which case the results become the property of the company requesting the information. From this it will be seen that each problem presented to the Council is considered on its merits and dealt with in what seems to be the most efficient and practical way.

An important service to industry is being rendered by the Council through the Technical Information Service. This organization, now carried on under the National Research Council, was established in the Department of Reconstruction and Supply as a means of bringing to the attention of Canadian industry the important scientific advances made in manufacturing processes and the uses of new materials. The smaller industries in particular have found the Service of great value.

Section 3.—The Educational Functions of the National Film Board and the Canadian Broadcasting Corporation

The National Film Board.*—Since the beginning of the Second World War, Canada has seen a great advance in the use of films in education, both formal and informal, for adults as well as children. The National Film Board has contributed very largely to this development. It has produced and distributed more than a thousand informational films, made available to Canadian schools and adult organizations some of the better films produced in other countries, assisted in the establishment and servicing of close to 150 film libraries and depots, provided film programs regularly to several thousand rural communities, and assisted in making educational films available to hundreds of thousands of Canadian school children. In all of these activities the Board has worked closely with Provincial Departments of Education, national and provincial organizations engaged in educational work, and community organizations of all kinds. The object has been to assist all educational agencies to obtain and use visual material to strengthen their educational programs, as well as to bring to the largest possible section of the Canadian public those films that interpret Canadian and world affairs.

Film Libraries.—In Canada, the backbone of urban 16mm distribution is the film libraires that have been established throughout the nine provinces by the Board and by local bodies such as public libraries, normal schools, provincial Departments of Education, university extension departments and, more recently, community film councils. The majority of Canadian communities with populations of more than 5,000 now have their own film libraries which numbered 158 by the end of 1947. Nearly 200 Film Councils and local film committees assist in encouraging the use of informative and educational films in the community.

Special Educational Services.—Special services have been developed for industry, women's organizations, scientific and engineering groups, health and medical bodies, and in other specialized fields such as education, science, welfare, reconstruction and housing to assist in building approved programs of films and other materials for all interested organizations. To serve their film needs, the Board maintains at Ottawa a Preview Library of 2,500 titles.

Rural Film Circuits.—Rural areas which lack projectors and film libraries are served with monthly film programs by the Board's rural circuits. An increasing number of circuits are operated in co-operation with farm organizations and provincial and local governments. The careful planning of the rural film programs, together with discussion booklets for teachers and group leaders, relate them closely to the work and interests of the communities they serve. Each Rural Circuit reaches about 20 locations each month bringing a program in the afternoon to school children and in the evening to general audiences. Films are chosen for the value and interest of the information they contain. The program for schools is chosen in consultation with the Department of Education in each province. Many thousands of Canadian school children have had their first opportunity to see educational films regularly through the Film Board's rural circuits. Through their co-operation with farm organizations, extension departments of universities, and Provincial Departments of Education, Health, and Agriculture, the Board's rural representatives have come to be regarded as valued servants of the community.

* Prepared under the direction of Ross McLean, Film Commissioner, National Film Board, by Stanley Rands, Co-ordinator, Research and Reports. The non-educational services of the National Film Board are outlined in Chapter XXXI on Sources of Official Statistical and Other Information Relative to Canada.

Education by Radio.*—The Canadian Broadcasting Corporation devotes a good share of its broadcast time on the English- and French-language networks to programs of an educational nature both for children and adults. Whenever possible, education and entertainment are combined.

School Broadcasts.—The CBC co-operates with all nine Provincial Departments of Education in Canada in broadcasting special programs related to the courses of study conducted in school classrooms. School broadcasts for French-speaking listeners in Quebec are heard under the title *Radio-Collège.*

In addition to the provincial broadcasts, the CBC itself prepares and finances a series of *National School Broadcasts* heard in classrooms from coast to coast. These are produced with the advice of the National Advisory Council on School Broadcasting, consisting of representatives of each of the Provincial Departments of Education, the Canadian Teachers' Federation, the Canadian Federation of Home and School, the Conference of Canadian Universities, and the Canadian Trustees' Association. The aim is to increase students' knowledge of Canada, and their consciousness of her achievements and responsibilities. Particulars of all school broadcasts available in Canada are contained in the manual *Young Canada Listens*, published each year by the CBC, and of which some 40,000 copies are circulated to teachers and educational authorities.

In the 1947-48 season, the 27 *National School Broadcasts* prepared by the CBC presented a series of Canadian legends in dramatic form; dramatized stories of Hudson's Bay Company men whose careers contributed to the development of the Canadian Northwest; actuality broadcasts picturing Canadians at work on wheat farms, in plywood mills, shipyards, and mines; dramatized stories based on the lives of four Canadian poets; three broadcasts designed to increase understanding of free political institutions in a democracy; and a complete presentation of Shakespeare's *Hamlet*, broadcast in six instalments, with leading radio actors in the various roles and with a specially composed music score.

Several programs were exchanged with the *American School of the Air*, produced by the Columbia Broadcasting System in the United States. One full week of the *American School of the Air* series was devoted entirely to programs from Canada.

A new development during the year was the provision of CBC educational programs for children in the Mackenzie District of the Northwest Territories, for many of whom there are no schools available. At the request of the Department of Mines and Resources, responsible for education facilities in the Northwest Territories and Yukon, a number of CBC school programs were broadcast by the Canadian Army radio station at Aklavik. The Department provided battery-powered radio receivers to schools not equipped with sets, and the CBC supplied recordings of educational broadcasts required by the Department.

As in previous years, each of the CBC's *National School Broadcasts* was preceded by a ten-minute review of the leading news event of the week, specially prepared for young listeners by the CBC News Service.

Adult Education.—Programs of an adult educational nature are presented on all CBC networks in a variety of forms and on a wide range of subjects including national and international affairs, political broadcasts, business and labour interests,

* Revised under the direction of Dr. Augustin Frigon, C.M.G., General Manager, Canadian Broadcasting Corporation, Ottawa. The non-educational services of the CBC are outlined in Part VII, Sect. 3 of Chapter XIX on Transportation and Communications.

women's interests, community activities and social problems, literature and creative writing, science, nature and sports. *Citizens' Forum*, a discussion program originating at public meetings, and already in its fifth year on the air, became a part of *CBC Wednesday Night*, a new venture in Canadian radio programming in which Wednesday nights on the CBC Trans-Canada network are devoted entirely to programs that are stimulating, substantial, and more demanding on the attention of the listener.

Citizens' Forum is produced in co-operation with the Canadian Association for Adult Education, which has organized about 500 listening groups across the country. This Association, with the Canadian Federation of Agriculture, helps in the preparation of another CBC series, *National Farm Radio Forum*, on which farmers from all parts of Canada are able to exchange views and discuss their problems. Now in its eighth year, *Farm Radio Forum* is followed each week by more than 1,300 listening groups throughout rural Canada. Both of these discussion programs have their counterparts on the CBC French network.

In order to present commentaries on the European scene, the CBC maintains an Overseas Bureau with headquarters at London, England.

Special programs for women, in both English and French, offer practical information on household problems, citizenship, community organization, vocational guidance, housing and the needs of the aged.

Music and Drama.—Regularly scheduled symphonic concerts were continued during the 1947-48 season, and many young Canadian musicians were introduced to a national audience in CBC recital series. Music appreciation was fostered by special music programs for children. In November, 1947, a nation-wide audience heard the world premiere of a Canadian symphonic suite in five movements, by Alexander Brott, commissioned by the CBC International Service in the interests of promoting Canadian music both at home and abroad.

Canadian writers produced by far the greatest number of dramatic presentations heard on both English- and French-language networks. Significant productions by other than Canadian writers included the first Canadian radio performance of T. S. Eliot's play *Murder in the Cathedral*, and a two-part performance of Ibsen's *Peer Gynt*, with the incidental music by Edvard Grieg, both broadcast on *CBC Wednesday Night*.

Programs for Pre-School-Age Children.—The 1947-48 season saw the beginning of an experimental series of programs for pre-school-age children, called *Kindergarten of the Air*, a joint project of the CBC, the Toronto Junior League, the Canadian Federation of Home and School and the Federated Women's Institutes of Canada. The programs are designed to give children in isolated rural areas creative stimulus to help them develop constructive play, observation and self-help and to serve as a pattern and guide to mothers in playing with and teaching their own children.

Section 4.—Libraries

The Dominion Bureau of Statistics publishes biennially a Survey of Libraries in Canada listing public, university, government, and other special libraries and showing the location, size, etc., of each. The latest report issued is the Survey for 1944-46 covering library service in 1945; the information in that report is synopsized at pp. 307-313 of the 1947 Year Book.

Section 5.—Canada and UNESCO*

The origin of the United Nations Educational, Scientific and Cultural Organization and its activities up to the First Session of the General Conference (held in Paris in November, 1946) were described at pp. 313-315 of the Canada Year Book 1947.

The Second Session of the General Conference was held at Mexico City, Nov. 6 to Dec. 4, 1947. Delegations from 37 countries participated; there were official observers from 12 countries and about two dozen international organizations. Altogether 125 delegates, 174 experts or advisers, and 56 observers were present, including a Canadian delegation of 11 persons.†

The program for 1948, as approved by the Mexico Conference, called for a budget of $7,682,637, of which Canada is expected to contribute 3·7 p.c., or approximately $286,500, apart from a contribution of like proportion to a Revolving Fund of $1,000,000.

Reconstruction.—In addressing the Conference the Chairman of the Canadian Delegation said: "The needs of reconstruction in countries devastated by war must be given the strongest possible emphasis, for, until all the cultural, intellectual, and scientific resources of the devastated countries are brought into play, the activities of UNESCO in other fields must inevitably lag". There was general agreement with this point of view. The Reconstruction Division of the Secretariat was given a budgetary appropriation of $614,141 including $178,000 for emergency grants-in-aid, but intended primarily to enable it to collect and disseminate information on needs, and to stimulate action on the part of national and international bodies to meet those needs.

At the time of the Conference a national campaign by voluntary organizations in the United States had succeeded in raising more than $100,000,000 for reconstruction through UNESCO. A corresponding Canadian organization, the Canadian Council for Reconstruction through UNESCO, was being organized. Its campaign for funds, jointly with the United Nations Appeal for Children, was launched in February, 1948, with a combined objective of $10,000,000.

To assist the Reconstruction Division, UNESCO provides office facilities at Paris for a Temporary International Council for Educational Reconstruction (TICER), on which there are representatives of 21 international voluntary organizations. UNESCO helps the individual organizations in the operation of youth camps, and in other ways.

Education.—In carrying out the program in education for 1948 the Director General was instructed by the Mexico Conference to give first and equal priority to the following seven projects: (1) fundamental education; (2) adult education; (3) work with universities; (4) educational seminars; (5) education for international understanding (in primary and secondary schools of Member States, including essay competitions for young people); (6) improvement of text books and teaching materials; and (7) consultative educational missions to such Member States as request them.

The results of the seminar for teachers, held near Paris in the summer of 1946, were particularly well received by the Second General Conference. It was proposed to hold three of world-wide scope in 1947 (at Prague, London and New

* Prepared by John E. Robbins, Director, Education Statistics Division, Dominion Bureau of Statistics, in collaboration with the Department of External Affairs.

† A report of the Canadian Delegation to the Second Session of the General Conference of UNESCO (53 pp. mimeographed) is available from the Department of External Affairs, Ottawa.

York, as later arranged), and one regional Latin American seminar. Canada was asked to nominate two educators to participate in each of the three.

The 1948 budget makes provision for a world conference of university representatives in the hope that an international association of universities may be established. It also provides for a world conference of leaders in adult education. The Canadian Association for Adult Education invited UNESCO to hold this latter conference in Canada, but it is to be postponed until 1949.

Communication.—The program under the general heading of Communication includes exchange of persons, mass media (press, radio and film), libraries, etc.

The Exchange of Persons Bureau in the Secretariat has some money at its disposal for fellowships, but its main function is that of a clearing house for information. Fifty-two fellowships out of UNESCO funds, to students in war-damaged countries, were announced early in 1948, and a larger number provided by Member States or national or international organizations were put at the disposal of UNESCO for allocation. Other bodies awarding international fellowships on their own account relied heavily on the Bureau for information.

The study of technical needs and removal of obstacles to the free flow of information in mass media are being continued. In addition a production unit is being organized capable of initiating and influencing production in press, radio and film within the field of UNESCO interests.

Various efforts are being made to increase the understanding and use of public libraries, the improvement of bibliography, and the production of low-priced books, and to improve copyright law on a world-wide basis.

Cultural Interchange.—Assistance is being given to the International Theatre Institute established in 1947, and efforts are being made to establish an International Music Institute. The scope of the International Pool of Literature is being extended. The distribution of reproductions of national works of art is being facilitated. Plans for organized exchanges of exhibitions and collections between the museums and galleries of different countries are being developed. The establishment of an International Council of Associations concerned with philosophy and the humanistic studies is to be assisted.

Human and Social Relations.—The chief concern of the Social Sciences Section of the Secretariat in 1948 is the organization of studies under the general heading of Tensions Affecting International Understanding. The interest and assistance of social scientists in universities of the various countries is being enlisted. A major concern of the Philosophy Section is an analysis of current ideological conflicts.

Natural Sciences.—The Natural Science Section of the Secretariat in 1947 established Field Science Co-operation Offices in the Middle East, the Far East and Latin America, and planned to establish a fourth in South Asia in 1948. The purpose is to facilitate two-way communication between the scientists of these areas and of Europe and North America.

International scientific collaboration is also being furthered by means of grants-in-aid and other forms of assistance to international scientific and technological organizations. There is close collaboration with the International Council of Scientific Unions. The organization of an International Institute of the Hylean Amazon was expected in 1948 on the initiative of UNESCO, to be financed largely by governments in northern South America.

CHAPTER X.—AGRICULTURE

CONSPECTUS

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Agriculture, including stock raising and horticulture, is the most important of the primary industries of the Canadian people, employing, according to the Census of 1941, 25·2* p.c. of the total gainfully occupied population and 30·5* p.c. of the gainfully occupied males. In addition, agriculture provides the raw materials for many Canadian manufactures, and its products in raw or manufactured form constitute a very large percentage of Canadian exports. For a statement of the occupied and the available agricultural lands in Canada, see pp. 28-29 of this volume.

An introductory outline of the historical background of Canadian agriculture is given at pp. 187-190 of the 1939 Year Book.† The present Chapter treats of current governmental activities and includes comprehensive statistics of agriculture, such as: farm income, values of agricultural production and farm capital, field crops, farm live stock and poultry, dairying, fruit, special crops, prices and miscellaneous statistics. World statistics of agriculture, formerly compiled from the publications of the International Institute of Agriculture, were not available for recent editions of the Year Book because of war conditions but at pp. 400-403 statistics of grain production for world countries are again introduced.

Section 1.—The 1947-48 National Agricultural Program and Policy‡

Canadian agriculture began the year 1948 in a strong financial position. Farm debt had been reduced, cash income and net income increased and large quantities of new equipment had been acquired.

Production Programs

During the war years, 1939-45, production programs were formulated annually at conferences between Dominion and Provincial Departments of Agriculture, along with representatives of organized farmers. These conferences were found to serve such a useful purpose that they are being continued annually. Recommendations

* Including persons on Active Service normally employed in agriculture.
† See list of reprints under "Agriculture", at the front of this edition.
‡ Prepared under the direction of G. S. H. Barton, C.M.G., B.S.A., D.Sc.A., Deputy Minister of Agriculture, Ottawa.

for Canada's 1947 agricultural program were discussed at a Dominion-Provincial Conference in Ottawa, on Dec. 2, 3, and 4, 1946. This was the 14th Agricultural Conference held since the outbreak of war in 1939 and the 5th annual conference convened under the auspices of the Agricultural Supplies Board. The major problem under consideration was the distribution of Canada's agricultural land resources in such a way as to provide for the optimum production of major grain crops needed for human food and live-stock feeding. At the Conference held in December, 1947, to discuss production for 1948, it was generally agreed that the over-all production reached in 1947 was a basic position which could well be maintained in 1948. In his address to the Conference, Rt. Hon. James G. Gardiner, Federal Minister of Agriculture, suggested that the time had probably come when no attempt should be made to establish objectives for individual commodities, as had been done in the past. Rather, it was the opinion of the Federal Department of Agriculture, that a general program should be agreed upon, and the Provincial Governments and farmers within the provinces would then be in the best position to propose changes in acreages based upon marketing possibilities as they developed.

Contributing to the present high level of farm output are greater and improved farm mechanization; greater use of fertilizers and lime; more general use of improved varieties of crops—higher yielding, earlier maturing, insect or disease resistant varieties; and improved breeding and feeding of live stock and poultry.

Farm Income

Changes in the kind of agricultural production during and since the Second World War, in the nature and volume of domestic and export demand, and changes in farm prices have resulted in greatly increased cash and net farm income. Cash income received by Canadian farmers from the sale of farm products and from supplementary payments during 1947 amounted to $2,002,195,000 (see Table 3, p. 354) which exceeded the 1946 figure by $232,563 or 13·1 p.c.

Post-War Subsidy and Price Policy

As reported in the 1947 edition of the Year Book, most of the agricultural subsidies administered by the Department of Agriculture in 1946 and early 1947 were eliminated. Effective Oct. 22, 1947, the subsidy of 25 cents per bushel on wheat and barley, and 10 cents per bushel on oats—when these grains are used for live-stock feed—were discontinued and price ceilings were removed. At the same time, the grain grower was protected by the establishment of a floor price at which the Canadian Wheat Board is prepared to purchase wheat, oats and barley. At the end of 1947, the principal agricultural items remaining under price control were wheat, flax and sunflower seed. In order to protect the producers of meat, dairy and poultry products, however, virtually all feed grains and live-stock feeds remain subject to export control.

With the removal of ceiling prices and subsidies on feed grains, and ceiling prices on feedstuffs, these commodities advanced in price and live-stock farmers experienced a corresponding increase in their costs of production. This was offset by the removal of the domestic ceiling prices on meats and the negotiation at a higher price of the contracts with the United Kingdom for bacon, beef, cheese and eggs.

Under these circumstances it was not necessary to draw upon the provisions of the Agricultural Prices Support Act, 1944, and place a support price under any of the chief agricultural commodities. This Act provides for the support of agri-

cultural prices during the transition from war to peace. However, the inability of the United Kingdom to purchase any fresh apples from Canada in 1947, presented marketing difficulties to Nova Scotia apple growers whose traditional export market is in the United Kingdom. In order to promote orderly marketing and to provide a stable price for the growers, the Agricultural Prices Support Board guaranteed a return per barrel of $2·00 to $2·25 according to the percentage of culls. The Nova Scotia Apple Marketing Board as agents for the growers, will market the apples to best advantage, and if returns from all sales yield an average price per barrel less than the guaranteed minimum the Board will make up the difference.

United Kingdom Contracts.—The food contracts with the United Kingdom, which developed out of the necessity of war, are at present an important part of the Government's program to maintain price stability of agricultural products. While providing a fixed price for the exportable surplus of the principal farm products, these contracts also act as a floor above which domestic prices find their level.

The new contracts, negotiated early in 1948, are for Canada's surplus of beef, bacon, eggs and cheese for the years 1948 and 1949 to an actual quantity previously estimated each year and written into the contracts. While the prices for 1948 have been agreed to, the prices for 1949 will be negotiated before the end of 1948 and will maintain a proper relationship with grain prices at that time. The contracts for 1948 are as follows:—

Bacon.—The contract for the calendar year 1948 is for 195,000,000 lb. of bacon and ham at $36 per 100 lb. Grade A No. I sizeable Wiltshire sides, at seaboard. The comparable price for the 1947 contract was $29.

Beef.—The contract for the calendar year 1948 is for an estimated 45,000,000 lb. Prices are: Red Brand $27·50 per 100 lb., Blue Brand $26·50 per 100 lb., Commercial $23·10 per 100 lb. at seaboard. The price increase over the 1947 contract varies from $3·25 per 100 lb. to $1·50 per 100 lb. according to quality.

Cheese.—The contract for the 12 month period beginning Apr. 1, 1948, is for 50,000,000 lb. at 30 cents per lb. first grade f.o.b. factory shipping point. This represents an increase of 5 cents per lb. over the preceding contract price.

Eggs.—The contract for eggs is for the year ending Jan. 31, 1949, for 80,000,000 dozen. The price is based on Grade A Large, delivered seaboard; spring price 47·5 cents per dozen, autumn 54·25 cents per dozen, storage 52·75 cents per dozen. The spring price (late January to Aug. 31) represents an increase of 5 cents per dozen, and the autumn price (Sept. 1 to late January) an increase of 3·5 cents per dozen over 1947 contract prices.

Wheat.—Canada has entered into a contract with the United Kingdom covering a period of four years, commencing Aug. 1, 1946, for the delivery of specific quantities of wheat. Quantities covered by the contract are 160,000,000 bu. for each of the first two years, 1946-47 and 1947-48, and 140,000,000 bu. for each of the last two years of the agreement. Within the total quantities, provision is made for minimum amounts of flour to be included. The price, basis No. 1 Northern in store at Fort William, Port Arthur, Vancouver and Churchill, is $1·55 per bu. during each of the first two years; prices for each of the third and fourth years are to be negotiated, but, in any event, will not be less than $1·25 per bu. for the 1948-49 crop year, and $1 per bu. for the crop year 1949-50. The contract is subject to modification to conform with any international agreement entered into subsequently and to which both Governments are party.

The Agricultural Products Act.—To enable the Federal Government to fulfil its obligations under the food agreements and also to export food supplies to distressed countries, Parliament, in the spring of 1947, passed the Agricultural Products Act. Under this Act, the Minister of Agriculture may sell or export agricultural products and establish commodity boards vested with the necessary regulatory powers. This Act is on an annual basis but may be continued in force for further 12 months periods with the approval of Parliament.

Section 2.—Government in Relation to Agriculture

It is provided in Sect. 95 of the British North America Act that "in each province the legislature may make laws in relation to agriculture in the province"; it is also declared "that the Parliament of Canada may from time to time make laws in relation to agriculture in all or any of the provinces; and any law of the legislature of a province relative to agriculture—shall have effect in and for the province as long and as far only as it is not repugnant to any Act of the Parliament of Canada". As a result of this provision, there exists at the present time a Department of Agriculture, with a Minister of Agriculture at its head, in Canada and in each of its nine provinces.

Subsection 1.—Canada's Relationship with FAO*

Canada has continued to take an active part in the work of FAO. The Third Session of the Conference of the Food and Agriculture Organization of the United Nations was held in Geneva, Switzerland, from Aug. 25 to Sept. 11, 1947. The outstanding single action of the Conference was the approval of the Report of the Preparatory Commission on World Food Proposals and the creation of a Council of FAO, popularly known as the World Food Council. This Council is made up of official representatives of eighteen Member Governments and has an independent Chairman appointed by the Conference. It will meet at intervals between annual sessions of the Conference to keep the world food and agriculture situation under constant review and to recommend national and international action as required. It will also exercise general supervision over FAO administration and policy, replacing the FAO Executive Committee.

In selecting members of the Council, consideration is given to the inclusion in the membership of a balanced geographical representation of nations. Members of the Council are to be elected for three years but, in the initial term, one-third are to serve for one year, one-third for two years, and one-third for three years.

The most serious problem confronting the newly formed Council is the current food shortage. In accordance with the recommendation of the Geneva Conference the task of international allocation of scarce foods and supplies has been assumed by FAO. The International Emergency Food Council has been dissolved and its functions, organization and staff transferred to a new International Emergency Food Committee of the Council of FAO. The Geneva Conference found that the serious food deficit which had been forecast previously had been greatly accentuated as a result of hazardous weather and the deterioration of crops in many parts of the world.

* For details of first and second Conferences of the Food and Agriculture Organization see pp. 206-211 of the 1946 Year Book and pp. 329-330 of the 1947 Year Book.

Other developments in FAO designed to facilitate the objectives of the Organization include the establishment of regional offices, the setting-up of a Technical Co-ordinating Committee and the continuance of activities in the various technical fields, including the despatch of missions to those countries requesting such assistance.

Subsection 2.—The Federal Government*

Farm Credit

The Federal Government has set up several agencies to handle the matter of farm credit; the Farm Loan Board is empowered to make long-term loans to farmers† and the chartered banks, under the Farm Improvement Loans Act, to provide intermediate and short-term credit.

The Canadian Farm Loan Board.‡—This Board was appointed by the Governor in Council under the provisions of the Canadian Farm Loan Act (c. 66, R.S.C. 1927, as amended by c. 46, Statutes of 1934 and c. 16, Statutes of 1935) and, as an agency of the Crown in the right of Canada, administers a system of long-term mortgage credit for farmers throughout the country. The Board commenced its work in 1929 and since 1935 has carried on lending operations in all provinces.

The Board lends money to farmers to pay debts, purchase live stock and farm equipment, assist in the purchase of farm land, make farm improvements and for any other purpose considered as improving the value of the land for agricultural purposes.

Loans are made on the security of first mortgages on farm lands actually operated by the borrower up to an amount not exceeding 50 p.c. of the appraised value of such farm lands and not in excess of $5,000; such loans are repayable on an amortized plan over periods up to twenty-five years.

Further advances by way of second mortgage may be made to first mortgage borrowers who require additional funds. The amount of such additional advance is not to exceed 50 p.c. of the first mortgage loan, nor the aggregate of first and second mortgage loans to exceed two-thirds of the appraised value of the farm land mortgaged nor, in any event, an aggregate of $6,000.

The interest rate on loans made on or after Apr. 2, 1945, is 4½ p.c. on first mortgage and 5 p.c. on second mortgage. The interest rate on loans made prior to Apr. 2, 1945, is 5 p.c. on first mortgage and 6 p.c. on second mortgage.

Particulars of the capital requirements of the Board and other details appear at p. 185 of the 1940 Year Book.

From the commencement of operations in 1929 to Mar. 31, 1947, the Board made 27,875 first mortgage and 8,995 second mortgage loans for a total amount of $57,543,717 disbursed. Of that amount, $34,100,122 has been repaid. At Mar. 31, 1947, the principal assets of the Board amounted to $22,909,897·93 made up as follows: 15,032 first mortgage loans, $21,837,256·27; 1,231 second mortgage loans, $549,094·09; 337 sale agreements, $478,110·10; 23 parcels of real estate, $45,437·47.

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* Except as otherwise indicated, this material was prepared under the direction of G. S. H. Barton, C.M.G., B.S.A., D.Sc. A., Deputy Minister of Agriculture, Ottawa.

† In addition to the credit supplied by the Canadian Farm Loan Board, and in order to meet the demand for long-term loans on easier terms of repayment and on a higher ratio in relation to farm value than that available from the Canadian Farm Loan Board and to facilitate refinancing indebtedness, the Province of Quebec has established its own farm credit scheme by the creation, in the autumn of 1936, of the Quebec Farm Credit Bureau, which commenced operations in March, 1937.

‡ Revised by W. A. Reeve, Secretary, Canadian Farm Loan Board, Ottawa.

The average amount lent annually during the first ten years of operations was $3,860,000. The volume of loans approved dropped from $4,348,950 in 1940 to $1,215,450 in 1943 but, since then, has increased steadily to $3,419,150 in 1947. The trend in recent years is toward decreased borrowing to pay debts and increased borrowing to purchase land and farming equipment.

1.—Applications for Farm Loans Received, Loans Approved and Loans Disbursed, Years Ended Mar. 31, 1940-47

NOTE.—Figures for 1930-39 are given at p. 186 of the 1940 Year Book.

Year	Applications Received		Loans Approved					Loans Paid Out		
	No.	Amount	First Mortgage		Second Mortgage		Total Amount	First Mortgage	Second Mortgage	Total
			No.	Amount	No.	Amount				
		$		$		$	$	$	$	$
1940.....	4,666	8,941,899	2,380	4,149,400	464	199,550	4,348,950	4,130,765	211,897	4,342,662
1941.....	2,806	5,769,950	1,459	2,655,050	228	104,350	2,759,400	2,619,109	108,398	2,727,507
1942.....	1,812	3,820,156	1,024	1,891,100	155	75,650	1,966,750	2,053,712	79,802	2,133,514
1943.....	1,055	2,277,830	601	1,156,150	135	59,300	1,215,450	1,260,033	60,223	1,320,256
1944.....	1,037	2,419,001	603	1,315,950	162	90,850	1,406,800	1,251,949	84,154	1,336,103
1945.....	1,306	3,293,559	728	1,623,000	176	100,700	1,723,700	1,561,174	100,235	1,661,409
1946.....	1,846	4,758,916	918	2,161,050	258	163,050	2,324,100	1,977,902	143,305	2,121,207
1947.....	2,015	5,579,142	1,312	3,165,250	404	253,900	3,419,150	3,030,915	242,896	3,273,811

2.—Farm Loans Approved, with Details of Appraised Values of Security, by Provinces, Year Ended Mar. 31, 1947

Province	Loans Approved					Appraised Values of Security at Time of Loan		
	First Mortgage		Second Mortgage		Total Amount	Land	Buildings	Total
	No.	Amount	No.	Amount				
		$		$	$	$	$	$
Prince Edward Island.	33	59,450	11	4,900	64,350	84,757	46,630	131,387
Nova Scotia.....	30	60,200	6	3,500	63,700	87,566	60,044	147,610
New Brunswick.....	21	34,650	6	3,550	38,200	47,985	34,924	82,909
Quebec.....	139	365,550	46	26,900	392,450	498,602	353,510	852,112
Ontario.....	181	458,300	53	28,700	487,000	620,281	393,507	1,013,788
Manitoba.....	284	747,700	101	67,250	814,950	1,562,473	536,516	2,098,989
Saskatchewan.....	336	843,200	100	68,550	911,750	1,723,553	434,432	2,157,985
Alberta.....	233	457,650	69	43,000	500,650	1,000,826	287,152	1,287,978
British Columbia.....	55	138,550	12	7,550	146,100	220,000	127,118	347,118
Totals.....	**1,312**	**3,165,250**	**404**	**253,900**	**3,419,150**	**5,846,043**	**2,273,833**	**8,119,876**

Farm Improvement Loans Act.*—The Farm Improvement Loans Act, 1944 (c. 41, Statutes of 1944), is designed to provide short-term and intermediate-term credit to farmers. Under its provisions, the Federal Government authorizes the chartered banks of Canada to make loans over a three-year period and up to $250,000,000 under a 10 p.c. Government guarantee against loss. The Act was extended another three years by an amendment passed at the 1948 session of Parliament. The maximum of an individual loan is $3,000, the interest rate is 5 p.c. simple interest, and the repayment periods are from one to ten years, depending upon the amount borrowed and the purpose for which the loan is obtained. Loans under the Act are restricted to farmers.

* Prepared by D. M. McRae, Supervisor, Farm Improvement Loans, Department of Finance, Ottawa.

There are two broad aims behind this legislation, the first of which is the improvement and development of farms. Loans are made to enable a farmer to equip his farm with modern, labour-saving equipment, more and better live stock, and to make such other improvements necessary to maximum farm production. The second is the improvement of living conditions on farms. These loans enable the farmer to provide his home with electrification, refrigeration, heating systems, water systems, and all those things that make for comfort and convenience in living and do much to eliminate the drudgery of the farm housewife.

There are seven classes of Farm Improvement Loans: (1) purchase of agricultural implements; (2) purchase of live stock; (3) purchase of agricultural equipment or installation of a farm electrical system; (4) alteration or improvement of a farm electrical system; (5) fencing or drainage; (6) construction, repair or alteration of, or addition to, farm buildings; (7) general improvement or development of the farm.

Up to Dec. 31, 1947 (which period covers the first thirty-four months of operation of this Act), 39,387 loans were made for a total of $31,423,129·23. Particulars of loans by provinces are:—

Province	*No.*	*Amount*
		$ cts.
Alberta	14,600	11,176,435·47
Saskatchewan	12,908	10,438,919·84
Manitoba	5,916	4,453,351·46
Ontario	3,905	3,738,720·44
British Columbia	1,063	854,634·54
Quebec	658	504,971·56
Nova Scotia	169	125,053·71
New Brunswick	126	107,370·71
Prince Edward Island	42	23,671·50

Research and Experimentation

In its efforts to aid the farmer in the solution of his problems, the Department of Agriculture conducts, on a broad scale, scientific research and experimentation on the control of pests and diseases, the nutritional requirements of plants and animals, the micro-biology of soils and foods, the breeding and testing of new varieties of plants and animals, investigations of crop production and cultural methods and many other matters. The two main divisions of the Department that carry on such work are Science Service and Experimental Farms System.

Science Service.—The work of Science Service is directed toward the solution of practical problems of agriculture through the application of scientific investigation. The work is carried on in co-operation with other agencies within the Department, not only at the central laboratories at Ottawa, but at branch laboratories all across the country.

Many studies are being carried on in the field of animal pathology. Among the more important are a comprehensive investigation of the antigenicity of tuberculin and a fundamental investigation of the reactivity of fowl to various invading agents, with a view to perfecting diagnostic procedures. Bang's disease and mastitis of cattle are being investigated, while with poultry major attention is focused on pullorum disease and coccidiosis.

The research work of the Division of Bacteriology and Dairy Research is devoted to problems of milk production and the manufacture of dairy products, food processing and preservation, soil fertility, and to other varied problems of agricultural production bearing on the science of microbiology.

Dairy research includes studies in improved methods for clean milk production and the evaluation of milk quality. Projects in cheese investigation deal with better control of the maufacturing process, and the cause and remedy of defects of flavour and texture in Cheddar cheese. Methods for improving the keeping quality of butter are also under study.

Studies in food microbiology are directed towards improvement in quality of Canadian fruit and vegetables preserved by different methods, with special attention to frozen-pack products. Improvement in production and in control methods for dried-egg products are under study.

Fundamental studies of soil micro-organisms are being conducted as a basis for application to practical problems of soil fertility and crop health. Research is also conducted on the inoculation of seed and soil by nitrogen-fixing bacteria; microbiological methods for evaluating soil fertility; and the relation of soil micro-organisms to soil-borne plant diseases. Other research projects deal with such diverse problems as foulbrood diseases of bees, the development of microbiological methods for vitamin assay, and the detection of new anti-biotics which may have important applications in agriculture.

Weeds constitute one of the more important problems with which the farmer must contend. In the botanical laboratories, research is in progress on the occurrence and distribution of weeds throughout Canada. Life histories of weeds are studied together with methods of control of certain species. Physiological studies on the effects of herbicides are being carried on.

The Dominion Arboretum and Botanic Garden grows an extensive collection of trees and shrubs that is of much interest to horticulturists, botanists and the general public. A plant identification service is provided and research conducted on the classification and distribution of the native and introduced plants of Canada.

In an effort to reduce the losses from seed-borne diseases of crop plants, seed-testing techniques are being investigated with a view to determining the presence of pathogenic organisms in or on the seed. Various commercial disinfectants and seed-treating machines are under test to determine their value in the control of seed-borne diseases.

Diseases of cereal and forage crops are under constant study with the object of evolving effective measures and developing resistant varieties which will produce satisfactory crops in the presence of disease organisms. Similar investigations are conducted with horticultural crops with major attention directed to crop protection and disease control rather than development of resistance. In the case of potatoes, however, breeding for disease resistance is being carried out in co-operation with the Experimental Farms Service.

In the chemical laboratories of Science Service, research projects are in progress on animal nutrition, food and plant chemistry, soils, fertilizers, and vitamin and physiological chemistry. A study of factors affecting the digestibility of feeds and an evaluation of feeding stuffs on the basis of digestibility, together with research on the biological value of proteins and non-protein nitrogen in which stable isotopic tracers are employed, will provide useful information for the scientific feeding of different classes of live stock. Vitamin studies include the mode of action of vitamins A and D, the utilization of precursors and the effect of other dietary factors on vitamin action, together with a critical evaluation of both chemical and biological methods of vitamin assay. Studies in progress demonstrate the usefulness and

the dangers of hormonal stimulation and of endocrine depressors for dairy cattle and poultry. Of interest also to the stockman is the chemical and biological diagnosis of pregnancy and the tattooing of live stock for identification purposes.

Research in soil chemistry includes a study of the colloid fractions of soils in relation to soil types, soil fertility and phosphate fixation; a study of the composition of soil organic matter and its maintenance in cultivated soils; an investigation of the mineralogical composition of Canadian soils; the adaptation of chemical methods for the determination of fertilizer requirements of soils, and studies of the minor element content of soils in relation to physiological disorders of plants and animals. Soil fertility investigations are conducted in the field and greenhouse in connection with fertilizer trials on soil types, the effect of soil amendments on soil reaction and crop growth, the effect of crop rotations on the nitrogen and organic matter content of prairie soils, the production of canning and orchard crops, and the reclamation of saline soils resulting from flooding by sea water.

Investigations under way in the field of entomology embrace studies of insects affecting man and animals, forest, field, garden and orchard crops, and materials in transit or storage. Specific projects relate to the studies of harmful and beneficial insects, appraisal of their damage, and methods for their control. The methods of control under study include management practices, cultural measures, chemicals, and the production and dissemination of parasites and diseases that attack noxious insects.

Studies on insects attacking man and animals include a wide range of household pests, cattle warbles, ticks, and lice; the preparation and testing of repellents for protection from biting flies; and control of mosquitoes and houseflies over extensive areas. Considerable attention is being given to the newer insecticides and practical methods for their application.

Forest-insect control activities embrace the nation-wide forest-insect survey, begun in 1936, and intensified in recent years in an effort to devise a reliable means of forecasting impending outbreaks. Particular attention is given to such widespread destructive pests as the spruce budworm and sawflies attacking conifers, the hemlock looper and bark beetles, the bronze birch borer and the vectors of Dutch elm disease. Control investigations centre around long-term forest management projects, the use of parasites and diseases, and the exploration of the possibilities of chemical control.

Field-crop and garden insect investigations include studies on grasshoppers, the wheat-stem sawfly, wireworms, cutworms, white grubs, the European corn borer, root maggots, potato aphids, and nematodes. The abundance and distribution of these pests are measured annually by extensive field surveys which provide a basis for planning control campaigns. Insecticides are widely employed in these investigations. Where possible, however, modification of cultural practices are utilized, especially in the control of insects injurious to field crops.

Of the orchard pests, codling moth, European red mite, eye-spotted budmoth, apple maggot, oriental fruit moth, oyster-shell scale and pear psylla are among the subjects of major study. Emphasis is placed on the use of recently developed insecticides, including their combination with fungicides, and on the effect of spray programs upon the whole biotic complex of the orchard. Insect control by parasites and diseases and by orchard management is receiving increased attention.

Research on stored-products insects embraces such pests as the rust-red grain beetle, the Indian meal moth, mites, and spider beetles. Practical controls have been developed utilizing fumigants, abrasives, mechanical methods, proper storage construction, and plant management.

Special consideration is given at the Dominion Parasite Laboratory, Belleville, Ont., to the importation and production of insect parasites of injurious species for distribution in forests, fields, gardens, orchards, and greenhouses. At present, parasites are employed in Canada against thirty important insect pests.

A National Collection of insects is maintained. The specialists engaged in this enterprise provide an identification service in addition to performing formal studies in taxonomy and biology of insects.

Activities designed to prevent the introduction into Canada of foreign insects and plant diseases are centred in the Division of Plant Protection. In addition, this Division is responsible for the examination of plants and plant products being exported to countries requiring such material be free of plant pests and diseases. The supervision of the production of seed potatoes throughout Canada in accordance with the regulations in effect; the supervision of surveys and control of newly introduced destructive plant pests and diseases; and the supervision of fumigation experiments to destroy insect life in plants and plant products at varying temperatures, with various lethal fumigants are all functions of the Division. The effects of fumigants on suitability of products for human consumption or for seed are also under study.

The Dominion Experimental Farms

Organization.—The Dominion Experimental Farms were established by an act of Parliament passed in 1886. This Act described the main lines of investigational work to be undertaken. These included live-stock breeding, nutrition, dairying, the development of cereals, grasses, legumes, forage plants, fruits and vegetables; the study of seeds, fertilizers, plant diseases and insect pests; and "any other experiments and researches bearing upon the agricultural industry of Canada which are approved by the Minister". In later years some of these activities have been transferred to other branches of the Department.

In order to accomplish these important objectives, an organization has been developed consisting of a Central Experimental Farm at Ottawa, branch stations located in the more important agricultural regions of Canada and sub-stations placed in localities where special problems are to be studied. These branch stations are located in every province and extend from the most highly developed types of agriculture to pioneer regions, including Yukon and the Northwest Territories. In 1915, a system of Illustration Stations was organized to provide a connecting link between the Experimental Farms and farmers located in outlying districts. These Stations are on private farms and are operated on the basis of a co-operative agreement with the owner. They are really sub-stations conducting a wide field of experimental work to help solve some of the many agricultural problems which arise throughout Canada. At the present time there are 211 of these Illustration Stations.

The Central Experimental Farm at Ottawa is the headquarters of the organization. The Director and the staff of ten Divisions engaged in special fields of agricultural research are located at Ottawa. These Divisions include: Animal Husbandry, Bees, Cereals, Economic Fibre Production, Field Husbandry, Forage

Plants, Horticulture, Illustration Stations, Poultry and Tobacco. They co-operate with the Branch Stations throughout Canada in organizing a co-ordinated plan of agricultural experimental work.

Regional Stations.—It might be asked why Branch Stations are required throughout Canada. The answer is because Canada is such a large country geographically and contains so many widely different soil and climatic conditions that experimental work must be arranged to meet these varied requirements. Some soils are very fertile; others are quite unproductive; some are heavy clay; others light sand, with numerous intermediate textures. Some soils are acid and others alkali.

Temperatures in different parts of Canada vary widely. The mean January temperature of the Dominion Experimental Station at Saanichton, B.C., is 37·9°F. above zero but at Fort Vermilion in northern Alberta it is 11·1°F. below zero. The mean July temperature at Harrow in Southwestern Ontario is 72·9°F., but at Smithers in northern British Columbia it is only 57·0°F. Precipitation, also, is very different. At Agassiz, B.C., it is 62·3 inches a year but at Summerland, B.C., it is a mere 10·5 inches and irrigation is required for successful agriculture. Obviously, these different soil and climatic conditions exert a profound effect upon the growth of various crops.

Besides these conditions, there are many different types of farming in Canada including wheat, fluid milk, butter, cheese, beef cattle, sheep, hogs, poultry, fur animals, tree fruit, small fruit, vegetables, tobacco, fibre crops, and many others. Every farmer engaged in each of these special types of farming requires information related specifically to his work. With 732,832 farms in Canada, according to the 1941 Census, it is obvious that agricultural experimental work must be undertaken on such a comprehensive basis that reliable information may be available to as large a proportion of farmers as possible. This can be accomplished only on a regional basis but with a central headquarters to organize the work in various parts of the country so as to avoid overlapping and to promote efficiency.

Main Accomplishments in Plant Breeding.—Possibly it is in the field of plant breeding that the accomplishments of the Dominion Experimental Farms are the most outstanding, or at least the best known. New varieties of various crops developed by the Experimental Farms are tangible examples of improvements which bring greater returns to the individual farmer and to the country. Over a period of 62 years, since the inception of the Dominion Experimental Farms, many hundreds of varieties of various species of crops have been developed. Great care is taken to ensure that any new variety possesses improved yield, quality and other factors before being released to the public.

Since the origination of Marquis wheat, a variety which for many years was grown almost to the exclusion of other varieties in the spring wheat areas of Canada and the United States, several improved rust-resistant varieties have been developed by the Cereal Division. Renown, Regent and the recently developed Redman are important achievements. Rescue, a variety recently developed to combat the western wheat stem sawfly, has proved very valuable in regions where this insect is prevalent. In eastern Ontario the winter wheat variety, Rideau, has proved more winter hardy and productive than existing material.

Improved varieties of oats, barley, rye, flax, peas and beans have been developed, applicable to the varied conditions in different parts of Canada.

While the acreage of corn is not extensive in Canada, the improved results from new hybrid corn varieties give considerable promise of extending the acreage of this crop. Both for grain and silage, hybrid varieties have given much better results. As the production of corn for grain has now become as completely mechanized as the production of wheat, the improved hybrid varieties offer an excellent opportunity of securing a new cash crop in many regions which can be handled with a minimum of labour. Several varieties of soybeans have been originated by the Forage Plants Division which enable this crop to be grown in regions where formerly the varieties were too late to mature. Improved varieties of grain and fodder millet have been created.

Investigational work on plant breeding has been undertaken for a number of years on the Dominion Experimental Farms. Hybrids have been created between wheat and certain species of grass. These have been back-crossed on wheat or grass in an effort to secure the qualities desired. Great difficulties were at first encountered with sterility but this has been gradually overcome. In Russia, it is said that the objective has been to develop a perennial wheat which might be sufficiently winter hardy to survive in the more southerly parts of that country. In Canada, while the plant breeding program has been directed towards the two objectives of grain and forage, it has been more successful in developing a large-seeded, drought resistant, fertile, perennial grass which may prove useful in some of the drier regions.

Plant breeding with tree fruits is subject to the great handicap that many years must elapse before it is possible to estimate whether or not any new variety is successful. The tree must bear fruit before its quality can be determined. Then, the hardiness of the tree itself cannot be learned until a severe winter has been experienced. The many years of experimental work on the Dominion Experimental Farms have proved particularly valuable in providing an opportunity to develop several successful varieties of apples. In eastern Ontario and Quebec, four of the six commercial varieties recommended for this region were originated at Ottawa. These varieties include Melba, Lobo, Atlas and Joyce. In addition, several new varieties show considerable promise. In the northern parts of Canada, tree fruit has been restricted by the severity of the winters. Considerable progress has been made through hybridization in the development of certain fruits suitable for home gardens.

Hardy root-stocks are a very important phase in the improvement of tree fruit applicable for Canadian conditions. The customary plan is to use roots from the seed of French crabs and to propagate the desired varieties onto these roots. However, these roots may or may not be sufficiently hardy and they are certain to be very variable on account of their seed origin. In an effort to develop improved root-stocks, the Horticultural Division has grown a large number of French crabs and other species and has kept the ground free of snow for several winters. This severe treatment resulted in the death of the great majority of the trees and the survival of only a very few. These survivors were carefully studied and used to grow new clonal root-stocks vegetatively rather than by seed. This has resulted in securing a supply of uniform and extremely hardy root-stocks (especially one known as Robusta No. 5) which are known to be vigorous and compatible with the varieties to be grafted or budded to them.

The tobacco industry in Canada has been almost completely transformed during the past thirty years. In the early days production was restricted in Ontario to burley, and in Quebec to pipe and cigar leaf tobacco. However, as consumer

taste shifted largely to cigarette consumption, production changed so much that by 1947, 86 p.c. of the crop was of the flue-cured cigarette type. In 1920, Canada imported approximately 20,000,000 lb. of tobacco, in 1945 imports were only about 1,333,000 lb., confined largely to cigar leaf. Exports in 1939 amounted to 32,000,000 lb. The content of Canadian tobacco in all cigarettes consumed in Canada has increased from 30 p.c. in 1927 to 99·5 p.c. in 1947.

Plant breeding, conducted through the Tobacco Division, has greatly aided the tobacco industry. It is estimated that 80 p.c. of the burley tobacco grown in Ontario is produced from three varieties known as Harrow Velvet, Haronova and Harmony, developed on the Dominion Experimental Station at Harrow, Ont. Some 50 p.c. of the flue-cured tobacco crop is grown from varieties selected and improved by the Dominion Experimental Farms. A new variety, known as Delcrest, of outstanding promise with respect to root-rot resistance as well as quality, yield and earliness, is being released in 1948 for general distribution to the growers. Practically all the cigar leaf grown in Canada is produced from varieties developed by the Dominion Experimental Farms.

Other Phases of Experimental Work.—The foregoing material has been confined exclusively to some of the accomplishments in the field of plant breeding. The Dominion Experimental Farms are engaged, however, in a wide program of agricultural experimental work. This includes investigations on over 1,600 experimental projects located in various parts of Canada. Investigations are conducted on the breeding, feeding and management of various classes of live stock and poultry; fur-bearing animals; the production, harvesting and storing of various crops; the production of honey, and of economic fibre; the tilth, fertility and conservation of the soil; soil survey, conducted in co-operation with the nine provinces of Canada; irrigation and agricultural engineering.

The results of this investigational work are given to the public by means of bulletins, reports, pamphlets, articles in the press, correspondence, meetings, and through visits to the various Dominion Experimental Farms and Illustration Stations. The improved live stock and poultry on these Stations serve as a source where local farmers may secure valuable breeding stock. New varieties of grain, forage, horticultural and tobacco crops are released as soon as their value is definitely known.

Subsection 3.—Provincial Departments of Agriculture

Each of the nine provinces, under Sect. 95 of the British North America Act, has a Department of Agriculture, which directs its general agricultural policies, administers the provincial legislation affecting agriculture, and provides extensive services to assist the rural people in its respective area. The work of these Departments is outlined at pp. 213-218 of the 1946 Year Book.

Subsection 4.—Provincial Agricultural Colleges and Schools

A treatment of this subject appears at pp. 203-213 of the 1943-44 Year Book.

Section 3.—Statistics of Agriculture*

Crop-Reporting Service.—Through the voluntary crop-reporting service of the Federal Government, accurate, timely and independent reports on crop conditions throughout the Dominion are published.

Census Statistics.—In addition to the statistics collected annually, which are the subject of this Section, valuable information is published following each Decennial Census of the Dominion and each Quinquennial Census of the Prairie Provinces. The more important data at present available from the 1941 Census, are given at pp. 250-254 of the 1946 Year Book; see pp. 390-396 for recent data on the Quinquennial Census.

Subsection 1.—Farm Cash Income

A preliminary estimate indicates that, during 1947, Canadian farmers' cash returns from the sale of farm products established an all-time recorded high of $1,990·6 million. When compared with the revised estimate for 1946 of $1,752·7 million, the 1947 figure represents a gain of $237·9 million or 13·6 p.c. As against the previously recorded high of $1,829·0 million in 1944, the 1947 cash income exhibits an increase of $161·6 million, or 8·8 p.c. Including supplementary payments, cash receipts in 1947 amounted to $2,002·2 million as compared with $1,769·6 million in 1946.

An increase of $128·6 million from the sale of grain, seed and hay in 1947 over 1946 is largely attributable to generally higher prices and substantial payments made on wheat participation certificates as well as adjustment payments made on wheat and barley deliveries. Generally, larger marketings and higher prices for hogs served to offset the decline in the marketings of other classes of live stock to give total receipts from the sale of live stock of $590·1 million in 1947 as against $574·6 million a year ago. Cash income from the sale of farm products is higher in 1947 in all provinces except Nova Scotia. The decline in Nova Scotia is accounted for, in large part, by lower income from potatoes and fruits.

The estimates contained herein are based on reports of marketings and prices received by farmers for principal farm products and are subject to revision as more complete data become available. The estimates include the amounts paid on account of wheat participation certificates, the oats and barley equalization payments and those Federal and Provincial Government payments which farmers receive as subsidies to prices. Payments made under the Wheat Acreage Reduction Act, the Prairie Farm Assistance Act and the Prairie Farm Income Act are not included with cash income from the sale of farm products but are included in the totals in the year in which payment is made under the heading "Supplementary Payments".

* Revised in the Agricultural Branch, Dominion Bureau of Statistics. This Branch collects and publishes both primary and secondary statistics of agriculture, including statistics of the production and distribution of agricultural commodities. The primary statistics relate mainly to the reporting of crop conditions, crop and live-stock estimates, values of farm lands, wages of farm labour and monthly and annual prices received by farmers for their products. The secondary statistics relate to the marketing of grain and live stock, dairying, milling, and sugar industries and cold-storage holdings.

3.—Cash Income from the Sale of Farm Products, by Sources, 1946 and 1947

Item	1946	1947[1]	Item	1946	1947[1]
	$'000	$'000		$'000	$'000
Grains, Seeds and Hay—					
Wheat	343,865	347,096	Dairy products	286,399	324,397
Wheat Participation Certificates	39,240	73,822	Fruits	47,736	48,868
Oats	58,685	63,307			
Barley	38,720	67,032			
Barley Adjustment Payment	Nil	5,299	Other Principal Farm Products—		
Rye	10,915	32,373			
Flax	15,365	45,584	Eggs	85,936	103,857
Corn	3,204	6,258	Wool	2,872	2,573
Clover and grass seed	10,491	8,398	Honey	4,568	7,611
Hay and clover	5,632	5,517	Maple products	4,257	9,544
Totals, Grains, Seeds and Hay	526,117	654,686	Totals, Other Principal Farm Products	97,633	123,585
Vegetables and Other Field Crops—					
Potatoes	44,529	41,259	Miscellaneous farm products	28,897	32,529
Vegetables	47,420	45,605	Forest products sold off farms	45,285	55,414
Sugar beets	7,540	8,833	Fur farming	10,459	16,220
Tobacco	35,181	48,369			
Fibre flax	857	783	**Totals, Cash Income from Farm Products**	**1,752,682**	**1,990,619**
Totals, Vegetables and Other Field Crops	135,527	144,849			
Live Stock—					
Cattle and calves	276,915	255,947			
Sheep and lambs	14,814	12,627			
Hogs	204,469	248,049			
Horses	7,545	7,639			
Poultry	70,886	65,812	Supplementary payments[2]	16,950	11,576
Totals, Live Stock	574,629	590,074	**Totals, Cash Income**	**1,769,632**	**2,002,195**

[1] Subject to revision. [2] Includes payments made under the Wheat Acreage Reduction Act, the Prairie Farm Assistance Act, and the Prairie Farm Income Order; other Government subsidies have been included in cash income from individual commodities.

4.—Cash Income from the Sale of Farm Products, by Provinces, for Specified Years, 1930-47

Year	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	$'000	$'000	$'000	$'000	$'000
1930	7,323	16,242	12,867	82,781	216,859
1935	3,831	13,859	8,847	64,662	155,263
1940	7,237	17,171	15,518	120,780	233,541
1941	8,551	20,064	19,448	144,963	286,591
1942	11,171	21,576	25,172	174,459	356,203
1943	14,060	25,694	31,369	200,435	386,160
1944	13,734	28,008	33,116	222,562	404,807
1945	16,468	27,274	35,604	236,390	453,078
1946	17,217	34,193	35,855	251,869	472,927
1947[1]	18,978	33,098	38,273	295,824	546,290

Year	Manitoba	Saskatchewan	Alberta	British Columbia	Total
	$'000	$'000	$'000	$'000	$'000
1930	48,312	122,393	95,419	30,266	632,462
1935	36,128	108,103	98,912	21,932	511,537
1940	64,978	150,854	127,192	28,795	766,066
1941	81,648	161,955	154,408	36,600	914,228
1942	103,422	195,825	168,887	44,600	1,101,315
1943	146,112	327,634	220,447	57,987	1,409,898
1944	176,815	543,689	338,101	68,136	1,828,968
1945	153,182	409,618	287,922	75,006	1,694,542
1946	170,823	399,182	285,010	85,606	1,752,682
1947[1]	185,893	434,104	345,480	92,679	1,990,619

[1] Subject to revision.

Subsection 2.—Value of Agricultural Production and of Farm Capital

Publication of the series formerly known as "Gross and Net Values of Agricultural Production" has been discontinued. These series contained duplications and, as a result, were not comparable with value of production estimates for other industries. Work is now under way on new series which will replace those previously published.

Value of Farm Capital.—The items included in the term "farm capital" as used in Table 5 are: lands and buildings; implements and machinery, including motor-trucks and automobiles; and live stock, including poultry and animals on fur farms. The value of lands and buildings for intercensal years is based on the value of occupied farm lands reported annually by crop correspondents; annual values of farm implements and machinery are estimated on the basis of sales reported each year.

5.—Current Value of Farm Capital, by Provinces, 1945 and 1946

Province	1945[1]				1946			
	Lands and Buildings	Implements and Machinery	Live Stock[2]	Total	Lands and Buildings	Implements and Machinery	Live Stock[2]	Total
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
P. E. Island	43,471	5,786	13,607	62,864	42,471	6,042	14,506	63,019
Nova Scotia	87,027	10,996	23,428	121,451	89,115	11,504	26,372	126,991
New Brunswick	97,425	10,847	24,500	132,772	76,576	11,344	26,213	114,133
Quebec	619,848	83,931	221,634	925,413	641,543	85,435	247,783	974,761
Ontario	1,060,307	164,973	363,171	1,588,451	1,208,750	171,390	401,112	1,781,252
Manitoba	283,751	60,944	100,634	445,329	337,663	63,836	99,770	501,269
Saskatchewan	845,032	139,529	193,043	1,177,604	892,354	146,898	187,594	1,226,846
Alberta	613,819	112,032	187,872	913,723	644,510	114,771	183,575	942,856
British Columbia	127,564	16,230	40,295	184,089	133,305	16,960	40,955	191,220
Totals	**3,778,244**	**605,268**	**1,168,184**	**5,551,696**	**4,066,287**	**628,180**	**1,227,880**	**5,922,347**

[1] Revised since the publication of the 1947 Year Book. [2] Includes poultry and fur farms.

Average Values of Farm Lands.—The estimated average value of occupied farm land in Canada for 1947 is reported at $35 per acre. This represents an increase of 9 p.c. over the average value indicated in 1946 and an increase of 40 p.c. over the 1939 average. The total average is determined by weighting the provincial averages by the area of occupied farm land in each province according to the latest census figures available. The upward trend in farm land values from pre-war levels reflects, at least in part, the relative changes which have occurred in the price levels of farm products and of the things which farmers buy. The Bureau's index of farm prices of agricultural products for 1947 was 95·5 p.c. above the 1935-39 level, while for the same year the index of prices of commodities and services used by farmers had advanced 57·4 p.c. from the 1935-39 base-period level.

6.—Average Values per Acre of Occupied Farm Lands[1], for Specified Years, 1910-47

Province	1910	1920	1927	1929	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
P.E.I.....	31	49	41	43	31	32	34	31	31	34	36	35	32	34	37	37	41	43	42	47
N.S.....	25	43	37	36	28	26	27	31	35	32	29	33	28	31	33	35	41	41	42	46
N.B.....	19	35	30	35	24	24	24	25	28	26	27	29	24	25	30	33	40	40	39	44
Que.....	43	70	57	55	37	36	34	41	38	40	40	44	44	50	55	58	58	57	59	61
Ont.....	48	70	65	60	38	38	41	42	44	46	45	46	46	45	48	56	58	57	59	64
Man.....	29	39	27	26	16	16	17	17	16	17	16	17	16	17	18	19	20	21	25	27
Sask.....	22	32	26	25	16	16	16	17	15	15	15	15	15	14	15	15	17	18	19	21
Alta.....	24	32	26	28	17	16	16	16	16	16	15	16	16	16	17	18	19	20	21	25
B.C.....	74	175	89	90	65	63	60	58	60	58	60	60	58	60	62	62	64	67	70	75
Totals..	**33**	**48**	**38**	**37**	**24**	**24**	**23**	**24**	**24**	**24**	**24**	**25**	**24**	**25**	**26**	**28**	**30**	**30**	**32**	**35**

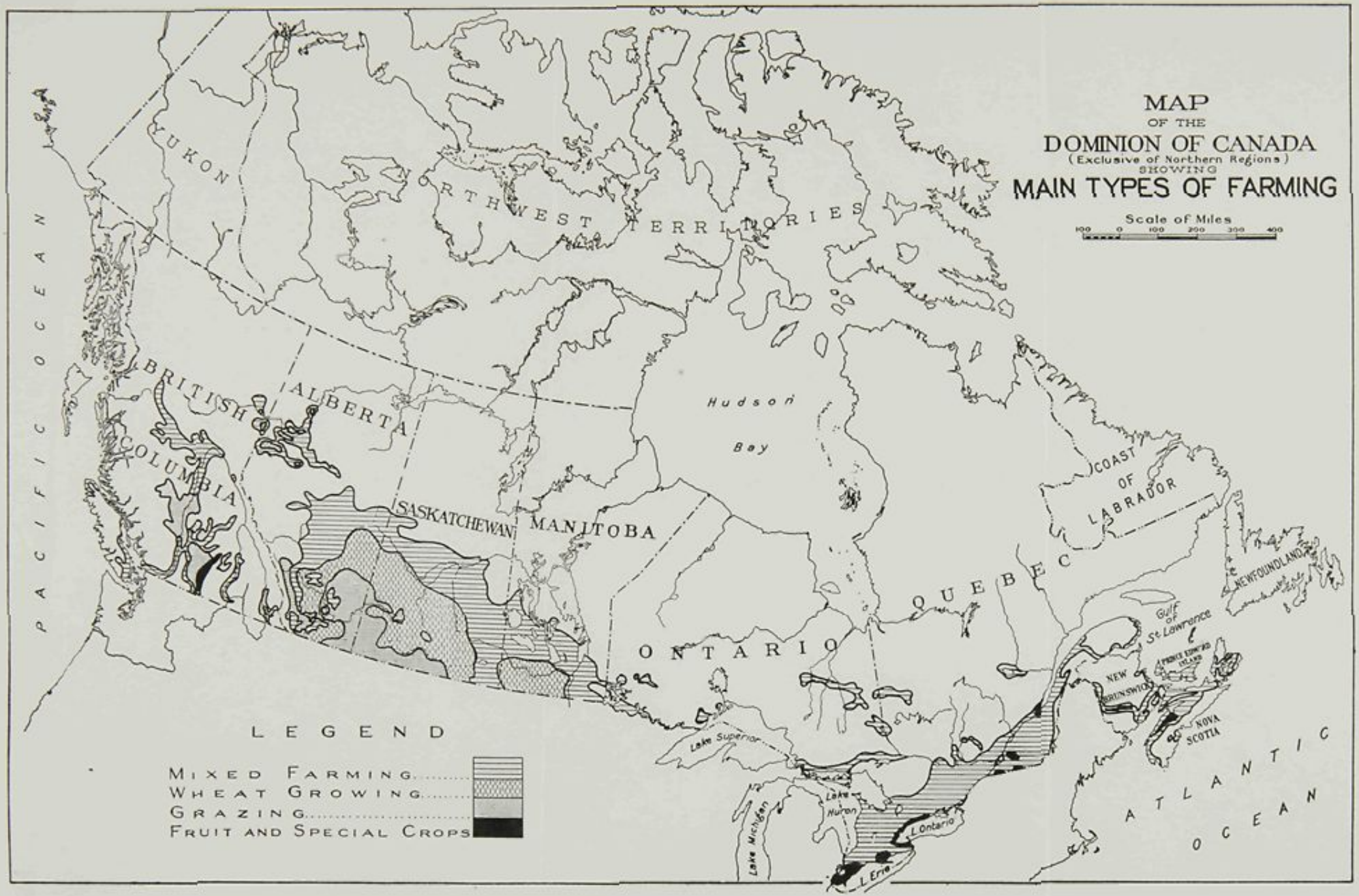
[1] Includes unimproved lands and buildings.

Subsection 3.—Acreages, Yields and Values of Field Crops

In setting acreage targets for grains, forage crops and feed the objective, in 1947, was to determine an acreage distribution which would, under average conditions of production, provide adequate quantities of wheat for export and domestic use and at the same time allow for sufficient feed grain to carry the recommended live-stock program. An increase in linseed-flax production was also deemed desirable in order to help alleviate world shortages of fats and oils.

In order to provide the quantities of feed grains required it was considered necessary to recommend a decrease in wheat acreage. The recommendation for wheat acreage for all Canada was set at 24,000,000 acres, some 600,000 acres above the 1946 recommended acreage objective but about 500,000 acres below the actual 1946 seeded acreage. Coarse grain targets were set as follows: oats 14,300,000 acres; barley 8,000,000 acres. These represent substantial increases over the actual 1946 acreages. The target for rye was set at 487,100 acres which was the acreage seeded in 1945. In 1946, 715,000 acres were seeded to this crop.

When the official acreage estimates became available in mid-summer, it was found that the wheat acreage had exceeded the target by slightly more than 250,000 acres. Oats fell short of the target with only 11,048,500 acres seeded. While barley acreage increased by more than 1,000,000 acres, it was still short of the target by over 500,000 acres. The high prices prevailing for rye encouraged growers to seed more of this grain with the result that the acreage in this crop exceeded 1,000,000 acres, more than double the amount seeded in 1945. Coarse grain acreages would have been much nearer the target had it not been for highly unsatisfactory seeding conditions experienced in the eastern provinces in the spring of 1947. In the west, a mid-summer heat wave across the Prairies followed by unseasonable harvesting and threshing weather in the northern sections of Saskatchewan and Alberta caused yields to fall below average. Total wheat production amounted to 340,758,000 bu. as compared with 413,725,000 bu. in 1946. Production of oats was down from 371,069,000 bu. in 1946 to 278,670,000 bu. in 1947. Increased acreage in barley was more than offset by reduced yields, production for 1947 amounting to 141,372,000 bu. as compared with 148,887,000 bu. in the previous


MAP
OF THE
DOMINION OF CANADA
(Exclusive of Northern Regions)
SHOWING
MAIN TYPES OF FARMING
Scale of Miles
100 0 100 200 300 400
PACIFIC OCEAN
YUKON
NORTHWEST TERRITORIES
BRITISH COLUMBIA
ALBERTA
SASKATCHEWAN
MANITOBA
Hudson Bay
ONTARIO
QUEBEC
COAST OF LABRADOR
NEWFOUNDLAND
Gulf of St Lawrence
PRINCE EDWARD ISLAND
NEW BRUNSWICK
NOVA SCOTIA
ATLANTIC OCEAN
Lake Superior
Lake Michigan
Lake Huron
L Ontario
L Erie
LEGEND
MIXED FARMING
WHEAT GROWING
GRAZING
FRUIT AND SPECIAL CROPS

year. Due to sharply increased acreages the returns of both rye and flaxseed were far in excess of those of 1946, the 1947 rye crop amounting to 13,217,000 bu. (8,811,000 bu. in 1946) while the flax crop reached a total of 12,240,800 bu. (6,402,700 bu. in 1946).

The gross farm value of all major field crops produced in 1947 on Canadian farms amounted to $1,315,000,000. This is the fifth highest gross value recorded since this series was initiated in 1908 and compares with a total value of $1,248,000,000 in 1946.

Acreages and values of field crops in 1947 showed slight increases of only 2 p.c. and 5 p.c., respectively, over those of the previous year.

The values per unit assigned to each 1947 crop in Table 8 of this subsection represent average prices from Aug. 1, 1947 to Jan. 31, 1948. No attempt has been made to estimate prices nor the effect of certain payments on these prices accruing to the farmer at the end of the crop year. The average prices have been determined after consultation with the Provincial Departments of Agriculture and careful consideration has been given to such factors as quality and grade.

Total values of crops in this table do not represent cash income received from sales but are gross values.

7.—Acreages and Values of Field Crops, by Provinces, 1941-47

NOTE.—Some of the figures in this table, particularly the values, have been revised since the publication of the 1947 Year Book.

Province	1941	1942	1943	1944	1945	1946	1947
	ACREAGES						
	'000	'000	'000	'000	'000	'000	'000
Prince Edward Island	466	476	472	467	467	476	485
Nova Scotia	510	519	536	555	560	547	544
New Brunswick	871	933	985	993	984	955	948
Quebec	6,380	6,600	6,751	6,803	6,759	6,505	6,390
Ontario	9,095	9,220	7,958	8,535	8,388	8,272	8,102
Manitoba	6,413	6,708	6,804	7,284	7,100	6,404	6,807
Saskatchewan	19,650	22,182	22,450	23,476	23,472	22,255	22,892
Alberta	12,885	13,626	13,215	13,991	14,474	13,637	13,967
British Columbia	518	545	535	569	578	591	627
Totals, Acreages	**56,788**	**60,809**	**59,706**	**62,673**	**62,782**	**59,642**	**60,762**
	VALUES						
	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Prince Edward Island	11,098	14,406	15,821	18,248	18,975	16,273	21,242
Nova Scotia	15,343	16,473	18,622	20,598	21,619	21,284	21,579
New Brunswick	26,806	30,320	43,795	37,978	37,251	32,471	41,426
Quebec	131,407	144,796	148,317	162,455	158,188	138,981	162,410
Ontario	181,479	219,910	181,434	219,888	231,076	249,587	277,280
Manitoba	76,442	121,365	149,435	158,030	134,852	144,747	144,651
Saskatchewan	136,162	403,024	373,331	492,279	326,635	347,490	342,753
Alberta	111,634	253,197	235,188	254,216	196,403	268,589	273,235
British Columbia	14,390	18,451	23,286	23,200	24,686	28,738	30,488
Totals, Values	**704,761**	**1,221,942**	**1,189,229**	**1,386,892**	**1,149,685**	**1,248,160**	**1,315,064**

8.—Acreages, Yields and Values of Principal Field Crops Grown in Canada

NOTE.—Comparative figures for the Dominion as a whole for earlier years are given in the corresponding table of previous editions of the Year Book. For a record of certain figures of acreage, production and value, see Statistical Summary of the Progress of Canada at the beginning of this volume. For the majority of crops, the long-time average covers the years 1908–40. Figures for 1947 are preliminary and therefore subject to revision.

SUMMARY, SHOWING YIELDS AND PRICES, 1945–47, WITH LONG-TIME AVERAGES

Crop and Year	Area	Yield per Acre	Production	Average Price	Total Value
	'000 acres	bu.	'000 bu.	$ per bu.	$'000
Wheat—					
Long-time average..	19,904	15·6	310,021	0·87	269,290
1945.....	23,414	13·6	318,512	1·15	367,467
1946[1].....	24,453	16·9	413,725	1·14	472,644
1947.....	24,260	14·0	340,758	1·17	397,695
Oats—					
Long-time average..	12,663	30·3	383,158	0·41	157,018
1945.....	14,393	26·5	381,596	0·53	203,113
1946[1].....	12,075	30·7	371,069	0·56	206,242
1947.....	11,049	25·2	278,670	0·68	189,525
Barley—					
Long-time average..	3,170	23·3	73,861	0·51	37,968
1945.....	7,350	21·5	157,757	0·67	105,452
1946[1].....	6,259	23·8	148,887	0·70	104,392
1947.....	7,465	18·9	141,372	0·89	125,417
Rye—					
Long-time average..	694	13·7	9,503	0·67	6,389
1945.....	488	12·1	5,888	1·47	8,680
1946[1].....	715	12·3	8,811	2·23	19,651
1947.....	1,156	11·4	13,217	3·20	42,304
Buckwheat—					
Long-time average..	400	22·0	8,788	0·81	7,159
1945.....	261	20·1	5,246	0·87	4,544
1946[1].....	218	22·4	4,881	0·98	4,789
1947.....	290	17·9	5,187	1·17	6,075
Flaxseed—					
Long-time average..	679	8·3	5,612	1·58	8,855
1945.....	1,059	7·2	7,593	2·50	19,006
1946[1].....	841	7·6	6,403	2·99	19,173
1947.....	1,571	7·8	12,241	5·22	63,926
	'000 acres	cwt.	'000 cwt.	$ per cwt.	$'000
Potatoes—					
Long-time average..	561	86·0	48,242	1·06	50,950
1945.....	508	71·0	35,986	2·26	81,168
1946[1].....	521	92·0	47,963	1·72	82,721
1947.....	497	91·0	45,114	2·03	91,578
	'000 acres	ton	'000 ton	$ per ton	$'000
Hay and Clover—					
Long-time average..	9,168	1·48	13,577	11·62	157,765
1945.....	10,219	1·73	17,724	12·06	213,769
1946[1].....	9,883	1·45	14,373	12·80	183,974
1947.....	10,202	1·59	16,193	14·93	241,720
Alfalfa—					
Long-time average..	502	2·41	1,207	11·06	13,349
1945.....	1,587	2·44	3,880	12·40	48,130
1946[1].....	1,263	2·16	2,732	13·70	37,422
1947.....	1,135	2·26	2,560	15·22	38,965

[1] Revised since the publication of the 1947 Year Book.

DETAILS, BY PROVINCES, 1946–47, WITH FIVE-YEAR AVERAGES, 1941–45

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 bu.	$'000
Canada—				
Fall wheat..Av.	1941-45	653	18,538	18,930
	1946	546	16,274	20,343
	1947	712	17,736	26,427
Spring wheat Av.	1941-45	20,749	359,685	346,095
	1946	23,907	397,451	452,301
	1947	23,548	323,022	371,268
All wheat...Av.	1941-45	21,402	378,223	365,025
	1946	24,453	413,725	472,644
	1947	24,260	340,758	397,695
Oats.....Av.	1941-45	14,032	464,157	225,686
	1946	12,075	371,069	206,242
	1947	11,049	278,670	189,525
Barley.....Av.	1941-45	7,062	187,551	112,212
	1946	6,259	148,887	104,392
	1947	7,465	141,372	125,417
Fall rye...Av..	1941-45	563	8,324	5,658
	1946	486	6,244	13,946
	1947	841	10,234	32,684
Spring rye..Av.	1941-45	238	3,277	2,489
	1946	229	2,567	5,705
	1947	315	2,983	9,620
All rye.....Av.	1941-45	801	11,601	8,147
	1946	715	8,811	19,651
	1947	1,156	13,217	42,304

8.—Acreages, Yields and Values of Principal Field Crops Grown in Canada—continued

DETAILS, BY PROVINCES, 1946-47, WITH FIVE-YEAR AVERAGES, 1941-45—con.

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 bu.	$'000
Canada—conc.				
Peas, dry...Av.	1941-45	93	1,488	3,582
	1946	127	2,333	6,860
	1947	128	1,788	5,138
Beans, dry..Av.	1941-45	95	1,518	3,354
	1946	92	1,573	4,865
	1947	97	1,448	7,729
Soybeans...Av.	1942-45[1]	39	734	1,360
	1946	59	1,072	2,369
	1947	49	806	2,466
Buckwheat.Av.	1941-45	256	5,407	4,265
	1946	218	4,881	4,789
	1947	290	5,187	6,075
Mixed grains Av.	1941-45	1,534	51,458	29,833
	1946	1,318	53,031	35,358
	1947	1,150	34,929	32,635
Flaxseed....Av.	1941-45	1,564	11,191	23,816
	1946	841	6,403	19,173
	1947	1,571	12,241	63,926
Shelled corn Av.	1941-45	283	11,515	10,021
	1946	252	10,661	11,269
	1947	176	6,682	14,460
			'000 cwt.	
Potatoes....Av.	1941-45	518	42,174	69,373
	1946	521	47,963	82,721
	1947	497	45,114	91,578
Turnips, etc. Av.	1941-45	154	31,452	19,922
	1946	123	26,997	20,439
	1947	114	21,019	19,392
			'000 tons	
Hay and clover....Av.	1941-45	9,885	15,751	186,016
	1946	9,883	14,373	183,974
	1947	10,202	16,193	241,720
Alfalfa.....Av.	1941-45	1,472	3,580	39,720
	1946	1,263	2,732	37,422
	1947	1,135	2,560	38,965
Fodder corn Av.	1941-45	479	4,138	16,690
	1946	461	3,970	16,711
	1947	475	3,867	19,654
Grain hay..Av.	1941-45	862	1,301	7,162
	1946	918	1,616	10,092
	1947	889	1,350	9,264
Sugar beets.Av.	1941-45	62	625	5,887
	1946	67	735	9,189
	1947	59	606	7,121
P. E. Island—				
Spring wheat Av.	1941-45	7	137	140
	1946	5	78	94
	1947	5	97	146
Oats.....Av.	1941-45	122	4,079	2,368
	1946	117	4,212	2,822
	1947	122	4,270	3,459
Barley.....Av.	1941-45	14	380	317
	1946	10	272	248
	1947	10	321	334
Buckwheat.Av.	1941-45	2	45	39
	1946	1	24	23
	1947	1	25	29
Mixed grains Av.	1941-45	50	1,725	1,000
	1946	52	1,902	1,331
	1947	65	2,459	2,090
			'000 cwt.	
Potatoes....Av.	1941-45	40	4,143	5,868
	1946	49	5,723	6,124
	1947	43	5,873	9,456
Turnips, etc. Av.	1941-45	13	3,461	1,837
	1946	12	3,686	2,322
	1947	12	3,300	2,475
			'000 tons	
Hay and clover.....Av.	1941-45	220	354	4,084
	1946	232	186	3,255
	1947	226	181	3,173
Fodder corn Av.	1941-45	1	9	56
	1946	1	9	54
	1947	1	10	80
			'000 bu.	
Nova Scotia—				
Spring wheat Av.	1941-45	2	36	36
	1946	1	25	28
	1947	1	25	34
Oats.....Av.	1941-45	69	2,293	1,506
	1946	67	2,554	1,916
	1947	70	2,250	1,868
Barley.....Av.	1941-45	12	303	255
	1946	9	247	249
	1947	8	190	215
Buckwheat.Av.	1941-45	3	56	53
	1946	2	43	46
	1947	2	27	34
Mixed grains Av.	1941-45	6	196	148
	1946	4	144	121
	1947	5	137	148

[1] Includes small amounts in Provinces other than Ontario.

8.—Acreages, Yields and Values of Principal Field Crops Grown in Canada—continued

DETAILS, BY PROVINCES, 1946-47, WITH FIVE-YEAR AVERAGES, 1941-45—con.

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 cwt.	$'000
Nova Scotia—concluded				
Potatoes....Av.	1941-45	22	2,148	3,765
	1946	24	2,832	5,296
	1947	21	1,828	4,058
Turnips, etc. Av.	1941-45	13	3,568	2,841
	1946	11	3,263	3,263
	1947	10	2,010	2,010
			'000 tons	
Hay and clover....Av.	1941-45	409	698	9,878
	1946	428	599	10,309
	1947	426	724	13,162
Fodder corn Av.	1941-45	1	10	49
	1946	1	9	56
	1947	1	8	50
			'000 bu.	
New Brunswick Spring wheat Av.	1941-45	3	65	78
	1946	2	34	47
	1947	2	46	73
Oats.....Av.	1941-45	200	6,649	4,254
	1946	186	6,324	4,174
	1947	191	6,106	4,763
Barley.....Av.	1941-45	17	497	459
	1946	11	325	309
	1947	12	336	376
Beans, dry..Av.	1941-45	2	27	105
	1946	1	20	80
	1947	1	15	63
Buckwheat.Av.	1941-45	21	493	478
	1946	15	412	466
	1947	15	385	493
Mixed grains Av.	1941-45	12	382	263
	1946	10	356	242
	1947	9	323	271
			'000 cwt.	
Potatoes....Av.	1941-45	58	8,022	12,869
	1946	69	9,618	13,754
	1947	67	9,457	17,779
Turnips, etc. Av.	1941-45	15	3,577	2,752
	1946	13	2,934	1,760
	1947	12	1,927	1,638
			'000 tons	
Hay and clover....Av.	1941-45	622	956	13,856
	1946	646	711	11,483
	1947	637	893	15,842
Fodder corn Av.	1941-45	3	23	116
	1946	2	26	156
	1947	2	16	128

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 bu.	$'000
Quebec— Spring wheat Av.	1941-45	27	499	515
	1946	22	389	486
	1947	22	325	507
Oats.....Av.	1941-45	1,682	43,651	26,194
	1946	1,467	34,756	23,982
	1947	1,395	26,639	22,643
Barley.....Av.	1941-45	141	3,357	2,632
	1946	125	2,748	2,473
	1947	157	2,885	3,231
Spring rye..Av.	1941-45	11	181	160
	1946	8	126	135
	1947	8	124	164
Peas, dry...Av.	1941-45	26	394	1,226
	1946	23	303	1,103
	1947	17	211	836
Beans, dry..Av.	1941-45	13	218	682
	1946	12	198	764
	1947	10	154	701
Buckwheat.Av.	1941-45	84	1,725	1,431
	1946	78	1,627	1,643
	1947	96	1,523	1,919
Mixed grains Av.	1941-45	256	7,137	5,249
	1946	251	6,687	5,550
	1947	276	5,568	5,457
			'000 cwt.	
Potatoes....Av.	1941-45	161	11,530	19,666
	1946	152	11,400	21,090
	1947	149	10,558	22,911
Turnips, etc. Av.	1941-45	40	6,630	5,133
	1946	24	4,169	4,169
	1947	25	3,453	3,798
			'000 tons	
Hay and clover.....Av.	1941-45	4,067	5,760	79,446
	1946	4,182	5,437	70,572
	1947	4,065	5,935	92,171
Alfalfa.....Av.	1941-45	60	146	2,202
	1946	69	145	2,092
	1947	72	156	2,722
Fodder corn Av.	1941-45	89	781	4,434
	1946	89	771	4,703
	1947	95	713	5,276
Sugar beets.Av.	1941-45	2	13	156
	1946	2	18	219
	1947	2	11	74

8.—Acreages, Yields and Values of Principal Field Crops Grown in Canada—continued

DETAILS, BY PROVINCES, 1946-47, WITH FIVE-YEAR AVERAGES, 1941-45—con.

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 bu.	$'000
Ontario—				
Fall wheat..Av.	1941-45	653	18,538	18,930
	1946	546	16,274	20,343
	1947	712	17,736	26,427
Spring wheat Av.	1941-45	40	762	777
	1946	38	836	1,045
	1947	31	563	839
All wheat...Av.	1941-45	693	19,300	19,707
	1946	584	17,110	21,388
	1947	743	18,299	27,266
Oats.....Av.	1941-45	1,725	60,938	32,125
	1946	1,635	71,776	43,066
	1947	1,289	41,490	34,437
Barley.....Av.	1941-45	326	9,925	6,579
	1946	293	10,753	8,280
	1947	228	6,133	6,440
Fall rye....Av.	1941-45	71	1,286	1,048
	1946	65	1,378	2,742
	1947	75	1,444	3,754
Peas, dry...Av.	1941-45	28	443	980
	1946	34	720	2,045
	1947	44	644	1,932
Beans, dry..Av.	1941-45	78	1,241	2,502
	1946	77	1,328	3,944
	1947	84	1,262	6,903
Soybeans...Av.	1942-45[1]	39	734	1,360
	1946	59	1,072	2,369
	1947	49	806	2,466
Buckwheat.Av.	1941-45	139	2,981	2,172
	1946	116	2,691	2,503
	1947	174	3,192	3,543
Mixed grains Av.	1941-45	1,030	36,864	20,468
	1946	946	42,286	27,063
	1947	751	25,312	23,793
Flaxseed....Av.	1941-45	21	216	441
	1946	18	169	512
	1947	56	674	3,653
Shelled corn Av.	1941-45	232	10,630	9,389
	1946	240	10,392	11,016
	1947	165	6,430	14,082
			'000 cwt.	
Potatoes....Av.	1941-45	119	7,687	15,096
	1946	120	10,800	21,168
	1947	114	9,100	20,293
Turnips, etc. Av.	1941-45	59	12,479	5,811
	1946	61	12,546	8,406
	1947	53	9,938	8,845
			'000 tons	
Hay and clover....Av.	1941-45	3,008	5,367	55,983
	1946	2,952	5,197	60,326
	1947	3,363	6,154	85,356
Ontario—conc.				
Alfalfa.....Av.	1941-45	778	2,012	22,454
	1946	707	1,599	20,595
	1947	547	1,347	19,195
Fodder corn Av.	1941-45	313	3,010	10,364
	1946	340	3,050	10,980
	1947	348	2,973	13,022
Sugar beets.Av.	1941-45	19	186	1,639
	1946	23	232	3,184
	1947	19	164	2,300
			'000 bu.	
Manitoba—				
Spring wheat Av.	1941-45	2,130	46,420	45,252
	1946	2,522	58,000	69,020
	1947	2,497	43,000	50,740
Oats.....Av.	1941-45	1,546	58,040	27,432
	1946	1,439	50,000	26,500
	1947	1,381	39,000	23,010
Barley.....Av.	1941-45	2,031	57,840	34,438
	1946	1,697	43,000	30,100
	1947	1,901	34,000	29,240
Fall rye....Av.	1941-45	78	1,322	789
	1946	15	257	579
	1947	32	490	1,661
Spring rye..Av.	1941-45	19	327	212
	1946	6	89	200
	1947	8	110	373
All rye.....Av.	1941-45	97	1,649	1,001
	1946	21	346	779
	1947	40	600	2,034
Peas, dry...Av.	1941-45	8	154	323
	1946	31	612	1,744
	1947	31	437	1,049
Buckwheat.Av.	1941-45	7	107	92
	1946	6	84	108
	1947	2	35	57
Mixed grains Av.	1941-45	39	1,140	619
	1946	14	420	248
	1947	13	308	246
Flaxseed....Av.	1941-45	222	2,101	4,600
	1946	304	2,979	8,937
	1947	556	5,200	27,144
Shelled corn Av.	1941-45	51	885	632
	1946	12	269	253
	1947	11	252	378
			'000 cwt.	
Potatoes....Av.	1941-45	29	2,166	2,357
	1946	25	1,350	2,147
	1947	25	1,813	2,828

[1] No production previous to 1942.

8.—Acreages, Yields and Values of Principal Field Crops Grown in Canada—continued

DETAILS, BY PROVINCES, 1946–47, WITH FIVE-YEAR AVERAGES, 1941–45—con.

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 cwt.	$'000
Manitoba—conc.				
Turnips, etc.				
Av.	1941-45	4	439	328
	1946	Nil	Nil	Nil
	1947	"	"	"
			'000 tons	
Hay and clover.....Av.	1941-45	425	812	4,922
	1946	243	243	2,197
	1947	245	440	4,180
Alfalfa.....Av.	1941-45	215	494	4,339
	1946	63	101	1,307
	1947	79	198	2,584
Fodder corn				
Av.	1941-45	45	169	875
	1946	17	42	327
	1947	17	89	623
Sugar beets.Av.	1941-45	13	99	814
	1946	12	98	1,080
	1947	9	65	538
			'000 bu.	
Saskatchewan—				
Spring wheat				
Av.	1941-45	12,200	201,640	197,128
	1946	14,226	208,000	237,120
	1947	14,226	173,000	198,950
Oats.....Av.	1941-45	5,354	173,700	80,472
	1946	4,329	100,000	52,000
	1947	3,983	80,000	48,800
Barley.....Av.	1941-45	2,562	65,040	38,517
	1946	2,317	43,000	29,670
	1947	2,780	45,000	37,800
Fall rye....Av.	1941-45	321	4,220	2,668
	1946	251	2,284	5,185
	1947	537	5,400	17,496
Spring rye..Av.	1941-45	152	2,086	1,638
	1946	155	1,721	3,906
	1947	167	1,380	4,471
All rye.....Av.	1941-45	473	6,306	4,306
	1946	406	4,005	9,091
	1947	704	6,780	21,967
Peas, dry...Av.	1941-45	4	79	198
	1946	12	176	502
	1947	9	102	255
Mixed grains				
Av.	1941-45	71	2,031	1,121
	1946	8	160	104
	1947	6	95	70
Flaxseed....Av.	1941-45	1,083	7,184	15,231
	1946	455	2,594	7,756
	1947	700	4,200	21,924
			'000 cwt.	
Potatoes....Av.	1941-45	44	2,632	3,180
	1946	37	1,776	3,552
	1947	37	2,387	4,607

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 cwt.	$'000
Saskatchewan —conc.				
Turnips, etc.				
Av.	1941-45	3	285	267
	1946	Nil	Nil	Nil
	1947	"	"	"
			'000 tons	
Hay and clover....Av.	1941-45	322	521	3,635
	1946	335	469	4,887
	1947	314	399	5,351
Alfalfa.....Av.	1941-45	118	224	2,130
	1946	125	193	2,688
	1947	125	171	2,859
Fodder corn				
Av.	1941-45	12	36	220
	1946	6	15	120
	1947	6	17	170
			'000 bu.	
Alberta—				
Spring wheat				
Av.	1941-45	6,248	107,760	99,707
	1946	6,983	127,000	140,970
	1947	6,634	103,000	116,390
Oats.....Av.	1941-45	3,257	111,120	49,502
	1946	2,754	97,000	49,470
	1947	2,534	75,000	48,000
Barley.....Av.	1941-45	1,939	49,540	28,555
	1946	1,783	48,000	32,640
	1947	2,354	52,000	47,320
Fall rye....Av.	1941-45	93	1,496	1,153
	1946	155	2,325	5,440
	1947	197	2,900	9,773
Spring rye..Av.	1941-45	54	638	445
	1946	59	602	1,409
	1947	131	1,350	4,550
All rye.....Av.	1941-45	147	2,134	1,598
	1946	214	2,927	6,849
	1947	328	4,250	14,323
Peas, dry..Av.	1941-45	20	267	567
	1946	19	314	942
	1947	19	222	591
Beans, dry..Av.	1941-45	1	14	29
	1946	1	6	21
	1947	1	2	8
Mixed grains				
Av.	1941-45	64	1,753	830
	1946	25	728	459
	1947	16	359	266
Flaxseed....Av.	1941-45	235	1,652	3,463
	1946	62	635	1,892
	1947	257	2,150	11,116
			'000 cwt.	
Potatoes....Av.	1941-45	28	2,104	3,043
	1946	26	2,051	4,040
	1947	24	1,960	3,959

8.—Acreages, Yields and Values of Principal Field Crops Grown in Canada—concluded

DETAILS, BY PROVINCES, 1946-47, WITH FIVE-YEAR AVERAGES, 1941-45—conc.

Province and Field Crop	Year	Area	Total Production	Gross Farm Value
		'000 acres	'000 cwt.	$'000
Alberta—conc.				
Turnips, etc.				
Av.	1941-45	4	389	408
	1946	Nil	Nil	Nil
	1947	"	"	"
			'000 tons	
Hay and clover....Av.	1941-45	596	845	7,207
	1946	638	1,020	11,108
	1947	697	975	12,197
Alfalfa.....Av.	1941-45	230	503	5,310
	1946	220	461	6,210
	1947	224	447	6,544
Fodder corn				
Av.	1941-45	10	50	291
	1946	1	3	18
	1947	1	4	24
Grain hay..Av.	1941-45	830	1,234	6,339
	1946	882	1,544	9,264
	1947	850	1,275	8,288
Sugar beets.Av.	1941-45	28	327	3,278
	1946	30	387	4,706
	1947	29	366	4,209
British Columbia—			'000 bu.	
Spring wheat				
Av.	1941-45	92	2,366	2,462
	1946	108	3,089	3,491
	1947	130	2,966	3,589
Oats.....Av.	1941-45	77	3,687	1,833
	1946	81	4,447	2,312
	1947	84	3,915	2,545
Barley.....Av.	1941-45	20	669	460
	1946	14	542	423
	1947	15	507	461
Spring rye..Av.	1941-45	2	45	34
	1946	1	29	55
	1947	1	19	62
British Columbia—conc.				
Peas, dry...Av.	1941-45	7	151	288
	1946	8	208	524
	1947	8	172	475
Beans, dry.Av..	1941-45	1	18	36
	1946	1	21	56
	1947	1	15	54
Mixed grains				
Av.	1941-45	6	230	135
	1946	8	348	240
	1947	9	368	294
Flaxseed....Av.	1941-45	3	38	81
	1946	2	26	76
	1947	2	17	89
			'000 cwt.	
Potatoes....Av.	1941-45	17	1,742	3,529
	1946	19	2,413	5,550
	1947	17	2,138	5,687
Turnips, etc.				
Av.	1941-45	3	624	545
	1946	2	399	519
	1947	2	391	626
			'000 tons	
Hay and clover....Av.	1941-45	216	438	7,005
	1946	227	511	9,837
	1947	229	492	10,288
Alfalfa.....Av.	1941-45	71	201	3,285
	1946	79	233	4,530
	1947	88	241	5,061
Fodder corn				
Av.	1941-45	5	50	285
	1946	4	45	297
	1947	4	37	281
Grain hay..Av.	1941-45	32	67	823
	1946	36	72	828
	1947	39	75	976

9.—Acreages and Production of Grain in the Prairie Provinces, 1945-47

Kind of Grain	Acreages			Production		
	1945	1946[1]	1947[2]	1945	1946[1]	1947[2]
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
Wheat	22,566	23,731	23,357	294,600	393,000	319,000
Oats	10,749	8,522	7,898	273,500	247,000	194,000
Barley	6,859	5,797	7,035	144,000	134,000	131,000
Rye	410	641	1,072	4,476	7,278	11,630
Flaxseed	1,034	821	1,513	7,338	6,208	11,550

[1] Revised since the publication of the 1947 Year Book. [2] Subject to revision.

Stocks of Grain in Canada.—Table 10 shows the stocks of Canadian grain on hand on July 31, for the years 1937-47, in both Canada and the United States as well as the amounts held on farms at that date. Farm stocks are given for Canada and the Prairie Provinces separately, while an additional column indicates the amounts held in country elevators in the Prairie Provinces.

10.—Carryover of Canadian Grain as at July 31, 1937-47

Year ended July 31—	Total in Canada and United States	Total in Canada	In Commercial Storage in Canada	On Farms in Canada	Prairie Provinces	
					On Farms	In Country Elevators
	bu.	bu.	bu.	bu.	bu.	bu.
	WHEAT					
1937	37,048,839	32,937,991	28,938,691	3,999,300	3,392,000	3,401,452
1938	24,535,858	23,553,228	18,492,228	5,061,000	3,579,000	1,166,971
1939	102,910,853	94,631,948	89,949,948	4,682,000	2,805,000	7,811,988
1940	300,473,465	272,927,932	255,641,932	17,286,000	14,250,000	57,659,694
1941	480,129,311	448,337,801	434,383,801	13,954,000	11,500,000	217,873,891
1942	423,752,337	404,896,791	394,450,791	10,446,000	9,200,000	133,406,134
1943	594,626,019	579,370,626	389,163,626	190,207,000	187,000,000	226,185,096
1944	356,531,079	338,137,557	284,266,557	53,871,000	52,850,000	136,729,502
1945	258,072,830	238,480,041	209,830,041	28,650,000	27,000,000	62,050,936
1946	73,600,209	73,466,209	46,263,209	27,203,000	25,841,000	14,341,575
1947	87,366,657	82,279,657	61,291,657	25,988,000	24,487,000	16,358,762
	OATS					
1937	18,266,043	18,266,043	3,035,043	15,231,000	4,518,000	674,703
1938	19,498,653	19,498,653	3,378,653	16,120,000	7,106,000	448,689
1939	48,887,155	48,796,155	9,142,155	39,654,000	26,501,000	1,798,979
1940	46,931,028	46,585,416	6,804,416	39,781,000	23,214,000	1,962,724
1941	41,563,379	41,252,114	4,150,114	37,102,000	20,137,000	722,020
1942	28,607,188	28,607,188	4,434,188	24,173,000	11,952,000	1,407,606
1943	149,340,515	146,871,148	28,467,148	118,404,000	102,000,000	14,706,361
1944	108,479,383	107,745,201	38,322,201	69,423,000	61,830,000	13,705,907
1945	98,255,162	94,749,878	29,924,878	64,825,000	54,500,000	5,460,089
1946	77,491,528	77,491,528	26,404,528	51,087,000	40,902,000	7,631,949
1947	69,950,055	69,559,055	16,993,055	52,566,000	39,812,000	5,017,510
	BARLEY					
1937	4,796,213	4,315,699	2,839,299	1,476,400	755,000	189,064
1938	6,630,934	6,630,934	3,453,434	3,177,500	2,233,000	308,530
1939	12,804,186	12,784,186	5,437,486	7,346,700	5,826,000	1,085,307
1940	12,653,875	11,502,370	4,427,370	7,075,000	5,351,000	1,113,229
1941	10,908,001	10,425,898	3,920,898	6,505,000	4,895,000	767,478
1942	10,821,462	10,821,462	5,709,462	5,112,000	4,194,000	924,577
1943	69,278,502	65,922,701	24,608,701	41,314,000	40,000,000	10,350,218
1944	45,949,269	45,671,344	22,292,344	23,379,000	22,825,000	7,534,783
1945	28,919,181	28,253,191	10,434,191	17,819,000	17,000,000	4,258,071
1946	29,937,099	29,832,559	15,948,559	13,884,000	13,250,000	5,996,031
1947	29,112,331	29,112,331	12,620,331	16,492,000	15,453,000	3,386,710
	RYE					
1937	408,864	408,864	330,464	78,400	68,000	65,598
1938	1,000,576	985,576	907,576	78,000	44,000	52,537
1939	2,921,434	1,975,871	1,595,871	380,000	345,000	495,747
1940	5,351,661	2,045,636	1,426,636	619,000	545,000	556,708
1941	4,919,122	1,859,871	1,399,871	460,000	399,000	399,395
1942	3,353,203	2,024,203	1,821,203	203,000	145,000	348,020
1943	15,267,755	14,399,369	8,313,369	6,086,000	6,000,000	3,993,573
1944	5,594,285	4,384,155	3,340,155	1,044,000	1,000,000	566,590
1945	2,023,933	2,023,933	1,518,933	505,000	465,000	123,595
1946	768,149	768,149	515,149	253,000	215,000	269,878
1947	758,172	735,172	455,172	280,000	212,000	84,275
	FLAXSEED					
1937	464,967	464,967	455,167	9,800	9,500	82,527
1938	219,027	219,027	217,227	1,800	1,000	26,093
1939	118,822	118,822	113,922	4,900	4,800	37,786
1940	583,307	583,307	556,507	26,800	26,500	198,684
1941	620,313	620,313	605,313	15,000	14,000	109,667
1942	1,027,040	1,027,040	1,005,040	22,000	19,000	51,504
1943	3,740,121	3,740,121	3,346,121	394,000	385,000	1,228,803
1944	3,648,642	3,648,642	2,824,642	824,000	814,000	280,819
1945	2,932,111	2,932,111	2,178,111	754,000	750,000	321,182
1946	1,649,218	1,649,218	1,006,218	643,000	635,000	66,880
1947	799,929	799,929	358,929	441,000	436,000	68,469

Subsection 4.—Live Stock

The growth of the live-stock industry in Canada from decade to decade is indicated in summary form in Table 11.

11.—Live Stock in Canada, Censuses of 1871-1941

Item	1871	1881	1891	1901	1911	1921	1931	1941
	No.	No.	No.	No.	No.	No.	No.	No.
Horses	836,743	1,059,358	1,470,572	1,577,493	2,598,958	3,610,494	3,215,431	2,845,008
All cattle	2,624,290	3,433,989	4,120,586	5,576,451	6,526,083	8,519,484	8,099,883	8,653,045
Milk cows	*1,251,209*	*1,595,800*	*1,857,112*	*2,408,677*	*2,595,255*	*3,318,664*[1]	*3,585,114*[1]	*3,707,165*[2]
Other cattle	*1,373,081*	*1,838,189*	*2,263,474*	*3,167,774*	*3,930,828*	*5,200,820*	*4,514,769*	*4,945,882*
Sheep	3,155,509	3,048,678	2,563,781	2,510,239	2,174,300	3,203,966	3,627,116	2,839,948
Swine	1,366,083	1,207,619	1,733,850	2,353,828	3,634,778	3,404,730	4,774,828	6,174,309

[1] Cows in milk or in calf. [2] Cows and heifers, two years old or over, kept mainly for milk purposes.

Live stock on farms as obtained from the census data cannot be separated from the total numbers except for the past three census years. Table 12 gives the numbers of live stock on farms for those years.

12.—Live Stock on Farms, Censuses of 1921, 1931 and 1941

Item	1921	1931	1941
	No.	No.	No.
Horses	3,451,752	3,113,909	2,788,795
All cattle	8,369,489	7,973,031	8,517,007
Milk cows	*3,222,644*[1]	*3,523,001*[1]	*3,626,025*[2]
Other cattle	*5,146,845*	*4,450,030*	*4,890,982*
Sheep	3,200,467	3,627,116	2,839,948
Swine	3,324,291	4,699,831	6,081,389

[1] Cows in milk or in calf. [2] Cows and heifers, two years old or over, kept mainly for milk purposes.

However, annual estimates, based on census data, are compiled for numbers of animals on farms. The indexes in Table 13 are the estimates of live stock for the respective years expressed as percentages of the numbers on farms during the period 1935 to 1939. Table 14 gives the absolute figures by provinces for 1943-47 and Table 15 the average values per head of farm live stock in the same years.

13.—Index Numbers of Animals on Farms, 1937-40, 1942-47

(Average 1935-39=100)

NOTE.—Comparable figures for 1906-36 are given at pp. 211-212 of the 1945 Year Book.

Year	Horses	Milk Cows	Other Cattle	All Cattle	Sheep and Lambs	Swine
1937	100·4	101·7	102·7	102·3	99·6	102·0
1938	97·8	98·7	96·5	97·4	98·8	89·5
1939	97·5	97·4	95·1	96·1	94·4	110·8
1940	98·1	96·5	95·8	96·1	93·6	152·4
1942	99·4	97·4	106·6	102·6	103·7	180·9
1943	98·0	100·4	118·9	110·9	112·2	206·9
1944	96·6	103·9	130·0	118·7	120·9	196·5
1945	91·2	105·8	137·0	123·4	117·5	153·0
1946[1]	77·7	98·2	120·6	110·9	95·4	124·7
1947	71·7	97·8	122·0	111·5	87·8	139·0

[1] Revised since the publication of the 1947 Year Book.

14.—Numbers of Farm Live Stock, by Provinces, June 1, 1943-47

Province and Item	1943	1944	1945	1946[1]	1947
	'000	'000	'000	'000	'000
Canada—					
Horses	2,775	2,735	2,585	2,200	2,032
Milk cows	3,795	3,930	3,998	3,711	3,697
Other cattle	5,870	6,416	6,760	5,954	6,021
Sheep	3,459	3,726	3,622	2,942	2,707
Swine	8,148	7,741	6,026	4,910	5,473
P. E. Island—					
Horses	27	27	27	25	24
Milk cows	46	46	47	46	43
Other cattle	54	59	59	56	52
Sheep	56	58	60	55	49
Swine	65	66	60	64	69
Nova Scotia—					
Horses	36	36	35	34	33
Milk cows	104	109	109	103	98
Other cattle	108	123	117	115	105
Sheep	162	161	160	154	138
Swine	65	69	59	49	60
New Brunswick—					
Horses	48	47	46	45	43
Milk cows	113	118	119	116	111
Other cattle	107	114	107	102	98
Sheep	107	111	114	104	95
Swine	94	104	82	78	92
Quebec—					
Horses	330	344	314	318	317
Milk cows	1,019	1,071	1,104	1,098	1,121
Other cattle	886	959	908	874	913
Sheep	574	638	649	595	572
Swine	979	1,001	844	868	1,061
Ontario—					
Horses	522	507	492	467	451
Milk cows	1,170	1,188	1,253	1,250	1,253
Other cattle	1,524	1,557	1,655	1,618	1,622
Sheep	738	737	724	701	667
Swine	1,885	1,900	1,979	2,013	2,245
Manitoba—					
Horses	298	290	264	215	195
Milk cows	370	387	366	277	267
Other cattle	558	606	658	523	512
Sheep	327	319	288	206	181
Swine	877	624	457	308	347
Saskatchewan—					
Horses	824	819	783	570	505
Milk cows	503	529	525	399	393
Other cattle	1,100	1,356	1,454	1,100	1,118
Sheep	463	531	513	335	285
Swine	1,755	1,600	1,007	523	558
Alberta—					
Horses	628	603	564	469	411
Milk cows	376	386	376	326	316
Other cattle	1,251	1,357	1,484	1,272	1,338
Sheep	900	1,023	975	667	614
Swine	2,338	2,279	1,469	940	964
British Columbia—					
Horses	62	62	60	57	53
Milk cows	94	96	99	96	95
Other cattle	282	285	318	294	263
Sheep	132	148	139	125	106
Swine	90	98	69	67	77

[1] Revised since the publication of the 1947 Year Book.

15.—Average Values per Head of Farm Live Stock, by Provinces, 1943-47

Province and Item	1943	1944	1945	1946[1]	1947
	$	$	$	$	$
Canada—					
Horses	80	75	69	75	78
All cattle	71	67	68	76	82
Milk cows	*102*	*97*	*98*	*111*	*117*
Other cattle	*51*	*49*	*51*	*55*	*61*
Sheep	10·90	9·90	9·40	10·00	11·10
Swine	16·50	18·40	20·10	22·80	24·50
P. E. Island—					
Horses	111	113	115	114	109
All cattle	58	52	57	65	72
Milk cows	*85*	*78*	*85*	*96*	*108*
Other cattle	*35*	*32*	*35*	*39*	*42*
Sheep	10·40	8·60	9·20	10·20	11·30
Swine	15·70	20·20	21·60	25·50	27·50
Nova Scotia—					
Horses	139	140	144	153	153
All cattle	59	55	58	71	82
Milk cows	*81*	*80*	*83*	*99*	*115*
Other cattle	*39*	*33*	*36*	*47*	*61*
Sheep	9·10	9·40	9·90	8·90	9·40
Swine	18·60	18·90	20·30	25·70	27·20
New Brunswick—					
Horses	144	143	142	146	128
All cattle	57	54	55	63	74
Milk cows	*81*	*77*	*77*	*89*	*102*
Other cattle	*32*	*31*	*30*	*34*	*43*
Sheep	9·60	8·80	8·30	9·10	9·40
Swine	21·30	20·20	20·30	23·10	27·10
Quebec—					
Horses	138	137	134	134	131
All cattle	75	68	70	81	82
Milk cows	*105*	*96*	*95*	*111*	*112*
Other cattle	*40*	*37*	*39*	*43*	*44*
Sheep	10·60	10·10	9·50	10·60	11·60
Swine	17·90	17·80	18·60	24·00	25·80
Ontario—					
Horses	109	102	95	98	99
All cattle	81	77	79	90	93
Milk cows	*115*	*111*	*114*	*128*	*131*
Other cattle	*55*	*51*	*53*	*60*	*64*
Sheep	13·50	11·80	11·80	12·20	13·00
Swine	16·50	19·40	22·70	25·40	25·40
Manitoba—					
Horses	65	59	53	53	59
All cattle	67	65	64	66	77
Milk cows	*93*	*91*	*87*	*92*	*108*
Other cattle	*50*	*48*	*51*	*52*	*61*
Sheep	10·20	9·30	8·00	8·80	10·20
Swine	17·20	18·50	19·00	19·10	22·50
Saskatchewan—					
Horses	55	48	40	42	45
All cattle	66	64	62	66	75
Milk cows	*94*	*93*	*87*	*94*	*106*
Other cattle	*54*	*52*	*53*	*55*	*64*
Sheep	10·40	9·40	7·70	8·20	9·80
Swine	16·00	17·70	18·60	18·60	21·40
Alberta—					
Horses	55	49	41	45	48
All cattle	64	62	63	67	76
Milk cows	*89*	*88*	*89*	*96*	*108*
Other cattle	*56*	*54*	*56*	*59*	*69*
Sheep	10·00	9·00	8·60	8·70	9·90
Swine	16·00	18·10	18·90	19·50	22·80
British Columbia—					
Horses	103	101	96	100	98
All cattle	62	64	64	67	78
Milk cows	*86*	*88*	*91*	*94*	*109*
Other cattle	*54*	*57*	*56*	*59*	*67*
Sheep	11·20	11·20	10·70	11·50	12·40
Swine	16·00	17·60	19·20	20·10	24·70

[1] Revised since the publication of the 1947 Year Book.

Under the Meat and Canned Goods Act, establishments such as abattoirs and meat-packing plants that prepare meat products for export are subject to inspection. Local wholesale butchering and such slaughterings as are carried out by retail butchers and by farmers for their own use are not included in Table 16. Actually, the growth of the slaughtering and meat-packing industry has been accompanied by a concentration of the major part of the production into a comparatively small number of large establishments to facilitate greater efficiency and utilization of products. These figures, therefore, are fairly inclusive. The industry is dealt with in its proper relation to all other manufacturing enterprises in Chapter XVI. It normally ranks among the three or four largest manufacturing industries in Canada, in gross values of production but, as the chart at p. 564 indicates, it owes its importance to the value of raw products obtained from the farmer and rancher rather than to the value added by the manufacturing process.

16.—Live Stock Slaughtered at Canadian Inspected Establishments, 1933-46 and by Months, 1947

Year	Cattle	Calves	Sheep	Hogs	Year and Month	Cattle	Calves	Sheep	Hogs
	No.	No.	No.	No.		No.	No.	No.	No.
1933.....	654,000	438,428	868,679	2,802,377	1947—				
1934.....	804,290	542,842	854,222	2,871,980	January.....	109,170	22,409	65,598	378,858
1935.....	789,711	586,851	861,228	2,805,825	February....	86,919	22,594	56,775	287,369
1936.....	920,229	602,616	830,975	3,562,534	March.....	82,583	52,357	58,472	343,315
1937.....	923,961	702,405	821,758	3,802,141	April.....	94,615	108,863	38,532	417,871
1938.....	859,260	676,579	801,679	3,137,203	May.....	88,586	103,046	16,287	405,616
1939.....	873,660	679,117	783,828	3,623,645	June.....	80,920	75,089	19,885	330,716
1940.....	890,919	703,918	765,165	5,457,083	July.....	108,167	70,740	50,654	300,336
1941.....	1,003,691	727,829	828,603	6,280,345	August.....	118,379	54,249	108,988	238,092
1942.....	970,415	666,672	825,368	6,196,850	September...	69,960	24,711	51,868	202,502
1943.....	1,021,054	594,087	889,317	7,168,525	October.....	91,699	29,120	92,149	336,589
1944.....	1,354,121	661,245	959,169	8,766,417	November...	197,557	62,096	233,895	630,500
1945.....	1,891,024	787,626	1,185,161	5,681,629	December...	163,204	40,037	107,663	581,052
1946.....	1,668,441	752,343	1,213,235	4,252,591					
					Totals.....	1,291,759	665,311	900,766	4,452,816

Wool.—Total wool production in Canada in 1947 amounted to 14,090,000 lb. as compared with a revised estimate of 16,747,000 lb. for 1946. Adjustments in the estimates of numbers of sheep were necessary when information from the 1946 Census of the Prairie Provinces became available; this has necessitated a revision of the estimate of the wool clip for that year. The very significant decline in wool production in 1947 reflected the decrease in sheep numbers. Shorn wool production decreased in every province. With fewer sheep available for slaughter, production of pulled wool also decreased by 1,400,000 lb.

Domestic disappearance of wool in 1947 was 88,882,000 lb. as compared with 110,380,000 lb. in 1946. As data on stocks are not available, the estimates of domestic disappearance are subject to error to the extent that changes in stocks actually took place. Wool imports during 1947 decreased by about 20,000,000 lb. from the previous year.

The farm value of shorn wool and farm cash income from the sales of wool rose steadily from 1939 to 1944. Since 1945, however, the rapid decline in the number of sheep has resulted in less income from wool despite a gradual rise in farm prices. The average farm price of wool for Canada changed only fractionally during the last year from 28 cents per lb. in 1946 to 28·2 cents per lb. in 1947.

17.—Estimated Production, Exports, Imports and Apparent Consumption of Wool, 1937-40, 1942-47

NOTE.—All estimates are on a 'greasy' basis. Comparable statistics of production for the years 1920-29 are given at p. 219 of the 1939 Year Book and for 1930-36 at p. 214 of the 1945 edition.

Year	Shorn				Pulled	Total Production	Exports	Imports	Apparent Consumption
	Yield per Fleece	Total Yield Shorn	Price per Pound	Total Value Shorn					
	lb.	'000 lb.	cts.	$	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
1937.....	7·2	12,289	15·4	1,891,000	3,785	16,074	5,093	60,375	71,356
1938.....	7·3	12,000	11·7	1,401,000	3,628	15,628	4,398	45,101	56,331
1939.....	7·5	11,761	13·5	1,588,000	3,489	15,250	4,879	51,953	62,324
1940.....	7·4	11,549	19·3	2,228,000	3,346	14,895	2,681	86,170	98,384
1942.....	7·7	12,867	25·5	3,283,000	3,610	16,477	384	114,428	130,521
1943.....	7·5	13,929	27·0	3,761,000	3,889	17,818	2,316	104,364	119,866
1944.....	7·5	15,128	27·1	4,106,000	4,151	19,279	15,520	52,690	56,449
1945.....	7·6	14,513	27·7	4,015,000	5,113	19,626	11,927	59,506	67,205
1946[1].....	7·5	11,457	28·0	3,208,000	5,290	16,747	6,409	100,042	110,380
1947.....	7·4	10,176	28·2[2]	2,865,000[2]	3,914	14,090	5,103	79,895	88,882

[1] Revised since the publication of the 1947 Year Book. [2] Subject to revision.

Subsection 5.—Poultry and Eggs

There was an increase of 9 p.c. in the total number of poultry on farms at June 1, 1947, as compared with June 1, 1946. The total farm value of poultry was 16·6 p.c. greater than in 1946, the value per bird having increased in each class. While the numbers of geese and ducks declined 9 and 7 p.c. respectively there was an increase of 9 p.c. in the number of hens and chickens and a 20 p.c. increase in turkeys.

Egg production during 1947 was 15·5 p.c. above that of 1946 with a total value 18·8 p.c. higher. Production of poultry meat increased by 13·7 p.c. as compared with the previous year, with a 10·7 p.c. increase in total value.

18.—Numbers and Values of Farm Poultry, by Provinces, as at June 1, 1945-47

Province and Year	Total Poultry		Hens and Chickens		Turkeys		Geese		Ducks	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
	'000	$'000	'000	$'000	'000	$'000	'000	$'000	'000	$'000
P.E.I.—										
1945.....	1,243	1,366	1,206	1,303	8	19	14	28	15	16
1946.....	1,184	1,462	1,147	1,380	10	35	16	33	11	14
1947.....	1,369	1,600	1,333	1,510	13	48	12	27	11	15
N.S.—										
1945.....	1,842	1,786	1,805	1,697	19	61	8	17	10	11
1946.....	2,338	2,728	2,300	2,642	23	63	8	15	7	8
1947.....	2,682	3,361	2,632	3,218	35	115	9	21	6	7
N.B.—										
1945.....	1,895	2,000	1,842	1,879	35	87	10	23	8	11
1946.....	1,713	2,104	1,672	1,993	24	75	10	24	7	12
1947.....	1,879	2,370	1,829	2,227	32	103	11	27	7	13
Que.—										
1945.....	12,266	13,280	11,860	12,334	302	803	36	73	68	70
1946.....	12,571	14,925	12,183	13,959	283	822	30	62	75	82
1947.....	14,004	19,482	13,513	18,100	404	1,253	25	53	62	76
Ont.—										
1945.....	28,643	28,783	27,279	26,188	706	1,693	299	529	359	373
1946.....	29,774	33,564	28,467	30,679	668	1,916	290	578	349	391
1947.....	30,744	34,751	29,438	31,588	755	2,307	244	511	307	345

18.—Numbers and Values of Farm Poultry, by Provinces, as at June 1, 1945-47 —concluded

Province and Year	Total Poultry		Hens and Chickens		Turkeys		Geese		Ducks	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
	'000	$'000	'000	$'000	'000	$'000	'000	$'000	'000	$'000
Man.—										
1945	8,276	6,951	7,501	5,626	594	1,152	62	84	119	89
1946	7,574	6,291	7,073	5,392	357	742	67	94	77	63
1947	8,224	8,067	7,619	6,752	448	1,112	77	125	80	78
Sask.—										
1945	13,411	10,685	12,248	8,574	980	1,931	65	88	118	92
1946	11,333	9,529	10,599	8,115	597	1,258	62	87	75	69
1947	13,535	12,547	12,780	10,741	627	1,635	58	104	70	67
Alta.—										
1945	10,552	8,518	9,652	6,949	671	1,329	128	160	101	80
1946	9,793	8,320	9,045	6,970	568	1,151	99	130	81	69
1947	10,916	10,016	10,055	8,091	677	1,684	94	148	90	93
B.C.—										
1945	4,190	4,005	4,096	3,809	77	172	8	14	9	10
1946	4,555	5,056	4,427	4,738	108	288	8	17	12	13
1947	4,911	5,753	4,715	5,224	175	496	8	18	13	15
Totals—										
1945	**82,318**	**77,374**	**77,489**	**68,359**	**3,392**	**7,247**	**630**	**1,016**	**807**	**752**
1946	**80,835**	**83,979**	**76,913**	**75,868**	**2,638**	**6,350**	**590**	**1,040**	**694**	**721**
1947	**88,264**	**97,947**	**83,914**	**87,451**	**3,166**	**8,753**	**538**	**1,034**	**646**	**709**

19.—Production, Utilization and Total Value of Farm Eggs, by Provinces, 1946 and 1947

Province and Year	Average Number of Layers	Average Production Per 100 Layers	Net Eggs Laid[1]	Sold	Used on Farms[2]	Value Per Dozen[3]	Total Value Sold and Used
	'000	No.	'000 doz.	'000 doz.	'000 doz.	cts.	$'000
Prince Edward Island—							
1946	486	15,608	6,268	5,344	918	33·1	2,070
1947	508	14,956	6,288	5,352	924	33·6	2,107
Nova Scotia—							
1946	649	15,497	8,308	6,102	2,155	38·9	3,211
1947	836	15,617	10,796	8,172	2,637	39·2	4,236
New Brunswick—							
1946	576	15,164	7,222	4,985	2,181	36·3	2,599
1947	603	15,427	7,696	5,678	2,048	39·5	3,050
Quebec—							
1946	4,112	15,340	52,032	37,946	13,785	38·7	20,020
1947	4,979	14,912	61,274	46,596	14,842	39·0	23,952
Ontario—							
1946	10,010	15,738	130,048	112,207	17,180	37·1	48,066
1947	12,166	15,342	154,160	136,678	17,484	37·6	58,036
Manitoba—							
1946	2,287	13,657	25,767	19,811	5,807	33·0	8,460
1947	2,483	13,440	27,534	21,966	5,557	32·8	9,015
Saskatchewan—							
1946	3,330	13,031	35,674	26,070	9,512	31·3	11,150
1947	3,844	12,346	39,164	29,218	9,847	30·2	11,781
Alberta—							
1946	3,133	12,852	33,056	25,077	7,770	31·2	10,240
1947	3,416	13,404	37,718	28,488	9,230	31·0	11,702
British Columbia—							
1946	1,827	16,682	25,188	22,531	2,603	32·5	8,172
1947	2,142	16,415	29,066	25,981	2,971	39·4	11,419
Totals—							
1946	**26,410**	**14,856**	**323,563**	**260,073**	**61,911**	**35·4**	**113,988**
1947	**30,977**	**14,612**	**373,696**	**308,129**	**65,540**	**36·2**	**135,298**

[1] Total laid less loss. This figure is not equal to "Sold" and "Used on Farms" because of the carry-over on farms at beginning and end of the year. [2] Including eggs used for hatching. [3] Average value at farms for all purposes.

20.—Domestic Disappearance of Eggs and Poultry in Canada, 1946 (revised) and 1947

Type and Year	Farm Production	Elsewhere Produced	Total Production	Total Supply	Domestic Disappearance	Per Capita Consumption[1]
	'000 doz.	'000 doz.	'000 doz.	'000 doz.	'000 doz.	doz.
Eggs—						
1946	**323,563**	**28,778**	**352,341**	**368,453**	**296,829**	**23·27**
1947	**373,696**	**33,680**	**407,376**	**417,676**	**317,227**	**24·04**
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	lb.
All Poultry—						
1946	**265,171**	**20,095**	**285,266**	**305,718**	**272,309**	**22·20**
1947	**301,389**	**23,105**	**324,494**	**357,828**	**311,849**	**24·78**
Fowl and chickens—						
1946	232,250	18,956	251,206	266,275	237,127	19·33
1947	257,095	21,066	278,161	305,098	266,367	21·17
Turkeys—						
1946	26,653	955	27,608	32,839	28,760	2·35
1947	37,551	1,809	39,360	45,575	38,543	3·06
Geese—						
1946	4,195	120	4,315	4,384	4,276	0·35
1947	4,627	148	4,775	4,883	4,785	0·38
Ducks—						
1946	2,073	64	2,137	2,220	2,146	0·17
1947	2,116	82	2,198	2,272	2,154	0·17

[1] Excludes eggs used for hatching: consumption based on estimates of population given at p. 139.

Subsection 6.—Dairying

The dairy industry of Canada made its greatest development after the close of the First World War when the demand for food products created new outlets for dairy products. From 1920 to 1925 the numbers of milch cows kept, advanced from 2,986,000 to 3,273,000 and the production of milk moved up from 10,976,000,000 lb. to 13,421,000,000 lb. The peak in milk production was reached in 1926 with 13,475,614 lb. but the decline in the dairy-cow population which was shown in the period 1926 to 1930 had already set in.

The further development of dairying enterprises which commenced at the beginning of the Second World War reached a peak in 1945. Milk production on farms was stimulated by producer subsidies during the entire war period, while the payment of consumer subsidies tended to increase the sales of fluid milk for direct consumption. During the six-year period, 1939 to 1945, milk production increased approximately 1,800,000,000 lb. and the industry, as a whole, made an immense contribution to the food supplies of both Canada and the United Kingdom. Higher prices paid for grain and live stock and the cumulative effects of the labour shortage, all played a part in halting the upward swing in dairying production in Western Canada. On the other hand, dairying continued to expand in Eastern Canada, so that no decline was shown in the total output for Canada until 1946.

A notable feature of the dairy situation is the shift in production which has given Western Canada a larger share of the expansion in dairying enterprises. In 1920, Ontario and Quebec contributed approximately 67 p.c. of the total milk

production of the Dominion; the Prairie Provinces produced 22 p.c., while the Maritimes and British Columbia shared to the extent of 9 p.c. and 2 p.c., respectively. In 1925 the Prairie Provinces contributed 26 p.c. and British Columbia 3 p.c., whereas the production of Ontario and Quebec fell to 63 p.c. and the Maritimes to 8 p.c. A further shift in favour of the Prairie Provinces was recorded in 1932, and by 1945 (the peak year), Ontario and Quebec were supplying only 62 p.c. of the milk production while the Prairie Provinces produced 28 p.c., the remaining 10 p.c. being divided between the Maritimes and British Columbia in the ratio of approximately 6 to 4.

21.—Production and Utilization of Milk in Canada, 1942-47, and by Provinces, 1946 and 1947

NOTE.—Figures for the years 1921-41 are given at p. 6 of the report "Dairying Statistics of Canada, 1947"; for the years 1939-41 at p. 237 of the 1946 Year Book.

Province and Year	Used in Manufacture		Milk Otherwise Used			Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Prince Edward Island. 1946	11,961	100,393	22,677	26,473	7,415	168,919
1947	12,570	94,885	21,798	26,279	7,452	162,984
Nova Scotia..... 1946	60,937	188,910	136,524	48,687	13,040	448,098
1947	63,397	183,965	131,917	48,692	13,006	440,977
New Brunswick..... 1946	108,877	179,624	81,989	66,339	14,007	450,836
1947	112,181	180,081	80,798	66,116	14,247	453,423
Quebec..... 1946	183,322	2,683,018	1,351,919	374,101	162,108	4,754,468
1947	190,632	2,805,696	1,333,370	368,533	165,324	4,863,555
Ontario..... 1946	183,485	3,166,880	1,664,338	506,374	203,220	5,724,297
1947	193,419	3,329,751	1,610,397	507,285	206,741	5,847,593
Manitoba..... 1946	138,064	662,285	201,456	143,214	74,062	1,219,081
1947	141,016	675,649	197,032	142,515	74,528	1,230,740
Saskatchewan..... 1946	335,941	883,373	187,970	331,879	156,440	1,895,603
1947	348,780	874,679	185,400	322,026	155,680	1,886,565
Alberta..... 1946	217,454	800,041	281,806	204,848	153,634	1,657,783
1947	225,046	839,995	277,385	204,215	153,352	1,699,993
British Columbia..... 1946	38,695	207,261	325,321	38,157	27,034	636,468
1947	40,195	199,316	324,442	37,262	26,942	628,157
Canada..... 1942	1,847,088	9,778,925	3,387,945	1,674,065	800,567	17,488,590
1943	1,305,596	10,008,382	3,706,513	1,714,112	784,370	17,518,973
1944	1,286,153	9,916,519	3,912,476	1,717,191	791,699	17,624,038
1945	1,256,709	9,849,786	4,007,858	1,716,296	796,123	17,626,772
1946	1,278,736	8,871,785	4,254,000	1,740,072	810,960	16,955,553
1947	1,327,236	9,184,017	4,162,539	1,722,923	817,272	17,213,987

22.—Estimated Consumption of Milk in Canada, 1942-47, and by Provinces, 1946 and 1947

NOTE.—Figures for the years 1921-41 are given at p. 16 of the report "Dairying Statistics of Canada 1947"; for the years 1939-41 at p. 238 of the 1946 Year Book.

Province and Year	Milk and Cream Consumed (in Pints of Milk)			Per Capita Daily Consumption		
	Milk Producers	Non-Producers	Total	Milk Producers	Non-Producers	Total
	'000 pt.	'000 pt.	'000 pt.	pt.	pt.	pt.
Prince Edward Island..1946	20,522	17,052	37,574	1·28	0·93	1·10
1947	20,371	16,391	36,762	1·27	0·90	1·07
Nova Scotia.....1946	37,742	102,657	140,399	0·78	0·59	0·63
1947	37,746	99,193	136,939	0·77	0·56	0·60
New Brunswick.....1946	51,425	61,651	113,076	0·97	0·51	0·65
1947	51,253	60,755	112,008	0·95	0·49	0·62
Quebec.....1946	290,001	1,016,559	1,306,560	1·05	0·97	0·99
1947	285,684	1,002,612	1,288,296	1·01	0·94	0·95
Ontario.....1946	392,538	1,251,479	1,644,017	1·72	0·99	1·10
1947	393,244	1,210,919	1,604,163	1·68	0·93	1·05
Manitoba.....1946	111,019	151,482	262,501	1·56	0·78	0·99
1947	110,477	148,156	258,633	1·51	0·75	0·95
Saskatchewan.....1946	257,270	141,342	398,612	2·05	0·80	1·32
1947	249,633	139,409	389,042	1·97	0·77	1·27
Alberta.....1946	158,797	211,901	370,698	1·65	1·08	1·27
1947	158,306	208,576	366,882	1·60	1·04	1·22
British Columbia.....1946	29,579	244,621	274,200	1·00	0·73	0·75
1947	28,885	243,960	272,845	0·93	0·70	0·72
Canada.....1942	**1,300,750**	**2,553,463**	**3,854,213**	**1·41**	**0·78**	**0·92**
1943	**1,331,866**	**2,793,565**	**4,125,431**	**1·45**	**0·85**	**0·98**
1944	**1,333,740**	**2,947,652**	**4,281,392**	**1·45**	**0·89**	**1·01**
1945	**1,330,462**	**3,013,661**	**4,344,123**	**1·45**	**0·90**	**1·02**
1946	**1,348,893**	**3,198,744**	**4,547,637**	**1·43**	**0·91**	**1·02**
1947	**1,335,599**	**3,129,971**	**4,465,570**	**1·38**	**0·87**	**0·97**

23.—Domestic Disappearance of Dairy Products in Canada, 1942-47

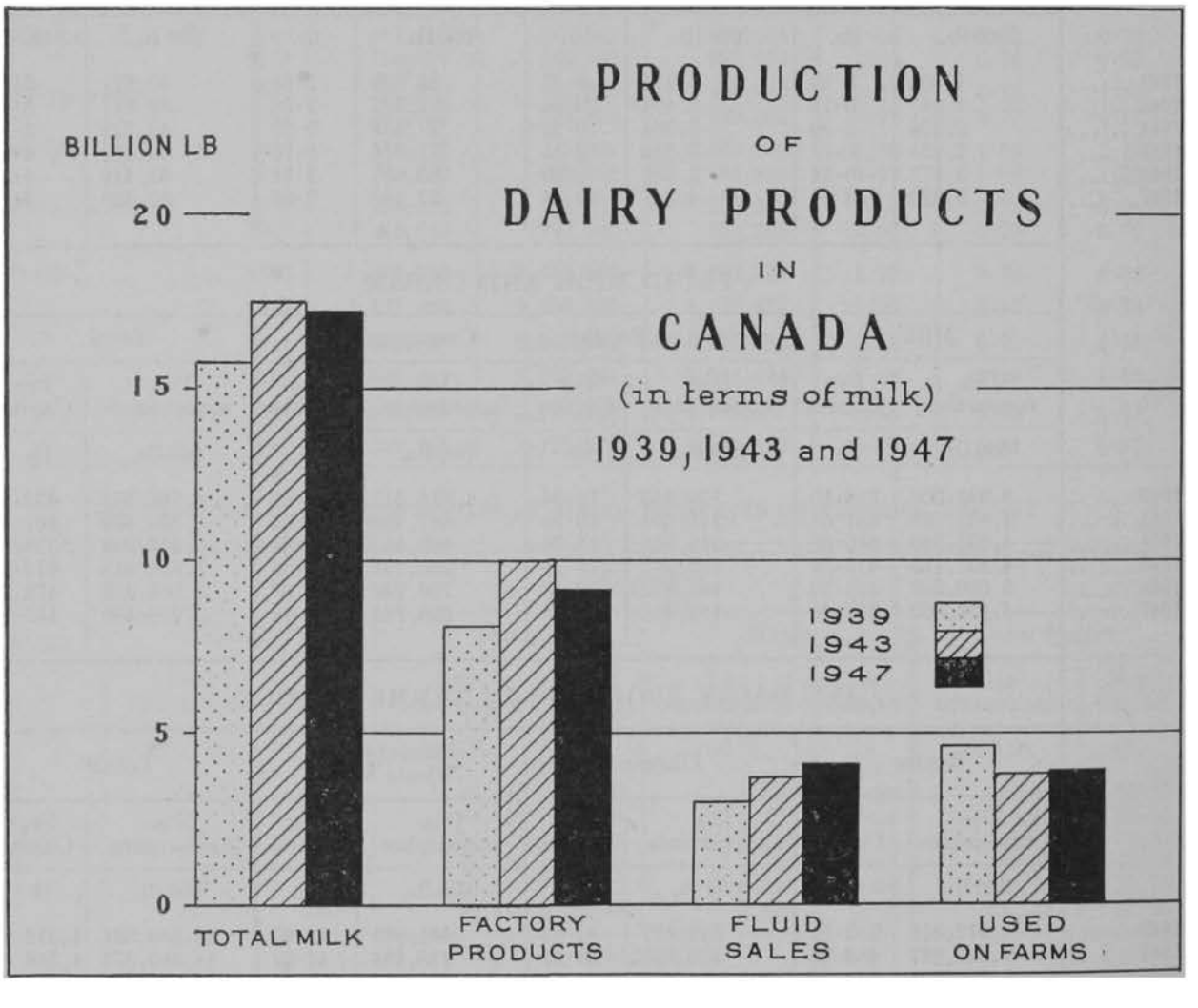
Year	BUTTER							
	Creamery		Dairy		Whey		Total Butter	
	Dis-appearance	Per Capita	Dis-appearance	Per Capita	Dis-appearance	Per Capita	Dis-appearance	Per Capita
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
1942.....	304,721	26·60	78,543	6·86	2,682	0·23	385,946	33·69
1943.....	279,050	24·24	55,421	4·82	2,200	0·19	336,671	29·25
1944.....	299,405	25·86	54,574	4·71	2,745	0·24	356,724	30·81
1945.....	292,970	25·05	53,348	4·56	2,734	0·23	349,052	29·84
1946.....	259,149	21·13	54,277	4·42	2,505	0·20	315,931	25·75
1947.....	293,036	23·29	56,298	4·48	2,053	0·16	351,387	27·93
	CHEESE							
	Cheddar		Other		Farm-Made		Total Cheese	
	Dis-appearance	Per Capita	Dis-appearance	Per Capita	Dis-appearance	Per Capita	Dis-appearance	Per Capita
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
1942.....	43,000	3·75	2,036	0·18	787	0·07	45,823	4·00
1943.....	52,020	4·52	2,272	0·20	761	0·06	55,053	4·78
1944.....	51,889	4·48	2,349	0·20	753	0·07	54,991	4·75
1945.....	57,908	4·95	2,627	0·23	744	0·06	61,279	5·24
1946.....	47,785	3·89	4,147	0·34	740	0·06	52,672	4·29
1947.....	59,157	4·70	4,088	0·32	740	0·06	63,985	5·08

23.—Domestic Disappearance of Dairy Products in Canada, 1942-47—concluded

Year	CONCENTRATED WHOLE MILK PRODUCTS							
	Evaporated		Condensed		Powdered		Total[1]	
	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
1942	142,660	12·45	8,977	0·78	7,954	0·70	160,449	14·01
1943	154,648	13·44	9,453	0·82	14,093	1·22	178,963	15·55
1944	130,949	11·31	10,251	0·89	13,394	1·16	155,662	13·45
1945	147,020	12·57	11,312	0·97	10.504	0·90	170,582	14·58
1946	145,705	11·88	12,208	1·00	9,949	0·81	170,586	13·91
1947	182,007	14·46	12,311	0·98	10,403	0·83	207,726	16·51
	CONCENTRATED MILK BY-PRODUCTS							
	Evaporated		Condensed		Powdered		Total[2]	
	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
1942	1,605	0·14	5,421	0·47	25,620	2·24	40,521	3·54
1943	1,643	0·14	3,994	0·35	22,771	1·98	39,617	3·44
1944	2,359	0·20	3,361	0·29	27,540	2·38	43,778	3·78
1945	2,424	0·21	3,638	0·31	31,914	2·73	47,421	4·05
1946	2,977	0·24	3,588	0·29	35,657	2·91	52,449	4·28
1947	3,923	0·31	4,347	0·35	37,162	2·95	57,429	4·56
	FLUID MILK AND CREAM							
	Milk		Cream as Product		Cream as Milk		Total	
	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
1942	3,942,060	344·10	170,040	14·84	1,018,312	88·89	4,960,372	432·99
1943	4,461,935	387·66	190,554	16·56	847,495	73·63	5,309,430	461·29
1944	4,631,749	400·08	212,316	18·34	880,545	76·06	5,512,294	476·14
1945	4,837,155	413·54	190,571	16·29	766,763	65·55	5,603,918	479·09
1946	5,069,503	413·26	197,532	16·10	796,949	64·97	5,866,452	478·23
1947	4,873,802	387·36	198,913	15·81	886,784	70·48	5,760,586	457·84
	ALL DAIRY PRODUCTS IN TERMS OF MILK							
	Butter		Cheese		Concentrated Whole Milk		Total[3]	
	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita	Disappearance	Per Capita
	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.	'000 lb.	lb.
1942	8,972,211	783·19	513,217	44·80	401,801	35·07	15,086,801	1,316·93
1943	7,829,967	680·28	616,593	53·57	478,496	41·57	14,505,374	1,260·24
1944	8,286,648	715·79	615,899	53·20	421,911	36·44	15,114,285	1,305·54
1945	8,114,231	693·70	682,648	58·36	438,636	37·50	15,073,103	1,288·63
1946	7,343,571	598·64	586,767	47·83	436,445	35·58	14,459,431	1,178·72
1947	8,184,895	650·53	712,793	56·65	519,688	41·30	15,513,920	1,233·02

[1] Includes malted milk, cream powder, 1942-47, and condensed coffee, in 1942, items which do not appear separately in this table. [2] Includes milk by-products items not separately listed, namely, condensed buttermilk, powdered buttermilk, sugar of milk, and casein, 1942-47, and sub-standard products, 1944-47. [3] Ice cream in terms of milk is included in the total for all products; on a per capita basis the 1947 disappearance amounted to 1·87 gal. of the product and 26·70 lb. expressed as milk.

It will be observed from the accompanying chart that the proportion of milk used in factories has decreased in recent years. On the other hand, with the growth of urban centres the proportion used for fluid sales moved to a higher level. Between 1920 and 1925 the percentage of the total milk supply used for the production of factory dairy products increased from 42 to 46 p.c., while the quantities employed for manufacture on farms fell from 22 p.c. to less than 19 p.c. By 1935, factory production took 48 p.c. and fluid sales, which had taken only 14 p.c. in 1920, stepped up to 19 p.c. These increases were reflected in farm manufacturing, the milk required for this purpose having fallen to less than 16 p.c. There was very little change until the outbreak of the War in 1939. By 1945, increased demand for fluid milk boosted sales to 23 p.c., and advanced factory requirements to 56 p.c. All sections of the country have been using increased quantities of fluid milk, particularly during the war years, but the proportion of fluid sales to the total available has been most evident in the Prairie Provinces and in Ontario and Quebec.



Butter Production.—The most pronounced increases in creamery butter production took place between 1940 and 1941 and between 1942 and 1943. In the latter year it reached the high point of 312,000,000 lb., falling in the next twelve-month period to 299,000,000 lb., and in 1946 to 271,000,000 lb. With the removal of rationing and price regulations in 1947 the output moved to higher levels with a total production of 291,000,000 lb.

Due to price advantages offered to creamery patrons already referred to, a sharp recession in dairy butter production occurred during the war years, and the 1945 production was the lowest on record, amounting to approximately 53,000,000 lb. In 1946, it advanced to 54,000,000 lb. and in 1947 a total production of 56,000,000 lb. was recorded. Creamery and dairy butter combined, reached the high point in 1941. In 1945, it had fallen to 347,000,000 lb. and in 1946 to 326,000,000 lb. Increases occurred in both the creamery and dairy make in 1947, the total output for that year being 347,000,000 lb.

24.—Production of Butter and Cheese in Canada, 1942-47, and by Provinces, 1946 and 1947

NOTE.—Figures for the years 1921-41 are given at p. 6 of the report "Dairying Statistics of Canada 1946"; for the years 1939-41 at p. 237 of the 1946 Year Book.

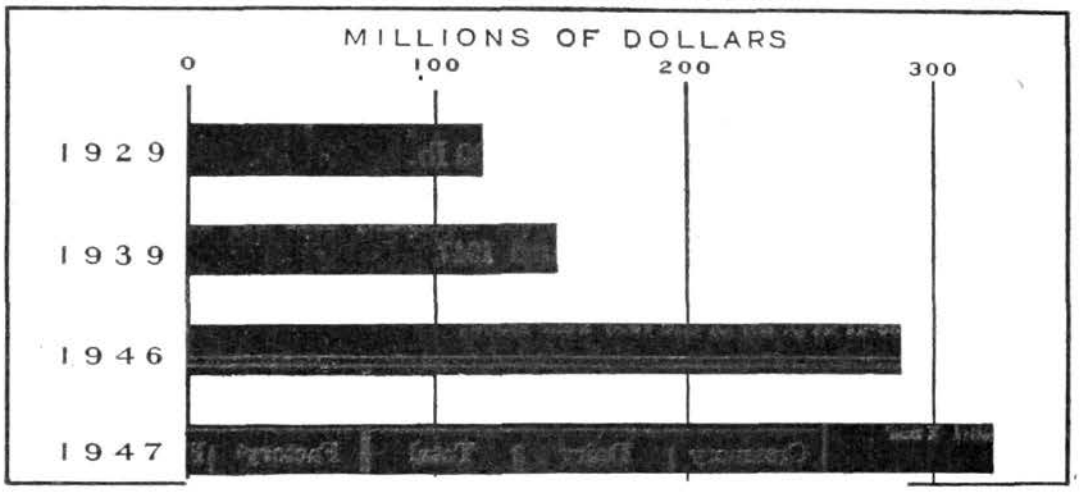
Province and Year	Butter			Cheese		
	Creamery	Dairy	Total	Factory[1]	Farm-made	Total
	lb.	lb.	lb.	lb.	lb.	lb.
Prince Edward Island..1946	3,896,000	510,000	4,406,000	737,000	1,000	738,000
1947	3,660,000	536,000	4,196,000	658,000	1,000	659,000
Nova Scotia.....1946	6,988,000	2,587,000	9,575,000	Nil	29,000	29,000
1947	6,617,000	2,692,000	9,309,000	"	29,000	29,000
New Brunswick.....1946	6,921,000	4,645,000	11,566,000	970,000	4,000	974,000
1947	6,908,000	4,786,000	11,694,000	737,000	4,000	741,000
Quebec.....1946	85,355,000	7,810,000	93,165,000	43,195,000	30,000	43,225,000
1947	97,527,000	8,122,000	105,649,000	24,812,000	30,000	24,842,000
Ontario.....1946	69,171,000	7,757,000	76,928,000	96,367,000	156,000	96,523,000
1947	77,030,000	8,181,000	85,211,000	88,895,000	156,000	89,051,000
Manitoba.....1946	26,059,000	5,837,000	31,896,000	3,228,000	117,000	3,345,000
1947	26,265,000	5,963,000	32,228,000	3,590,000	117,000	3,707,000
Saskatchewan.....1946	37,025,000	14,271,000	51,296,000	440,000	141,000	581,000
1947	36,330,000	14,819,000	51,149,000	380,000	141,000	521,000
Alberta.....1946	30,744,000	9,175,000	39,919,000	3,258,000	223,000	3,481,000
1947	32,068,000	9,499,000	41,567,000	3,111,000	223,000	3,334,000
British Columbia.....1946	5,332,000	1,633,000	6,965,000	689,000	39,000	728,000
1947	4,436,000	1,697,000	6,133,000	533,000	39,000	572,000
Canada.....1942	**284,591,372**	**78,525,000**	**363,116,372**	**207,431,370**	**787,275**	**208,218,645**
1943	**311,709,476**	**55,407,000**	**367,116,476**	**166,274,217**	**760,500**	**167,034,717**
1944	**298,777,262**	**54,580,000**	**353,357,262**	**181,896,679**	**753,070**	**182,649,749**
1945	**293,811,000**	**53,283,000**	**347,094,000**	**188,729,000**	**744,000**	**189,473,000**
1946	**271,491,000**	**54,225,000**	**325,716,000**	**148,884,000**	**740,000**	**149,624,000**
1947	**290,841,000**	**56,295,000**	**347,136,000**	**122,716,000**	**740,000**	**123,456,000**

[1] Includes cheddar, and other cheese made from whole milk. The latter, which amounted to 2,785,000 lb. in 1946 and 3,013,000 lb. in 1947, was produced in Quebec, Ontario, Manitoba, Saskatchewan and Alberta.

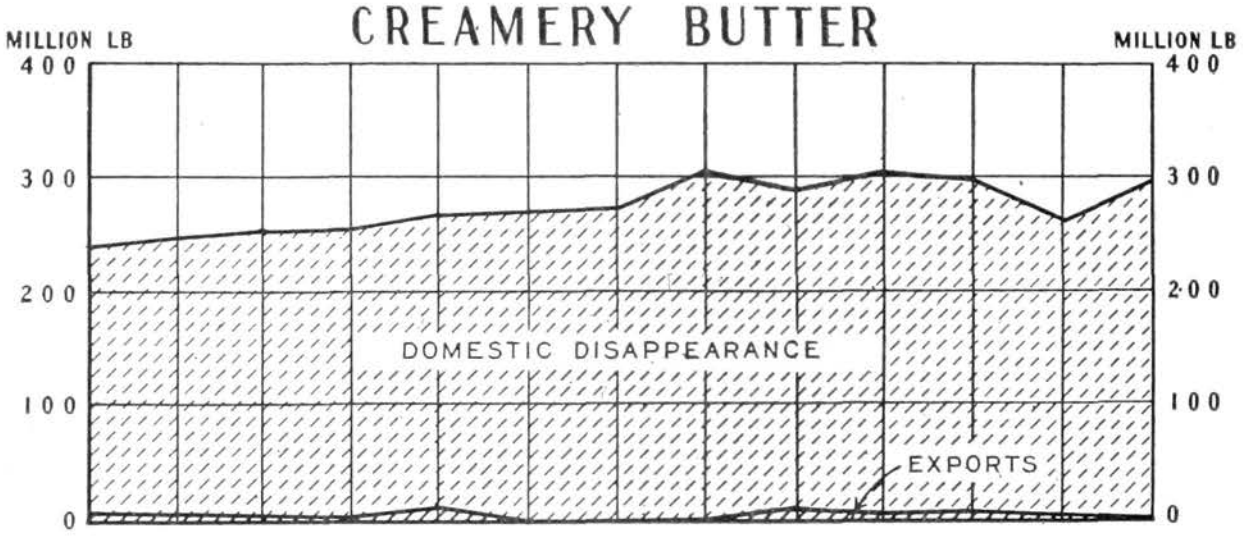
Cheese Production.—Competition with the butter industry placed cheese making in a subordinate position after 1925 but by 1937 the industry had recovered a little of its former strength, piling up a production of 131,000,000 lb. A recession developed during the next two years which may be attributed to the increased demand for creamery butter but a sharp upward movement took place in 1940 when cheese production increased approximately 20,000,000 lb. in one year. With a new price arrangement in 1942, the quantity manufactured was stepped up to

SALES INCOME FROM DAIRYING

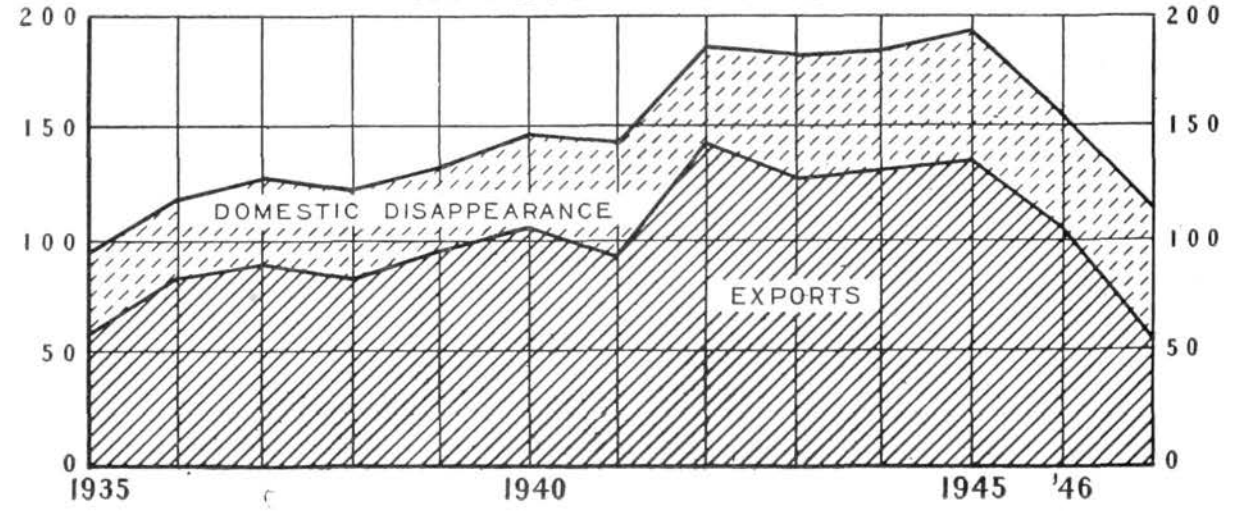
1929, 1939, 1946 AND 1947



CREAMERY BUTTER



CHEDDAR CHEESE



207,000,000 lb., the largest production since 1904. The 1947 output was 123,000,000 lb., a decrease of approximately 26,000,000 lb., as compared with that of the previous year.

The production of farm-made cheese is comparatively small compared with the factory product, seldom exceeding 1,000,000 lb. since the establishment of the factory system in the early 1880's. The 1947 production was 740,000 lb.

During recent years a wider range of cheese products has been manufactured in Canada; Roquefort and Cheshire types of cheese are now being produced in small quantities. Oka and Trappist cheese have been made in the Trappist monasteries for a number of years, and limited quantities of Limburger and lesser known varieties are also being produced to meet the needs of a special trade. Processed cheese, a secondary product of cheddar cheese representing about 18 p.c. of the poundage, is another industry which has developed considerably in the past few years. In 1947, 27,000,000 lb. was manufactured in comparison with 12,000,000 lb. ten years ago. Then, too, greater use is being made of by-products from cheese. The production of lactose is a comparatively new development in Canada; the amount imported is still considerably in excess of the domestic output. This product is made from milk-sugar crystals obtained from whey by a process of evaporation. Lactose is being used for many purposes but it has gained special importance as a media for the growth of the mould from which penicillin is obtained.

Concentrated Milk Products.—Data covering products which appear in Table 25 include approximately 259,785,000 lb. of concentrated whole-milk products and 77,463,000 lb. of concentrated milk by-products. The total production of all products combined in 1947 amounted to approximately 337,248,000 lb. as compared with an output of 300,799,000 lb. in the preceding year. Since 1940 there has been a greater demand for evaporated milk, condensed milk and whole-milk powder both for export and for domestic use. Hence greater quantities of these products are now being manufactured than was the case in the pre-war years.

25.—Production of Concentrated Milk Products, 1943-47

NOTE.—Figures for the years 1921-42 are given at p. 12 of the report "Dairying Statistics of Canada 1947".

Item	1943	1944	1945	1946	1947
	'000 lb.	'000 lb.	'000 lb.	'000 lb.	'000 lb.
Concentrated Whole-Milk Products—					
Evaporated milk	178,368	184,344	200,529	191,586	211,894
Condensed milk	26,915	31,021	28,582	31,026	29,229
Whole-milk powder	15,053	16,022	14,850	15,468	15,662
Miscellaneous whole-milk products	766	1,070	1,743	2,729	3,000
Totals, Concentrated Whole-Milk Products	**221,102**	**232,457**	**245,705**	**240,809**	**259,785**
Concentrated Milk By-Products—					
Condensed skim milk	4,041	3,505	3,561	3,531	4,263
Evaporated skim milk	1,632	2,413	2,373	3,195	3,936
Skim-milk powder	22,352	29,703	37,111	42,580	54,249
Condensed buttermilk	1,648	2,400	2,549	2,501	3,619
Buttermilk powder	5,590	4,467	3,641	3,666	4,165
Casein	3,112	2,961	3,683	4,040	6,756
Totals, Concentrated Milk By-Products[1]	**38,665**	**46,002**	**53,561**	**59,990**	**72,463**
Grand Totals	**259,767**	**278,459**	**299,266**	**300,799**	**337,248**

[1] Includes lactose.

Ice Cream Production.—The output of ice cream production was 23,510,000 gal. in 1947 as compared with 15,829,000 in 1946. This increase was due to the removal of restrictions on the quantity manufactured for civilian use, which were in effect until 1947.

26.—Production of Ice Cream, by Provinces, 1943-47

NOTE.—Figures for the years 1921-42 are given at p. 14 of the report "Dairying Statistics of Canada, 1947".

Province	1943	1944	1945	1946	1947
	'000 gal.	'000 gal.	'000 gal.	'000 gal.	'000 gal.
Prince Edward Island	82	100	83	63	126
Nova Scotia	1,060	1,147	1,057	915	1,350
New Brunswick	534	497	484	466	701
Quebec	3,252	3,309	3,254	3,180	4,427
Ontario	7,591	7,664	6,936	6,874	10,029
Manitoba	1,250	1,173	1,058	1,002	1,375
Saskatchewan	853	843	800	768	1,346
Alberta	1,133	1,162	1,042	1,036	1,669
British Columbia	1,488	1,771	1,638	1,525	2,487
Totals	**17,243**	**17,666**	**16,352**	**15,829**	**23,510**

Domestic Disappearance of Dairy Products.—Milk consumption statistics reveal the increasing popularity of this product as an article of food. Twenty-seven years ago the per capita consumption of milk (including cream expressed as milk) was estimated at 0·74 pint. Since that time the movement has been more or less in an upward direction. The 1947 figures show a per capita daily consumption of 0·97 pint, compared with 1·02 pints in 1946. The relationship between the amount used by non-producers and by milk suppliers was fairly constant, the former being approximately two-thirds of the total. Between provinces some variations were indicated, depending principally on the make-up of the population and, to a limited extent, on the quantities of milk shipped across provincial borders.

The domestic disappearance of total butter, which had been estimated at 33·69 lb. per capita in 1942, suffered a reduction of nearly 4½ lb. the following year as the result of butter rationing. In subsequent years very little change took place in the domestic disappearance per capita until 1946 when short supplies made it necessary to reduce temporarily the butter ration. In 1947 the per capita disappearance moved up to 27·93 lb. as compared to 25·75 lb. in 1946. Cheese appears to have gained in popularity during the past few years, moving from 4 lb. per capita in 1942 to 5·08 lb. in 1947. During the past six years the disappearance of concentrated whole-milk products advanced from 14·01 lb. per capita to 16·51 lb. in

1947; and concentrated milk by-products moved from 3·54 lb. to 4·56 lb. All dairy products expressed in terms of milk, showed a decrease of 83 lb. per capita between 1942 and 1947.

Sales Income.—Farmers received large incomes from the sale of dairy products during the war years partly as a result of the subsidies and bonuses paid by the Government. In 1945 the income from dairying amounted to $270,000,000 as compared with $148,000,000 at the commencement of the War in 1939. The relationship of dairy sales income to that of total farm income was only 12 p.c. in 1926; during the course of the next four years it moved up to 24 p.c., and reached the high point of 33 p.c. in 1931. As other lines of farming became more profitable, declines in dairy sales began to develop. In 1936 this relationship fell to 24 p.c. and regardless of important advances in dairy production and prices, the 1947 income represented only 16 p.c. of the total farm income of Canada.

During the past twenty-six years, the trend in sales income from dairy products has been in two directions. In 1920 it stood at $153,000,000; sharp declines occurred in the two subsequent years and in 1922 it amounted to only $105,000,000. This was followed by several increases, and in 1928 it registered the highest point since 1920, when farmers realized $121,000,000 from their dairy products. In 1930 it moved up to $150,000,000 but, owing to exceptionally low prices in the depression period which followed, it was reduced in 1932 to a figure comparable with that of 1928. From 1933 there has been a continuous increase in income, reaching the sum of $324,000,000 in 1947.

Value of Dairy Production.—The farm value of milk, and the total value of dairy products followed much the same pattern as that of income. The former advanced from $222,000,000 in 1920 to $402,000,000 in 1947; while the total value of dairy products moved up from $289,000,000 to $536,000,000. From 1946 to 1947 the former advanced $48,000,000 and the latter $112,000,000. Farm value figures shown in Tables 27 and 28, p. 380, which include sales income and income in kind, reflect the extensions that have taken place in dairy farm undertakings.

Prices of Dairy Products.*—Butter prices at the factory, which had averaged approximately 23 cents and 25 cents per lb. in 1939 and 1940, advanced to nearly 33 cents in 1941 and 53 cents in 1947. The former prices were comparable with those paid during the early stages of the First World War, but were considerably lower than those paid in 1919 and 1920 when the average was 54 cents and 57 cents, respectively. Factory cheese prices moved up from 12 and 14 cents per lb. in 1939 and 1940 to 31 cents in 1947. In 1947, the average sales income per 100 lb. of milk was $2·37 as compared with $2·14 in 1946, and $1·27 in 1939. These averages were lower than those of 1920, the average for that year being $2·17, with the exception of 1947 which was the highest on record. Plant cost of milk in 1947 was $2·44 per 100 lb. while the farm value of milk was $2·33 per 100 lb. and the total value of dairy production averaged $3·11 per 100 lb. In 1939 the same items averaged $1·14, $0·92 and $1·37, respectively.

* For a fuller treatment of prices and price regulations as they affect dairy production, see the report "Dairy Situation in Canada, 1946".

27.—Values of Farm Milk Production in Canada, 1942-47, and by Provinces, 1946 and 1947

NOTE.—Figures for the years 1921-41 are given at p. 19 of the report "Dairying Statistics of Canada 1947"; for the years 1939-41 at p. 240 of the 1946 Year Book.

Province and Year	Used in Manufacture		Milk Otherwise Used			Total Milk Production
	On Farms	In Factories	Fluid Sales	Farm-Home Consumed	Fed on Farms	
	$'000	$'000	$'000	$'000	$'000	$'000
Prince Edward Island 1946	197	1,823	538	543	152	3,253
1947	267	1,896	641	604	171	3,579
Nova Scotia 1946	1,075	3,462	4,404	998	267	10,206
1947	1,437	3,675	4,359	1,100	294	10,865
New Brunswick 1946	1,910	3,302	2,447	1,393	294	9,346
1947	2,466	3,587	2,667	1,488	321	10,529
Quebec 1946	3,132	50,226	36,967	7,669	3,323	101,317
1947	4,200	56,958	41,738	8,403	3,769	115,068
Ontario 1946	3,176	62,101	47,184	10,279	4,125	126,865
1947	4,398	69,634	52,384	11,414	4,652	142,482
Manitoba 1946	2,171	11,056	5,341	2,678	1,385	22,631
1947	2,934	12,881	5,561	2,993	1,565	25,934
Saskatchewan 1946	5,440	14,490	4,770	6,239	2,941	33,880
1947	7,096	16,449	5,386	6,891	3,332	39,154
Alberta 1946	3,552	13,013	7,334	3,974	2,980	30,853
1947	4,627	15,996	7,841	4,595	3,450	36,509
British Columbia 1946	653	3,934	9,639	740	524	15,490
1947	879	4,549	10,808	905	655	17,796
Canada 1942	**25,285**	**134,861**	**72,714**	**23,862**	**11,390**	**268,112**
1943	**19,826**	**152,905**	**84,650**	**27,046**	**12,422**	**296,849**
1944	**19,770**	**165,400**	**98,109**	**29,008**	**13,418**	**325,705**
1945	**18,915**	**163,226**	**102,981**	**30,680**	**14,152**	**329,954**
1946	**21,306**	**163,407**	**118,624**	**34,513**	**15,991**	**353,841**
1947	**28,304**	**185,625**	**131,385**	**38,393**	**18,209**	**401,916**

28.—Values of Production, Cost of Milk at Plants, and Income from Dairying, in Canada 1942-47, and by Provinces, 1946 and 1947

NOTE.—The first two columns of this table represent values based on total production, the entire milk supply being accounted for in each case. The third column is the cost of milk delivered for fluid and for manufactured purposes; while the fourth column represents the income received from the sale of milk, butterfat and dairy butter. Figures for the years 1921-41 are given at p. 21 of the report "Dairying Statistics of Canada, 1947"; for the years 1939-41 at p. 241 of the 1946 Year Book.

Province and Year	Total Value of Dairy Products	Farm Value of Milk Production	Cost of Milk Delivered at Plants	Sales Income from Dairying	Per Hundredweight of Milk			
					Total Value	Farm Value	Plant Cost	Sales Income
	$'000	$'000	$'000	$'000	$	$	$	$
Prince Edward Island 1946	3,638	3,253	2,081	2,380	2·15	1·93	1·69	1·92
1947	4,570	3,579	2,623	2,573	2·80	2·20	2·25	2·17
Nova Scotia 1946	12,663	10,206	7,216	8,210	2·83	2·28	2·22	2·38
1947	14,738	10,865	8,397	8,662	3·34	2·46	2·66	2·52
New Brunswick 1946	10,769	9,346	5,125	6,094	2·39	2·07	1·96	2·17
1947	13,200	10,529	6,481	6,878	2·91	2·32	2·48	2·38
Quebec 1946	120,069	101,317	78,288	88,699	2·53	2·13	1·94	2·15
1947	153,651	115,068	102,455	101,335	3·16	2·37	2·48	2·38
Ontario 1946	155,462	126,865	96,656	109,760	2·72	2·22	2·00	2·26
1947	196,105	142,482	124,192	123,276	3·35	2·44	2·51	2·47

28.—Values of Production, Cost of Milk at Plants, and Income from Dairying, in Canada 1942-47, and by Provinces, 1946 and 1947—concluded

Province and Year	Total Value of Dairy Products	Farm Value of Milk Production	Cost of Milk Delivered at Plants	Sales Income from Dairying	Per Hundredweight of Milk			
					Total Value	Farm Value	Plant Cost	Sales Income
	$'000	$'000	$'000	$'000	$	$	$	$
Manitoba.....1946	26,211	22,631	14,544	16,579	2·15	1·86	1·68	1·89
1947	33,308	25,934	19,084	18,875	2·71	2·11	2·19	2·11
Saskatchewan.....1946	37,637	33,880	16,740	19,995	1·99	1·79	1·56	1·79
1947	47,841	39,154	22,118	22,782	2·54	2·08	2·09	2·06
Alberta.....1946	36,900	30,853	18,212	20,855	2·23	1·86	1·68	1·87
1947	46,739	36,509	24,470	24,403	2·75	2·15	2·19	2·13
British Columbia.....1946	20,290	15,490	12,664	13,827	3·19	2·43	2·38	2·52
1947	25,588	17,796	16,119	15,610	4·07	2·83	3·08	2·92
Canada.....**1942**	**366,873**	**268,112**	**204,823**	**218,927**	**2·10**	**1·53**	**1·56**	**1·57**
1943	**375,403**	**296,849**	**216,315**	**243,361**	**2·14**	**1·69**	**1·58**	**1·73**
1944	**393,027**	**325,705**	**228,363**	**268,305**	**2·23**	**1·85**	**1·65**	**1·90**
1945	**399,927**	**329,954**	**234,126**	**269,875**	**2·27**	**1·87**	**1·69**	**1·91**
1946	**423,639**	**353,841**	**251,526**	**286,399**	**2·50**	**2·09**	**1·92**	**2·14**
1947	**535,740**	**401,916**	**325,939**	**324,394**	**3·11**	**2·33**	**2·44**	**2·37**

29.—Values of the Dairy Products of Canada, 1942-47, and by Provinces, 1946 and 1947

NOTE.—Figures for the years 1921-41 are given at p. 20 of the report "Dairying Statistics of Canada, 1947"; for the years 1939-41 at p. 240 of the 1946 Year Book.

Province and Year	Butter		Cheese		Miscellaneous Products	Milk Otherwise Used	Skim Milk, Buttermilk and Whey	Total Value
	Creamery	Dairy	Factory	Farm-made				
	$	$	$	$	$	$	$	$
P.E.I.....1946	1,574,000	197,000	184,000	[1]	87,000	1,345,000	251,000	3,638,000
1947	2,050,000	267,000	207,000	[1]	167,000	1,587,000	292,000	4,570,000
N.S.....1946	2,966,000	1,068,000	Nil	7,000	1,786,000	6,212,000	624,000	12,663,000
1947	3,487,000	1,429,000	"	8,000	2,374,000	6,811,000	629,000	14,738,000
N.B.....1946	2,829,000	1,909,000	219,000	1,000	639,000	4,450,000	722,000	10,769,000
1947	3,636,000	2,465,000	228,000	1,000	985,000	5,109,000	776,000	13,200,000
Que.....1946	33,741,000	3,124,000	10,775,000	8,000	13,418,000	54,208,000	4,795,000	120,069,000
1947	52,665,000	4,191,000	7,851,000	9,000	19,006,000	64,077,000	5,852,000	153,651,000
Ont.....1946	27,378,000	3,142,000	22,850,000	34,000	29,518,000	68,094,000	4,446,000	155,462,000
1947	41,596,000	4,360,000	26,193,000	38,000	37,821,000	80,569,000	5,528,000	196,105,000
Man.....1946	9,704,000	2,148,000	1,174,000	23,000	1,340,000	10,381,000	1,441,000	26,211,000
1947	13,526,000	2,904,000	1,620,000	30,000	2,008,000	11,760,000	1,460,000	33,308,000
Sask.....1946	13,688,000	5,409,000	201,000	31,000	938,000	15,075,000	2,295,000	37,637,000
1947	18,892,000	7,054,000	240,000	42,000	1,696,000	17,060,000	2,857,000	47,841,000
Alta.....1946	11,440,000	3,505,000	979,000	47,000	2,392,000	15,934,000	2,603,000	36,900,000
1947	16,355,000	4,569,000	1,172,000	58,000	3,726,000	18,057,000	2,802,000	46,739,000
B.C.....1946	2,130,000	642,000	146,000	11,000	4,847,000	12,244,000	270,000	20,290,000
1947	2,387,000	867,000	181,000	12,000	6,954,000	14,907,000	280,000	25,588,000
Canada..1942	**97,740,910**	**24,671,000**	**44,941,562**	**160,000**	**47,855,754**	**134,057,027**	**17,447,473**	**366,873,726**
1943	**105,104,000**	**19,666,000**	**38,902,000**	**160,200**	**49,200,000**	**142,756,000**	**19,615,000**	**375,403,200**
1944	**101,536,000**	**19,614,000**	**42,140,000**	**156,200**	**54,692,000**	**155,977,000**	**18,912,000**	**393,027,200**
1945	**101,405,000**	**18,756,000**	**42,734,000**	**159,000**	**52,983,000**	**164,930,000**	**18,960,000**	**399,927,000**
1946	**105,450,000**	**21,144,000**	**36,528,000**	**162,000**	**54,965,000**	**187,943,000**	**17,447,000**	**423,639,000**
1947	**154,594,000**	**28,106,000**	**37,692,000**	**198,000**	**74,737,000**	**219,937,000**	**20,476,000**	**535,740,000**

[1] Since the data in this table are rounded to thousands, the estimated value of farm-made cheese in the province of Prince Edward Island has been eliminated. The value of the product was $200 in both 1946 and 1947

Subsection 7.—Horticulture

A survey of the floriculture and nursery stock industry was conducted annually until 1943 when, as a wartime measure, it was discontinued.

Fruit Production.—The production of fruit in Canada on a commercial scale is confined to well defined areas in five provinces. In Nova Scotia production is mainly centred in the counties of the Annapolis Valley and to a lesser extent in Hants County; in New Brunswick, the counties of the St. John River Valley and Westmorland County. The fruit districts in Quebec include the Montreal area, North Shore area, the Eastern Townships and Quebec City district: in Ontario, all the counties adjacent to the St. Lawrence River and Great Lakes as far as Georgian Bay—the most famous sections being in the Niagara district: and in British Columbia the four well defined fruit areas are the Okanagan Valley, Fraser Valley, the Kootenay and Arrow Lakes section and Vancouver Island.

These areas yield large quantities of plums, peaches, apricots, cherries, strawberries, raspberries and other small fruits. A short article is given below on the production of apples; this will be followed in succeeding editions of the Year Book by short synopses of other fruits.

Apples.—Apples are the most important fruit grown in Canada, both from the standpoint of quantity and value. Apple orchards are more widely distributed than any other tree fruit because the trees are better able to withstand the extremes of temperature common in the Dominion. According to the 1941 Census there were 132,993 acres of apple trees out of a total of 177,952 acres of fruit trees of all types. Apple trees are reported in all provinces according to the Census, but production on a commercial scale is confined to Nova Scotia, New Brunswick, Quebec, Ontario and British Columbia. As is to be expected, apple orcharding had its beginnings in Eastern Canada in what was then known as New France, and recorded plantings were made in the vicinity of Quebec City about the year 1608. It was not until 1698, however, that the earliest orchards were set out. These were located near Port Royal in what is now the Province of Nova Scotia. French settlers carried trees westward as civilization spread in that direction and the first apple trees were planted about 1790 in Ontario along the Detroit River. Not until 1850 were orchards set out in British Columbia. Orchards thrived in all but the Prairie Provinces where climatic conditions were too severe. In recent years, vigorous varieties have been developed which are adaptable to conditions on the Prairies and some plantings have been made, but as yet the orchards have not reached commercial size.

According to Volume VIII of the 1941 Census, the number of apple trees in Canada was highest in 1911. In that year 16,217,176 trees were reported, and of this number 10,617,372 trees were of bearing age. The tree population has declined with each successive census until, in 1941, there were only 4,248,405 trees of bearing age and 2,316,950 others.

Production of apples has not shown the same downward trend. This is accounted for by the fact that in the earlier years many of the trees were of unprofitable varieties and were planted too close together. As the orchards grew older and more crowded they were neglected and yields fell off accordingly. With the gradual removal of these older trees and the introduction of better varieties and improved cultural practices, the production per tree has been increased. Another factor affecting the increased yield per tree is the shift of the producing areas; while the

orchards in the older fruit producing districts of Central Canada have been abandoned or badly neglected, newer areas have been developed in British Columbia, Quebec and New Brunswick.

Table 30 shows the estimated commercial quantity and value of fruit grown in Canada.

30.—Estimated Commercial Production and Shipping-Point Values of Fruit, 1944-46, with Five-Year Averages, 1939-43

Kind of Fruit and Year	Quantity	Weight	Value	Average Value per Unit of Quantity
	bu.	lb.	$	$
Apples—				
Av. 1939-43	13,168,000	592,569,000	11,914,000	0·90
1944	17,829,000	802,305,000	22,807,000	1·28
1945	7,635,000	343,575,000	12,857,000	1·68
1946	19,282,000	867,690,000	27,196,000	1·41
Pears—				
Av. 1939-43	683,000	34,160,000	1,113,000	1·63
1944	894,000	44,700,000	2,007,000	2·24
1945	600,000	30,000,000	1,582,000	2·64
1946	951,000	47,550,000	2,278,000	2·40
Plums and Prunes—				
Av. 1939-43	366,000	18,300,000	667,000	1·82
1944	535,000	26,750,000	1,375,000	2·57
1945	486,000	24,300,000	1,270,000	2·61
1946	811,000	40,550,000	1,755,000	2·16
Peaches—				
Av. 1939-43	1,423,000	71,140,000	2,423,000	1·70
1944	1,698,000	84,900,000	4,534,000	2·67
1945	1,566,000	78,300,000	4,502,000	2·87
1946	2,145,000	107,250,000	5,356,000	2·50
Apricots—				
Av. 1939-43	68,000	3,380,000	156,000	2·29
1944	146,000	7,300,000	489,000	3·35
1945	87,000	4,350,000	319,000	3·67
1946	147,000	7,350,000	446,000	3·03
Cherries—				
Av. 1939-43	268,000	13,390,000	1,144,000	4·27
1944	285,000	14,250,000	1,909,000	6·70
1945	237,000	11,850,000	1,724,000	7·27
1946	337,000	16,850,000	2,113,000	6·27
	qt			
Strawberries—				
Av. 1939-43	23,206,000	29,008,000	2,356,000	0·10
1944	10,922,000	13,652,000	2,303,000	0·21
1945	16,726,000	20,908,000	4,186,000	0·25
1946	17,412,000	21,765,000	4,498,000	0·26
Raspberries—				
Av. 1939-43	10,246,000	12,808,000	1,561,000	0·15
1944	10,806,000	13,508,000	2,682,000	0·25
1945	12,548,000	15,685,000	3,147,000	0·25
1946	13,240,000	16,550,000	3,364,000	0·25
	lb			
Loganberries—				
Av. 1939-43	1,944,000	1,944,000	121,000	0·06
1944	1,660,000	1,660,000	196,000	0·12
1945	1,447,000	1,447,000	140,000	0·10
1946	1,637,000	1,637,000	222,000	0·14
Grapes—				
Av. 1939-43	56,830,000	56,830,000	1,361,000	0·02
1944	60,862,000	60,862,000	2,380,000	0·04
1945	66,012,000	66,012,000	2,543,000	0·04
1946	67,321,000	67,321,000	3,160,000	0·05

31.—Values and Weight of Commerical Fruit Produced, by Provinces, 1944-46, with Five-Year Averages, 1939-43

Year	Nova Scotia	New Brunswick	Quebec	Ontario	British Columbia	Total
	VALUES					
	$	$	$	$	$	$
Av. 1939-43	3,189,000	402,000	1,832,000	7,809,000	9,584,000	22,816,000
1944	5,063,000	436,000	1,834,000	12,065,000	21,284,000	40,682,000
1945	1,449,000	531,000	953,000	9,567,000	19,770,000	32,270,000
1946	5,932,000	666,000	2,022,000	14,636,000	27,132,000	50,388,000
	WEIGHT					
	lb.	lb.	lb.	lb.	lb.	lb.
Av. 1939-43	197,460,000	12,110,000	52,612,000	264,992,000	306,355,000	833,529,000
1944	239,564,000	13,942,000	44,138,000	278,240,000	494,003,000	1,069,887,000
1945	52,290,000	8,885,000	8,850,000	152,291,000	374,111,000	596,427,000
1946	273,916,000	15,956,000	48,862,000	281,854,000	573,925,000	1,194,513,000

Subsection 8.—Special Agricultural Crops

Maple Sugar and Syrup.—Production of maple sugar and maple syrup is confined to the provinces of Nova Scotia, New Brunswick, Quebec and Ontario. The bulk of the crop comes from the Eastern Townships area of Quebec. This district is famous both in Canada and the United States as the centre of the maple industry. With the relaxation of price controls, prices in 1947 were substantially above those of the previous season. The price of both maple sugar and syrup was influenced to a great extent by the keen demand in the United States. The exports to that country are chiefly in the form of sugar. The large maple products processors purchase syrup from the growers and reduce it to sugar of uniformly good quality suitable for the United States market. The crop in 1947 was the largest on record and expressed as syrup amounted to 3,923,000 gallons. The value of the crop hit an all-time high of $14,139,000.

32.—Estimated Quantities and Values of Maple Sugar and Maple Syrup Produced in Canada, 1941-47, and by Provinces, 1945-47

Province and Year	Maple Sugar			Maple Syrup			Total Value, Sugar and Syrup
	Quantity[1]	Average Price per Pound	Value[1]	Quantity[1]	Average Price per Gallon	Value[1]	
	lb.	cts.	$	gal.	$	$	$
Nova Scotia—							
1945	18,000	42·0	8,000	4,000	3·50	14,000	22,000
1946	20,000	42·0	8,000	6,000	3·50	21,000	29,000
1947	14,000	52·0	7,000	9,000	3·94	35,000	42,000
New Brunswick—							
1945	91,000	42·0	38,000	8,000	3·77	31,000	69,000
1946	68,000	42·0	29,000	10,000	3·77	38,000	67,000
1947	93,000	50·0	46,000	23,000	4·25	98,000	144,000
Quebec—							
1945	1,804,000	26·0	469,000	1,203,000	2·95	3,549,000	4,018,000
1946	2,448,000	27·0	661,000	1,638,000	2·92	4,783,000	5,444,000
1947	3,260,000	37·0	1,206,000	2,831,000	3·48	9,852,000	11,058,000
Ontario—							
1945	7,000	35·0	2,000	123,000	3·15	387,000	389,000
1946	7,000	35·0	2,000	235,000	3·15	740,000	742,000
1947	67,000	41·0	27,000	717,000	4·00	2,868,000	2,895,000
Totals—							
1941	**2,390,000**	**17·5**	**418,000**	**2,037,000**	**1·54**	**3,143,000**	**3,561,000**
1942	**3,737,000**	**20·0**	**750,000**	**2,877,000**	**2·07**	**5,966,000**	**6,716,000**
1943	**2,416,000**	**25·5**	**619,000**	**2,058,000**	**2·49**	**5,131,000**	**5,750,000**
1944	**2,207,000**	**26·7**	**591,000**	**2,870,000**	**2·95**	**8,466,000**	**9,057,000**
1945	**1,920,000**	**26·9**	**517,000**	**1,338,000**	**2·98**	**3,981,000**	**4,498,000**
1946	**2,543,000**	**27·5**	**700,000**	**1,889,000**	**2·96**	**5,582,000**	**6,282,000**
1947	**3,434,000**	**37·4**	**1,286,000**	**3,580,000**	**3·59**	**12,853,000**	**14,139,000**

[1] To nearest thousand.

Sugar Beets and Beetroot Sugar.—Sugar beets are grown in Quebec, Ontario, Manitoba and Alberta, six beet-sugar factories being located in these Provinces. In Quebec, sugar beets have been grown only since 1942 and production centres around St. Hilaire, south of Montreal in the Eastern Townships. The area harvested in Quebec in 1946 was 2,413 acres although the plant at St. Hilaire has a capacity to handle production from 10,000 acres. In Ontario, sugar-beet factories are located at Wallaceburg and Chatham. The acreage in Ontario has declined steadily from 38,169 in 1940 to only 9,287 in 1943. Since that year, however, the acreage has again expanded and in 1946, 23,293 acres were cropped, though production still remained well below the capacity of the two plants and only the Chatham factory processed beets in 1946. Sugar-beet production in Manitoba also declined during 1941-44. In 1940, the area harvested was 15,682 acres while in 1946 the area amounted to only 11,599 acres. The sugar-beet plant in Manitoba is located at Fort Garry. Sugar-beet production in Alberta is carried on in the neighbourhood of Raymond and Picture Butte. This area has seen a steady increase during the past six years with the acreage in 1946 amounting to 29,564 acres.

33.—Acreages, Yields and Values of Sugar Beets, and Quantities and Values of Refined Beetroot Sugar Produced, 1939-46

NOTE.—Figures for the years 1911-20 will be found at p. 1057 of the 1932 Year Book; for 1921-30 at p. 257 of the 1933 edition; and for 1931-38 at p. 222 of the 1942 edition.

Year	Sugar Beets					Refined Beetroot Sugar Produced		
	Seeded Area	Yield per Acre	Total Yield	Average Price per Ton	Total Value	Quantity	Value	Price per Pound
	acres	tons	tons	$	$	lb.	$	cts.
1939	59,603	9·84	586,444	7·53	4,417,372	169,320,343	8,063,332	4·8
1940	82,270	10·03	825,344	7·30	6,022,670	213,602,511	10,853,665	5·1
1941	70,803	10·01	708,616	8·16	5,781,151	215,879,271	11,639,825	5·4
1942	64,768	10·84	701,884	9·17	6,434,517	189,066,870	11,349,746	6·0
1943	57,483	8·25	474,378	9·68	4,592,240	129,268,010	8,728,995	6·8
1944	70,446	8·02	564,927	9·91	5,598,393	165,318,840	11,281,052	6·8
1945	63,134	10·44	618,790	10·01	6,192,942	163,837,790	11,198,989	6·8
1946	71,939	10·23	735,849	10·91	8,030,859	205,779,800	14,022,621	6·8

Flax.—There is an excellent market for dew-retted flax fibre in the United Kingdom. Canadian production, however, has to meet the competition of flax of equal quality from other countries where it can be produced more economically. British buyers in 1948 were paying 2 to 3 cents per lb. more than was offered during the 1946-47 season. The demand for Canadian flax in Canada has led to plans for an increase in acreage. The Canadian producer of fibre flax seed to-day is in a very favourable position.

34.—Acreages, Yields and Values of Flaxseed, Fibre and Tow, 1939-47

NOTE.—Figures for the years 1915-30 will be found at p. 284 of the 1934-35 Year Book, and for 1931-38 at p. 224 of the 1942 edition.

Year	Area	Production			Values			
		Seed	Fibre	Green Tow	Seed	Fibre	Green Tow	Total
	acres	bu.	lb.	tons	$	$	$	$
1939	10,536	63,216	4,079,600	2,230	245,700	914,100	89,200	1,249,000
1940	20,275	81,300	5,977,500[1]	1,027	345,925	1,315,050[1]	65,600	1,726,575
1941	44,467	137,930	11,000,000[1]	755	482,750	2,597,500[1]	37,750	3,118,000
1942	47,070	195,915	9,312,000	875	439,827	2,528,228	33,645	3,001,700
1943	35,297	157,957	8,742,000[2]	815	631,828	1,970,400	48,900	2,651,128
1944	39,102	122,487	5,768,000	1,015	502,948	1,555,600	50,800	2,109,348
1945	21,557	68,747	6,000,000	650	343,700	1,775,000	42,300	2,161,000
1946	15,762	81,000	1,786,000	Nil	405,000	452,000	–	857,000
1947[3]	11,003	50,000	1,852,000	"	300,000	482,000	–	782,000

[1] Including turbine tow. [2] Includes estimated production from 8,040 acres carried over from previous processing year. [3] Subject to revision.

Tobacco.—The tobacco acreage expanded rapidly from the years 1943 to 1946 under the influence of an almost unlimited domestic and overseas demand. The high point was reached in 1946 when 110,358 acres produced 141,384,000 lb. of tobacco of all types. In 1947, the planted acreage again showed an increase, but, due to unseasonable weather during the spring and early frosts in September, the harvested acreage was not so large as expected. At that, 125,086 acres were cropped. Canada's largest export outlet is the United Kingdom. With the imposition of import restrictions by the United Kingdom, the market outlook was very uncertain during the growing and marketing season. The regulations were relaxed during the early winter months to allow the importation of Canadian tobacco to the value of $6,000,000 during the 1947-48 season. Restricted imports by the United Kingdom have enabled Canadian manufacturers to build up their much depleted stocks of leaf tobacco. The low level of stocks has assisted in maintaining a high level of prices to the producer during the 1947-48 season.

35.—Acreages, Production and Values of the Commercial Crop of Leaf Tobacco, 1939-47

NOTE.—Figures for representative years 1900-28 are given at p. 228 of the 1939 Year Book, and for the years 1929-38 at p. 225 of the 1940 edition.

Year	Planted Area	Average Yield per Acre	Total Production	Average Farm Price per Pound	Gross Farm Value
	acres	lb.	lb.	cts.	$
1939	92,300	1,167	107,703,400	18·1	19,443,800
1940	67,880	943	64,019,600	17·3	11,086,300
1941	70,560	1,335	94,182,500	20·5	19,337,500
1942	78,730	1,139	89,699,400	24·0	21,539,100
1943	71,140	971	69,103,900	28·4	19,646,200
1944	88,495	1,191	105,415,500	29·4	31,001,900
1945	93,277	990	92,345,000	33·2	30,620,000
1946	110,358	1,281	141,384,000	35·0	49,472,000
1947	125,086	943	116,084,000	35·9	41,709,000

36.—Acreages, Production and Values of the Commercial Crop of Leaf Tobacco, by Provinces, 1939-46

NOTE.—Figures for the years 1934-38 will be found at p. 229 of the 1939 Year Book.

Year	Quebec			Ontario			British Columbia		
	Planted Area	Production	Value	Planted Area	Production	Value	Planted Area	Production	Value
	acres	'000 lb.	$	acres	'000 lb.	$	acres	'000 lb.	$
1939	14,330	13,221	1,655,500	77,660	94,162	17,741,900	310	320	46,400
1940	13,980	13,144	1,679,400	53,450	50,368	9,307,900	450	508	99,000
1941	12,470	9,541	1,154,600	57,450	83,875	18,042,700	640	766	140,200
1942	10,540	9,474	1,530,200	67,830	79,852	19,934,300	360	373	74,600
1943	7,580	6,512	1,477,900	63,340	62,325	18,104,600	220	267	63,700
1944	8,984	8,898	2,413,800	79,359	96,375	28,550,000	152	143	38,100
1945	10,007	9,391	2,784,000	83,140	82,798	27,785,000	130	156	51,000
1946	11,821	11,695	3,383,000	98,386	129,519	46,034,000	151	170	55,000

37.—Acreages, Production and Values of the Commercial Crop of Leaf Tobacco, by Main Types, 1940-46

Type and Year		Planted Area	Average Yield per Acre	Total Production	Average Farm Price per Pound	Gross Farm Value
		acres	lb.	lb.	cts.	$
Flue-cured	1940	48,610	865	42,027,500	20·6	8,655,300
	1941	55,370	1,359	75,242,900	22·5	16,920,300
	1942	63,980	1,123	71,856,600	26·2	18,817,700
	1943	60,120	978	58,785,800	30·0	17,638,700
	1944	73,697	1,176	86,669,000	30·7	26,634,100
	1945	77,200	976	75,353,000	34·9	26,311,000
	1946	91,432	1,302	119,027,000	36·6	43,554,000
Burley	1940	9,710	1,217	11,818,100	12·2	1,440,600
	1941	7,060	1,410	9,965,400	14·6	1,450,600
	1942	7,820	1,306	10,220,600	17·0	1,737,400
	1943	6,540	1,008	6,590,800	21·3	1,402,800
	1944	9,460	1,292	12,223,000	23·2	2,830,000
	1945	9,442	1,094	10,330,000	25·6	2,641,000
	1946	10,478	1,151	12,058,000	27·0	3,260,000
Cigar leaf	1940	4,370	1,074	4,693,800	10·4	490,400
	1941	3,860	1,058	4,082,500	10·6	432,200
	1942	3,750	1,120	4,199,000	13·0	544,400
	1943	2,650	857	2,270,000	15·0	340,500
	1944	2,400	1,240	2,976,000	21·0	624,900
	1945	3,093	1,067	3,300,000	24·2	800,000
	1946	4,165	1,305	5,435,000	25·8	1,405,000

Apiculture.—The 1946 season was another poor honey year for the bee-keepers of Eastern Canada. For the third successive year the honey crop in Ontario was smaller than in the previous season; the 1946 crop was the smallest on record. In a normal year, Ontario produces more honey than any other province, but in 1946 Alberta was the largest producer. During recent years there has been a tendency for Ontario farmers to reduce the acreage of alfalfa and clover, which are the chief nectar producing plants. It is considered that Ontario's decline in production is the direct result of this trend. A corresponding increase in acreage of alfalfa and clover has taken place in the Prairie Provinces and honey production in that area has increased accordingly.

38.—Beekeepers and Colonies, Production and Values of Honey and Beeswax, 1939-46

NOTE.—Statistics by provinces are shown in the "Quarterly Bulletin of Agricultural Statistics". Dominion totals for 1924-38 are given at p. 227 of the 1940 Year Book.

Year	Bee-keepers	Colonies	Honey				Beeswax		Value of Honey and Wax
			Average Production per Hive	Total Production	Average Price per Pound to Producers	Total Value	Production	Value	
	No.	No.	lb.	lb.	cts.	$	lb.	$	$
1939....	28,000	406,000	85	34,376,100	8·6	2,958,200	515,641	116,300	3,074,500
1940....	27,150	398,540	71	28,215,300	10·3	2,913,600	423,229	121,700	3,035,300
1941....	27,360	409,740	81	33,220,700	11·3	3,755,700	498,310	195,500	3,951,200
1942....	28,430	427,050	66	28,048,700	13·7	3,842,600	420,730	186,300	4,028,900
1943....	34,250	449,650	88	39,492,100	15·4	6,095,000	592,400	276,200	6,371,200
1944....	40,700	508,500	71	36,264,000	15·0	5,534,000	543,900	250,200	5,784,200
1945....	43,300	522,500	63	33,020,000	16·0	5,439,000	487,000	226,000	5,665,000
1946....	45,400	548,100	44	23,975,000	18·0	4,315,000	331,000	160,000	4,475,000

39.—Honey Production, by Provinces, 1941-46

Province	1941	1942	1943	1944	1945	1946
	lb.	lb.	lb.	lb.	lb.	lb.
Prince Edward Island.....	12,200	33,500	32,000	44,000	46,000	15,000
Nova Scotia.....	82,600	80,600	72,500	65,000	83,000	65,000
New Brunswick.....	124,800	225,000	232,200	185,000	104,000	109,000
Quebec.....	3,042,600	4,026,900	5,000,000	4,900,000	4,487,000	1,900,000
Ontario.....	17,733,000	11,760,000	19,212,000	15,022,000	9,095,000	5,685,000
Manitoba.....	4,970,000	3,142,000	4,503,000	5,271,000	4,860,000	4,810,000
Saskatchewan.....	2,966,500	4,947,100	5,364,600	4,376,000	7,328,000	3,953,000
Alberta.....	3,120,000	2,500,000	3,800,000	5,130,000	6,000,000	6,192,000
British Columbia.....	1,169,000	1,333,600	1,275,800	1,271,000	1,017,000	1,246,000
Totals.....	**33,220,700**	**28,048,700**	**39,492,100**	**36,264,000**	**33,020,000**	**23,975,000**

Subsection 9.—Prices of Agricultural Produce

Monthly prices of grain and monthly prices of live stock are shown in the "Quarterly Bulletin of Agricultural Statistics" published by the Dominion Bureau of Statistics, Ottawa.

40.—Yearly Average Cash Prices per Bushel of Canadian Cereals—Basis, in Store at Fort William and Port Arthur—Crop Years Ended July 31, 1939-47

NOTE.—Statistics for 1926-30 are given at p. 228 of the 1940 Year Book, and for 1931-38 at p. 225 of the 1942 edition.

Year Ended July 31—	Averages in Cents and Eighths of a Cent per Bushel				
	Wheat,[1] No. 1 N.	Oats, No. 2 C.W.	Barley, No. 2 C.W. —6 Row	Rye, No. 2 C.W.	Flaxseed, No. 1 C.W.
	cts.	cts.	cts.	cts.	cts.
1939.....	62/0	29/0	40/7	40/5	143/4
1940.....	76/4	35/5	45/0	59/7	172/3
1941.....	74/0	34/6	45/5	49/6	144/3
1942.....	76/5	49/1	61/4	60/1	158/1[2]
1943.....	94/4	49/2	64/2	68/4	225[3]
1944.....	122/7	51/4	64/6	115/4	250[3]
1945.....	125	51/4	64/6	126/2	275[3]
1946.....	135[4]	51/4	64/6	223/7	275[3]
1947.....	135[4]	56/4	75/2	287/6	325[3]

[1] Average cash closing price Winnipeg Grain Exchange to Sept. 27, 1943. Thereafter, initial payments to producers. [2] Average to Mar. 31, 1942; the Wheat Board thereafter became the sole buyer and seller of flaxseed. Ceiling price $1·64 per bu. [3] Fixed price to growers. [4] Includes $1·25 initial payment plus 10 cents retroactive increase announced July 30, 1946.

41.—Yearly Average Prices per Cwt. of Canadian Live Stock at Principal Markets, 1943-47

Item	Toronto					Montreal				
	1943	1944	1945	1946	1947	1943	1944	1945	1946	1947
	$	$	$	$	$	$	$	$	$	$
Steers, up to 1,050 lb., good	11·76	11·48	11·65	12·45	14·28	12·18	12·15	12·25	12·70	14·35
Steers, up to 1,050 lb., medium	11·27	11·01	10·90	11·80	13·38	11·07	11·09	11·15	11·60	12·96
Steers, up to 1,050 lb., common	10·35	9·61	9·80	10·80	12·21	9·65	9·28	9·50	10·00	10·64
Steers, over 1,050 lb., good	11·99	11·99	12·20	13·05	14·63	12·17	12·33	12·05	12·85	14·38
Steers, over 1,050 lb., medium	11·48	11·44	11·45	12·45	13·88	11·12	11·33	11·10	11·70	13·08
Steers, over 1,050 lb., common	10·87	10·87	10·70	11·70	12·85	9·60	9·45	9·30	10·20	10·68
Heifers, good	11·57	11·24	11·25	12·15	13·85	11·08	10·74	10·45	11·25	13·04
Heifers, medium	11·09	10·80	10·70	11·65	13·23	9·95	9·20	9·50	10·00	11·73
Calves, fed, good	12·43	12·57	12·55	13·05	14·50	12·69	12·43	12·65	13·05	14·35
Calves, fed, medium	11·91	11·89	11·85	12·50	13·62	11·26	10·93	9·90	11·55	12·12
Cows, good	9·37	8·77	9·10	10·15	11·10	9·17	8·69	9·30	9·75	10·95
Cows, medium	8·64	8·06	8·45	9·20	10·18	8·84	7·88	8·20	8·70	9·76
Bulls, good	10·18	8·61	9·15	10·45	11·40	9·19	8·19	9·10	10·00	11·32
Stocker and feeder steers, good	11·47	10·03	10·00	11·40	12·58	[1]	[1]	[1]	[1]	[1]
Stocker and feeder steers, common	9·94	8·59	8·90	10·25	11·01	[1]	[1]	[1]	[1]	[1]
Stock cows and heifers, good	8·55	8·23	8·40	10·00	7·00	[1]	[1]	[1]	[1]	[1]
Stock cows and heifers, common	7·89	6·93	7·45	8·25	8·23	[1]	[1]	[1]	[1]	[1]
Calves, veal, good and choice	15·39	14·55	14·70	15·70	16·24	15·53	14·12	14·60	15·10	15·41
Calves, veal, common and medium	13·00	11·18	11·80	12·75	13·58	13·34	9·91	10·70	12·45	12·65
Hogs, Grade B-1, dressed	16·87	17·25	17·90	19·85	22·04	16·94	17·26	18·20	20·05	22·29
Lambs, good handy weights	13·93	13·40	14·40	15·25	15·63	12·55	11·94	13·55	14·45	14·83
Lambs, common, all weights	10·38	8·60	9·80	11·45	12·05	10·52	7·16	9·40	9·45	10·15
Sheep, good handy weights	8·41	5·06	7·35	8·55	8·33	8·49	4·90	6·65	7·80	7·38

	Winnipeg					Edmonton				
	1943	1944	1945	1946	1947	1943	1944	1945	1946	1947
	$	$	$	$	$	$	$	$	$	$
Steers, up to 1,050 lb., good	11·10	11·15	11·40	12·00	13·55	11·16	11·24	11·40	11·75	13·01
Steers, up to 1,050 lb., medium	10·11	10·01	10·00	10·65	11·79	10·28	10·06	10·20	10·55	11·59
Steers, up to 1,050 lb., common	8·83	8·57	8·35	9·20	10·06	8·65	8·17	7·90	8·85	9·01
Steers, over 1,050 lb., good	11·09	11·13	11·40	12·05	13·44	11·25	11·14	11·35	11·90	13·26
Steers, over 1,050 lb., medium	10·15	10·01	10·00	10·75	11·65	10·33	10·09	10·15	10·60	11·78
Steers, over 1,050 lb., common	9·00	8·76	8·55	9·45	10·17	9·05	8·31	8·35	9·35	9·54
Heifers, good	10·02	10·06	10·05	10·55	11·96	10·31	10·11	10·20	10·45	11·42
Heifers, medium	9·08	9·03	8·75	9·30	10·40	9·11	8·88	8·85	9·35	10·13
Calves, fed, good	11·15	11·48	11·80	12·10	13·44	11·39	11·50	11·60	11·95	13·33
Calves, fed, medium	10·29	10·56	10·70	10·95	11·96	10·44	10·37	10·55	10·60	11·87
Cows, good	8·75	8·17	8·45	9·20	10·11	8·56	7·55	8·20	8·90	9·64
Cows, medium	7·56	7·13	7·30	7·95	8·85	7·72	6·49	7·05	7·80	8·41
Bulls, good	9·11	7·60	8·55	9·65	10·77	8·04	6·66	7·30	8·95	9·43
Stocker and feeder steers, good	9·75	8·54	8·85	10·20	10·95	9·25	8·44	8·75	9·80	10·59
Stocker and feeder steers, common	7·74	6·55	7·05	8·50	8·72	7·66	6·93	7·10	8·65	8·89
Stock cows and heifers, good	8·49	6·91	7·50	8·45	9·22	7·74	6·81	7·00	7·95	8·76
Stock cows and heifers, common	6·32	5·48	6·00	6·85	7·35	6·02	5·38	5·70	6·70	7·22
Calves, veal, good and choice	13·39	12·67	13·05	13·95	14·82	12·13	11·63	11·05	12·30	12·72
Calves, veal, common and medium	10·25	8·90	9·20	10·35	10·80	10·18	9·55	9·15	9·20	9·78
Hogs, Grade B-1, dressed	15·86	16·41	16·70	17·85	20·61	15·60	15·92	16·15	17·40	20·21
Lambs, good handy weights	11·44	11·07	12·25	13·45	13·96	10·59	10·62	11·25	12·25	13·01
Lambs, common, all weights	8·51	7·04	8·00	8·45	10·05	8·25	7·29	7·85	8·55	9·13
Sheep, good handy weights	6·64	3·32	5·65	7·25	6·34	6·47	5·52	6·15	7·35	6·69

[1] No sales reported.

42.—Average Index Numbers of Farm Prices of Agricultural Products, by Provinces, 1939-45, and by Months, 1946 and 1947

(1935-39=100)

NOTE.—A description of this index, its coverage and the methods used will be found in the "Quarterly Bulletin of Agricultural Statistics" for October-December, 1946.

Year and Month	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
1939 Average	**104·6**	**107·6**	**111·4**	**100·4**	**99·2**	**85·6**	**79·9**	**84·9**	**98·8**	**91·8**
1940 Average	**101·6**	**99·6**	**110·1**	**103·7**	**104·2**	**92·8**	**86·5**	**90·6**	**103·6**	**96·8**
1941 Average	**105·2**	**117·1**	**115·5**	**127·4**	**120·2**	**103·7**	**93·8**	**102·8**	**114·5**	**110·2**
1942 Average	**156·2**	**144·1**	**160·4**	**153·4**	**147·0**	**122·2**	**110·5**	**121·7**	**140·6**	**133·1**
1943 Average	**190·3**	**169·1**	**181·4**	**172·6**	**165·0**	**151·3**	**139·9**	**149·9**	**175·9**	**157·8**
1944 Average	**172·7**	**173·3**	**171·9**	**171·7**	**168·7**	**173·1**	**171·4**	**176·9**	**179·7**	**172·3**
1945 Average	**196·7**	**180·8**	**195·3**	**179·5**	**174·0**	**181·2**	**181·6**	**186·6**	**187·7**	**180·7**
1946—										
January	196·3	187·6	209·7	188·2	180·3	186·1	187·8	191·9	196·4	187·1
February	203·0	187·6	209·0	188·4	182·1	187·2	188·6	193·6	195·6	188·3
March	205·6	191·2	216·5	188·3	181·8	187·8	188·4	193·9	196·3	188·6
April	210·5	192·4	218·4	190·6	184·0	190·3	189·9	196·8	197·4	190·7
May	216·2	197·5	221·9	194·4	186·9	191·6	191·1	197·3	197·5	192·8
June	214·4	199·6	232·4	198·0	189·7	193·5	192·0	199·4	201·6	195·2
July	217·1	201·1	229·4	201·4	191·4	193·7	192·5	200·2	208·6	196·7
August	237·2	206·5	224·4	202·9	190·3	195·2	192·0	199·7	199·8	196·3
September	176·6	186·1	193·4	199·3	188·7	194·0	190·5	198·6	197·0	193·0
October	166·9	183·0	181·3	201·9	189·1	194·1	190·8	195·9	195·6	192·5
November	161·6	181·0	180·0	203·6	190·1	194·6	191·0	196·1	196·7	193·0
December	161·8	179·4	176·1	205·1	190·1	195·2	192·4	197·4	198·7	193·8
1946 Average	**197·4**	**191·1**	**207·7**	**196·8**	**187·0**	**191·9**	**190·6**	**196·7**	**198·4**	**192·3**
1947—										
January	155·8	178·9	179·6	206·5	190·3	197·7	193·1	198·6	199·1	194·6
February	155·2	178·1	180·1	205·6	190·0	199·2	194·1	201·4	197·4	195·2
March	165·4	177·6	184·3	206·0	192·6	201·0	196·4	204·5	197·9	197·4
April	166·2	178·9	182·1	204·2	192·7	203·5	197·2	207·0	200·4	198·2
May	168·4	179·7	191·7	205·6	195·0	204·8	198·5	208·4	200·5	200·0
June	175·6	183·1	196·5	209·0	201·8	206·6	199·3	208·8	201·0	203·1
July	179·9	185·7	197·9	209·9	202·0	205·4	198·2	208·1	208·9	203·2
August	211·0	196·0	216·5	213·1	204·6	204·2	197·8	206·6	208·1	204·8
September	196·6	192·9	212·0	220·4	207·9	206·9	199·8	211·3	218·8	208·4
October	183·3	193·8	207·6	221·5	209·5	207·9	199·8	209·1	219·5	208·5
November	194·9	198·2	224·2	222·8	213·0	219·6	202·0	211·4	220·7	212·2
December	211·6	206·2	228·4	229·4	224·3	221·6	205·5	214·1	223·7	218·3
1947 Average	**180·3**	**187·4**	**200·1**	**212·8**	**202·0**	**206·5**	**198·5**	**207·4**	**208·0**	**203·7**

Subsection 10.—Census Statistics of Agriculture in the Prairie Provinces, 1921-1946*

Some of the major changes that have taken place in agriculture during the period 1921-46 in the provinces of Manitoba, Saskatchewan and Alberta are shown in Table **43**, pp. 394-395.

The farm population, 50·8 p.c. of the total population in 1931, showed an actual decrease of 16·8 p.c. between 1931 and 1946 and represented only 42·1 p.c. of total population in the latter year. While the number of occupied farms increased by only 5·5 p.c. the number of farm operators, 60 years of age and over, increased from 22,728 to 44,878 or by 97·5 p.c. between 1921 and 1946. The number of

* Prepared under the direction of O. A. Lemieux, Director of the Census, by J. L. Forsyth, Chief, Census of Agriculture.

operators under 25 years of age, in the same period, decreased by 6·1 p.c. and between the ages of 30-39 from 81,104 to 57,748 or by 28·8 p.c. Operators reporting their age as 40-59 increased by 11·1 p.c.

Commencing shortly after the First World War, continuing through the boom of the 1920's and the depression years of the 1930's on into the Second World War, many other interesting changes took place in the agricultural picture of these three provinces. Between 1921 and 1946, the average size of occupied farms increased from 344 acres to 436 acres and the total area of farms from 87,931,804 acres to 117,538,678 acres, but whereas, about 80·8 p.c. of all farm land was owner-operated in 1921 only 65·6 p.c. was owner-operated in 1946. The area under field crops increased during this period from 32,203,306 acres to 41,695,713 acres and the area in summer fallow from 11,274,650 to 20,398,985 acres in the same period. (In 1921, idle land was included with summer fallow.)

Farm indebtedness, as covered by mortgages and agreements of sale increased from $342,512,700 in 1931 to $347,843,700 by 1936 but had decreased to $159,673,500 by 1946. The number of farms reporting this debt was 109,668 in 1931 but decreased from 120,318 in 1936 to 66,846 by 1946.

Farm Population.—The definition of farm population includes all persons living on farms in both rural and urban areas. By provinces, the decreases in total farm population over the past ten years have been 13·9 p.c. in Manitoba, 24·4 p.c. in Saskatchewan and 16·1 p.c. in Alberta. During 1941-46, the population movement away from farms continued and there were 153,532 fewer persons on farms in 1946 than in 1941 compared with a decrease of 87,211 between 1936 and 1941.

Tenure and Area of Farm Holdings Analysed by Provinces.—While the total number of occupied farms in the Prairie Provinces showed a decrease during 1936-46, there was, actually, a slight increase in the number of farms in Manitoba between 1936 and 1941. Despite this over-all decrease, the total number of occupied farms was 5·5 p.c. greater in 1946 than in 1921, with Manitoba, Saskatchewan and Alberta showing increases of 2·2 p.c., 5·2 p.c. and 7·9 p.c., respectively.

There has been a definite change in the proportion of owner-operated farms to the number of all farms, during the past 25 years. A reduction from 78·5 p.c. in 1921 to 61·9 p.c. in 1946 is recorded. In 1946, 16·4 p.c. of all farms were operated by tenants as compared with 10·6 p.c. in 1921. The percentage of farms where the operator owns part of the land and rents additional land, has also increased during the same period from 10·0 to 21·3. The largest percentage increase in tenant and part-owner part-tenant operator farms occurred in Saskatchewan.

Although the total area of occupied farm land was 33·7 p.c. greater in 1946 than in 1921, there was a decrease of 2·2 p.c. in farm area between 1941 and 1946. Decreases were recorded in each of the three provinces although they are more

pronounced in Alberta. The average size of farm by province shows increases of 11·5 p.c. in Manitoba, 28·3 p.c. in Saskatchewan and 31·1 p.c. in Alberta for the 25-year period (Saskatchewan assumed the lead in size of farm in 1946). This general increase for the three provinces, however, was accompanied by a decrease in the proportion of farm land operated by the owner. Out of a total 77,064,417 acres of land farmed by owner-operators in 1946,* 21,196,683 acres or 27·5 p.c. was owned and occupied by operators who also farmed rented land as compared to 8,132,428 acres or 11·4 p.c. in 1921.*

The average area of all owner-operated farms in 1921 was 302·3 acres, whereas in 1946 the comparable figure was 320·0 acres. The design and availability of farm machinery to the needs of the small operator has stimulated the trend.

There has also been an increase in the proportion of farms in each acreage class shown in the table, with the exception of the class 101 to 200 acres. Farms of 480 acres and over accounted for 32·8 p.c. of total farms in 1946 as compared with 27·4 p.c. in 1931. The number of farms of 640 acres and over has steadily increased in each province since 1931, with Saskatchewan showing the greatest gain. The proportion of farms 101 to 200 acres, which group includes the quarter section farm, decreased from 37·2 p.c. in 1921 to 27·6 p.c. for 1946.

Farm Mechanization.—Farm mechanization has made tremendous advances during the period of the Second World War but very few farmers were able to satisfy their requirements in this respect and had to manage as best they could with their pre-war equipment, however, the figures of Table **43** (item 43) show that, for each of the provinces despite the difficulties of the War, the value of implements and machinery increased substantially between 1941 and 1946. By 1946, the supply situation had, in fact, not improved sufficiently to reflect the actual demands of farmers but agriculture enjoys a high priority rating for steel and the trend, as now shown by the Censuses of 1921 to 1946, will, there is every reason to believe, be emphasized as future figures are published.

The increase in average size of farms and in the area under cultivation has been greatly facilitated by the progress of farm mechanization. Table **44** shows an increase of 112,676 (292·8 p.c.) tractors on farms in 1946 over 1921, i.e., while there were only 15 tractors per 100 farms in 1921, there were 56 tractors per 100 farms in 1946. Automobiles and motor trucks on farms increased from 73,359 in 1921 to 184,077 in 1946. Farms in possession of a car or motor-truck increased by 159·0 p.c. in 1946, compared with 1921. While there were 20·9 p.c. fewer grain binders, and 13·9 p.c. fewer threshing machines on farms in 1946 than in 1931, the number of grain combines increased 336·9 p.c. during the 15 years: in 1946 there were 144 combines to every 1,000 farms.

* Includes area operated by managers.

Farm Values.—The total value of farm property—including implements, machinery, and live stock—was $3,255,894,259 in 1921 and $2,692,580,523 in 1946 a decrease of 17·3 p.c. although between 1941 and 1946 there was an increase of 38·3 p.c. The reason for this heavy decrease seems, on analysis of the figures, to be due mainly to reduction in land values.

Saskatchewan showed the greatest decrease, 25·4 p.c. in value of farm property, while Manitoba and Alberta had decreases of 21·0 p.c. and 1·1 p.c., respectively, between 1921 and 1946. Although land values showed decreases of 41·6 p.c., 38·0 p.c. and 22·6 p.c. during the 25-year period in Manitoba, Saskatchewan and Alberta, the value of farm buildings showed increases of 2·9 p.c., 3·8 p.c., and 49·1 p.c., respectively. Increases for Manitoba, Saskatchewan and Alberta, of 39·1 p.c., 26·5 p.c. and 65·3 p.c., respectively, are shown for farm implements and machinery during this period. The value of live stock on farms in Manitoba and Saskatchewan showed decreases of 6·7 p.c. and 36·2 p.c., respectively, for the 25-year period but an increase of 2·5 p.c. in Alberta.

Farm Indebtedness.—Inquiries relating to farm indebtedness, as covered by mortgages and agreements for sale, were asked in 1946 of all owner-operators, and include such debts against their buildings and land for not only farms they themselves operate but also for farms they own and rent or lease to other operators. The 1941 and earlier census indebtedness data relate only to these debts on owner-operated farms and therefore exclude any such debts on tenant-operated farms. Table 43 shows a decrease of 53·4 p.c. in debts covered by mortgages and agreement for sale between 1931 and 1946, but when the above mentioned facts are taken into consideration the actual reduction would be much greater than indicated. The largest decrease in indebtedness has occurred between 1941 and 1946. The amount of these debts decreased in Manitoba, Saskatchewan and Alberta by 51·5 p.c., 55·9 p.c. and 50·3 p.c., respectively, during the 15-year period. The number of owner-operators reporting such debts decreased by 32·3 p.c. in Manitoba, 42·6 p.c. in Saskatchewan and 36·9 p.c. in Alberta.

The amount of debts covered by liens was also reduced during the past 10 years but particularly between 1941 and 1946: 89·0 p.c. fewer operators reported 80·9 p.c. less indebtedness in 1946 than in 1936. While the amount of liens decreased by only 10·0 p.c. between 1936 and 1941, the number of operators reporting liens decreased by 13·8 p.c. The increased income to farm operators, particularly between 1941 and 1946, has enabled many operators to reduce their indebtedness incurred during the depression years.

The total value of land showed a decrease of 34·1 p.c. while that of live stock in the three provinces decreased by 17·8 p.c. The value of farm implements and machinery increased by 40·1 p.c. and building values by 15·8 p.c. between 1921 and 1946.

43.—Population, Farm Holdings, Areas, Values and

	Item		Manitoba					
			1921	1931	1936	1941	1946	1921
	Population—							
1	Total	No.	610,118	700,139	711,216	729,744	726,923	757,510
2	Urban	"	261,616	315,969	310,927	321,873	337,331	218,958
3	Rural	"	348,502	384,170	400,289	407,871	389,592	538,552
4	Farm	"	[1]	256,305	261,167	249,599	224,919	[1]
	Age of Farm Operators—							
5	Operators reporting	No.	51,613	50,203	52,671	54,073	51,101	114,153
6	Under 25 years	"	2,430	1,472	1,346	1,570	1,724	5,172
7	25 – 29 "	"	6,113	3,786	3,884	4,481	4,180	15,382
8	30 – 34 "	"	7,422	5,128	5,226	5,675	6,070	19,206
9	35 – 39 "	"	7,743	6,523	6,220	6,316	6,429	21,127
10	40 – 49 "	"	12,664	13,967	13,988	13,003	11,970	28,747
11	50 – 59 "	"	9,064	10,563	12,188	12,901	11,294	15,253
12	60 – 69 "	"	6,177	6,503	7,266	7,694	7,297	9,266
13	70 years and over	"		2,261	2,553	2,433	2,137	
	Farm Holdings—							
14	Holdings by Tenure	No.	53,252[2]	54,199	57,774	58,024	54,448	119,451[2]
	Operated by:							
15	Owner	"	43,169	37,769	38,810	38,293	38,335	91,587
16	Tenant	"	6,053	9,857	11,912	10,986	7,534	12,942
17	Manager	"	481	204	253	378	227	1,081
18	Part owner, part tenant	"	3,549	6,369	6,799	8,367	8,352	13,841
19	Holdings by Size	No.	53,252	54,199	57,774	58,024	54,448	119,451
20	1 – 50 acres	"	3,103	4,612	5,267	4,988	4,276	1,025
21	51 – 100 "	"	2,599	3,121	3,759	3,830	3,331	797
22	101 – 200 "	"	22,696	19,958	21,208	20,013	16,709	37,059
23	201 – 299 "	"	2,802	3,187	3,505	3,704	3,837	2,585
24	300 – 479 "	"		13,644	14,334	14,410	14,845	
25	480 – 639 "	"	22,052	4,972	4,991	5,502	5,722	77,985
26	640 acres and over	"		4,705	4,710	5,577	5,728	
	Areas—							
27	Total land areas[3]	ac.	140,622,720	140,622,720	140,622,720	140,622,720	140,622,720	152,304,000
28	Area in farms	"	14,615,844[4]	15,131,685	15,668,927	16,891,322	16,671,097	44,022,907[4]
29	Average per farm	"	274·5	279·2	271·2	291·1	306·2	368·5
30	Area owned	"	11,990,885	10,917,126	10,872,691	11,608,541	12,492,887	35,375,920
31	Area rented	"	2,609,173	4,214,559	4,796,236	5,282,781	4,178,210	8,599,322
	Condition of Farm Land—							
32	Improved[5]	ac.	8,057,823	8,521,930	8,854,986	9,829,174	9,773,334	25,037,401
33	Field crops	"	5,857,635	5,842,368	6,123,670	6,323,037	6,445,139	17,822,481
34	Pasture	"	417,329	411,924	426,027	455,487	513,758	215,254
35	Fallow	"	1,642,021[6]	2,069,944	1,974,003	2,767,335	2,560,496	6,714,477[6]
36	Unimproved	"	6,558,021	6,609,755	6,813,941	7,062,148	6,897,763	18,985,506
37	Woodland	"	1,889,363	2,018,520	2,308,439	1,529,648	1,165,671	2,243,191
38	Prairie or natural pasture	"	3,987,678	3,601,644	3,299,523	4,823,515	5,140,385	14,993,202
39	Marsh or waste land	"	680,980	989,591	1,205,979	708,985	591,707	1,749,113
	Farm Value—							
40	Total Value	$	637,388,045	388,142,128	305,860,352	339,178,276	503,516,372	1,650,069,196
41	Land	"	380,855,811	200,270,300	153,142,400	157,602,800	222,289,300	1,060,510,192
42	Buildings	"	112,955,195	88,389,200	71,642,400	71,884,900	116,212,900	216,398,082
43	Implements and machinery	"	67,847,699	54,847,200	40,173,107	58,886,600	94,393,500	176,675,721
44	Live stock	"	75,729,340	44,635,428	40,902,445	50,803,976	70,620,672	196,485,201
	Farm Indebtedness—							
45	Amount of mortgage debts[7]	$	[1]	59,223,400	51,322,800	44,594,300	28,732,900	[1]
46	Number of farms reporting	No.	[1]	18,710	19,499	20,631	12,666	[1]
47	Amount of debts covered by liens[8]	$	[1]	[1]	2,360,500	3,081,660	536,700	[1]
48	Number of farms reporting	No.	[1]	[1]	5,476	6,597	611	[1]

[1] Not available. [2] In 1921, farms on Indian Reserves in the Prairie Provinces are not included. [3] Estimate made in 1931. [4] Area includes only improved acreage of Indian Reserves. [5] Includes other improved farm land. [6] In 1921, idle land was included with fallow. [7] Reported for all years except 1946 on buildings and land operated by the owner, and includes debts covered by agreements for sale. See text p. 393. [8] Liens on crops, live stock or implements.

Indebtedness, Manitoba, Saskatchewan and Alberta, 1921-46

Saskatchewan				Alberta					
1931	1936	1941	1946	1921	1931	1936	1941	1946	
921,785	931,547	895,992	832,688	588,454	731,605	772,782	796,169	803,330	1
290,905	280,273	295,146	316,760	222,904	278,508	286,447	306,586	354,396	2
630,880	651,274	600,846	515,928	365,550	453,097	486,335	489,583	448,934	3
564,012	573,894	514,677	434,039	[1]	375,097	400,390	383,964	335,750	4
119,835	122,411	121,054	109,573	77,714	88,058	90,533	90,750	82,209	5
5,444	3,876	5,263	5,853	4,047	4,659	2,613	3,110	3,361	6
11,074	10,421	10,964	10,317	9,377	8,469	7,466	7,172	6,897	7
12,742	12,613	12,993	13,227	12,350	9,895	9,847	9,583	8,942	8
16,274	13,947	13,216	13,103	13,256	11,412	11,088	11,079	9,977	9
36,674	33,338	26,597	22,893	19,525	25,165	24,189	21,628	20,047	10
24,177	30,417	30,739	23,621	11,874	17,214	21,297	22,280	18,100	11
10,234	13,840	17,086	16,715	7,285	8,462	10,659	12,478	11,969	12
3,216	3,959	4,196	3,844		2,782	3,374	3,420	2,916	13
136,472	142,391	138,713	125,612	82,954[2]	97,408	100,358	99,732	89,541	14
90,250	85,889	72,954	71,035	65,900	70,751	67,116	62,366	57,450	15
21,044	29,037	34,093	23,767	8,072	11,808	16,208	17,032	13,028	16
441	587	638	437	729	309	448	573	393	17
24,737	26,878	31,028	30,373	8,253	14,540	16,586	19,761	18,670	18
136,472	142,391	138,713	125,612	82,954	97,408	100,358	99,732	89,541	19
2,051	2,245	2,390	1,719	1,301	2,803	3,056	3,434	3,154	20
1,377	1,691	1,767	1,405	1,216	1,774	1,969	2,117	1,753	21
40,680	45,944	39,366	29,305	35,278	39,318	40,444	36,791	28,292	22
3,272	3,497	3,753	3,349	2,415	3,303	3,468	3,902	3,849	23
43,985	44,296	43,037	39,390		25,980	26,502	26,496	25,759	24
19,081	18,691	20,165	19,965	42,744	9,484	9,717	10,303	9,694	25
26,026	26,027	28,235	30,479		14,746	15,202	16,689	17,040	26
152,304,000	152,304,000	152,304,000	152,304,000	159,232,000	159,232,000	159,232,000	159,232,000	159,232,000	27
55,673,460	56,903,639	59,960,927	59,416,127	29,293,053[4]	38,977,457	40,539,934	43,277,295	41,451,454	28
407·9	399·6	432·3	473·0	353·1	400·1	403·0	433·9	462·9	29
39,226,472	37,165,881	35,641,592	38,036,831	23,687,617	26,920,603	26,246,375	26,706,328	26,534,699	30
16,446,988	19,737,758	24,319,335	21,379,296	5,554,759	12,056,854	14,293,559	16,570,967	14,916,755	31
33,548,988	33,631,608	35,577,320	35,590,239	11,768,042	17,748,518	18,363,363	20,125,220	20,031,655	32
22,126,329	21,967,167	19,765,548	22,384,719	8,523,190	12,037,394	12,103,744	12,278,873	12,865,855	33
712,371	635,050	783,901	823,304	157,462	524,586	517,841	625,578	730,950	34
9,941,357	9,773,299	13,803,088	11,826,990	2,918,152[6]	4,547,187	5,107,288	6,545,931	6,011,499	35
22,124,472	23,272,031	24,383,607	23,825,888	17,525,011	21,228,939	22,176,571	23,152,075	21,419,799	36
3,508,480	4,598,005	2,566,115	2,141,974	2,173,211	3,893,680	4,999,631	2,727,375	2,108,889	37
15,755,179	15,230,425	19,815,940	20,128,889	13,960,497	15,960,335	15,196,585	18,745,520	18,252,293	38
2,860,813	3,443,601	2,001,552	1,555,025	1,391,303	1,374,924	1,980,355	1,679,180	1,058,617	39
1,272,662,978	1,023,099,691	896,013,231	1,230,904,770	968,437,018	869,431,858	685,216,102	711,020,196	958,159,381	40
765,349,000	615,671,800	505,325,200	657,455,400	610,526,401	534,092,700	400,593,200	372,982,400	472,525,700	41
223,794,500	182,127,200	152,268,600	224,684,800	121,765,499	137,331,700	116,407,900	117,844,000	181,528,200	42
185,510,500	131,095,169	142,754,400	223,462,600	98,814,513	116,300,600	89,925,225	116,127,900	163,309,800	43
98,008,978	94,205,522	95,665,031	125,301,970	137,330,605	81,706,858	78,289,777	104,065,896	140,795,681	44
175,770,300	188,118,300	156,353,700	77,495,400	[1]	107,519,000	108,402,600	95,649,100	53,445,200	45
55,955	62,160	57,040	32,096	[1]	35,003	38,659	38,235	22,084	46
[1]	12,386,200	9,265,170	1,395,600	[1]	[1]	5,684,200	6,035,550	1,968,100	47
[1]	24,808	19,823	2,211	[1]	[1]	13,047	10,925	1,940	48

44.—Mechanization of Farms in Manitoba, Saskatchewan and Alberta, 1921-46

Item	1921	1931	1936	1941	1946
	No.	No.	No.	No.	No.
Manitoba					
Automobiles	16,645	25,588	22,988	27,074	28,337
Farms reporting	15,848[1]	24,450	22,203	26,410	27,956
Binders	[2]	45,883	44,360	[2]	39,296
Farms reporting	[2]	35,613	36,231	[2]	35,152
Electric motors	[2]	854	1,186	1,374	4,700
Farms reporting	[2]	676	821	887	2,229
Gasoline engines	[2]	17,557	16,915	15,772	19,017
Farms reporting	13,828	13,820	13,542	12,639	15,127
Grain combines	[2]	355	498	1,714	5,724
Farms reporting	[2]	351	482	1,655	5,579
Motor trucks	[2]	3,260	3,299	7,566	9,970
Farms reporting	[2]	3,123	3,143	7,248	9,615
Threshing machines	[2]	10,107	9,622	9,979	9,834
Farms reporting	[2]	10,008	9,559	9,925	9,792
Tractors	10,027	14,366	14,685	22,050	30,802
Farms reporting	8,909	12,983	13,475	20,948[3]	27,864
Saskatchewan					
Automobiles	36,098	65,094	54,464	57,093	58,022
Farms reporting	34,085[1]	62,568	52,761	55,767	57,326
Binders	[2]	129,177	120,033	[2]	91,346
Farms reporting	[2]	98,676	96,994	[2]	81,055
Electric motors	[2]	1,702	2,552	1,708	6,891
Farms reporting	[2]	1,426	1,979	1,267	3,761
Gasoline engines	[2]	38,549	39,194	33,882	43,062
Farms reporting	27,548	32,096	32,155	27,935	34,662
Grain combines	[2]	6,019	6,420	11,202	22,498
Farms reporting	[2]	5,919	6,260	10,822	21,851
Motor trucks	[2]	10,938	10,338	21,285	27,756
Farms reporting	[2]	10,559	9,948	20,225	26,674
Threshing machines	[2]	27,046	24,540	21,486	19,936
Farms reporting	[2]	26,722	24,329	21,311	19,824
Tractors	19,243	43,308	42,050	54,129	71,596
Farms reporting	17,523	39,434	38,506	51,353[3]	66,218
Alberta					
Automobiles	20,616	42,817	39,224	44,090	41,541
Farms reporting	19,517[1]	41,025	37,732	42,678	40,932
Binders	[2]	73,487	74,590	[2]	65,876
Farms reporting	[2]	61,048	63,924	[2]	59,453
Electric motors	[2]	1,087	1,866	2,150	7,980
Farms reporting	[2]	895	1,292	1,499	3,941
Gasoline engines	[2]	26,938	30,043	31,091	36,828
Farms reporting	14,755	22,137	24,215	25,199	29,165
Grain combines	[2]	2,523	2,909	5,165	10,648
Farms reporting	[2]	2,461	2,794	4,910	10,180
Motor trucks	[2]	7,319	7,656	14,512	18,451
Farms reporting	[2]	7,080	7,282	13,634	17,394
Threshing machines	[2]	12,457	12,539	12,753	12,921
Farms reporting	[2]	12,288	12,446	12,649	12,860
Tractors	9,215	23,985	24,922	36,445	48,763
Farms reporting	8,464	21,996	22,947	34,456[3]	45,214

[1] In 1921, automobiles and motor trucks were reported together. [2] Not available. [3] Includes some duplication for this year as farms possessing 2 sizes of tractors are included twice.

Subsection 11.—Agricultural Irrigation

A short article is given at pp. 375-379 of the 1947 Year Book on agricultural irrigation on the Canadian Prairies from its beginnings when early ranchers undertook to grow winter feed by diverting water from the smaller streams to irrigate meadow lands, to the new phase in irrigation development whereby the Federal Government, under the Prairie Farm Rehabilitation Act, 1935, undertook the construction of large irrigation works on the Prairies and to provide assistance for individual projects, conduct surveys and prepare plans for various irrigation possibilities.

Table **45** shows the larger irrigation developments in Alberta. In addition there are 640 private licensed irrigation projects with an irrigable area of 75,000 acres. Table **46** shows the principal P.F.R.A. irrigation projects in Manitoba and Saskatchewan and Table **47** the irrigable and irrigated areas in British Columbia under the control of public and private organizations.

45.—Irrigation Development in Alberta, as at Oct. 31, 1947

Project	Source of Supply	Miles of Canals 1945	Area of Tract	Area Served by Existing Works	Area Irrigated in—				
					1942	1943	1944	1945	1946
		No.	acres	acres	acres	acres	acres	acres	acres
Canada Land and Irrigation Company	Bow River	461	200,000	55,000	39,468	32,783	34,640	35,813	38,963
New West Irrigation District[1]	Bow River	24	8,000	4,564	2,979	4,501	2,626	3,025	4,501
Western Irrigation District	Bow River	1,000	150,000	150,000	9,194	7,666	20,000	20,000	19,000
St. Mary and Milk River Development	St. Mary River	219	200,000	84,000	57,575	75,707	75,725	75,766	76,013
Magrath Irrigation District[2]	St. Mary River	90	18,873	6,975	3,500	3,500	3,500	3,500	3,500
Raymond Irrigation District[2]	St. Mary River	17	20,520	15,130	10,000	12,000	12,000	12,000	12,000
Taber Irrigation District[2]	St. Mary River	105	33,200	21,500	14,108	20,935	21,325	21,218	21,222
Eastern Irrigation District	Bow River	2,084	1,500,000	250,000	158,000	168,496	167,094	167,100	167,200
Lethbridge Northern Irrigation District	Oldman River	600	220,782	97,000	31,102	67,777	75,927	57,126	57,126
United Irrigation District	Belly River	175	62,800	34,318	12,000	14,000	14,000	13,000	13,500
Mountain View Irrigation District	Belly River	24	6,400	3,569	3,400	3,254	3,400	3,300	3,000
Leavitt Irrigation District	Belly River	[3]	16,100	4,571	[3]	[3]	526	1,000	1,200
Little Bow Irrigation District	Highwood River	3	10,014	200	80	40	120	100	Nil
Totals	-	**4,802**	**2,446,689**	**726,827**	**341,406**	**410,659**	**430,883**	**412,948**	**417,225**

[1] Water supplied by Canada Land and Irrigation Company. [2] Water supplied by the St. Mary and Milk Rivers Development. [3] Not completed.

46.—Principal P.F.R.A. Irrigation Projects in Manitoba and Saskatchewan, as at Oct. 31, 1946

Project	Location	Description	Irrigable Area	Storage Capacity
			acres	acre ft.
Manitoba—				
Deadhorse Creek	Morden	Earthfill dam, completed 1941	100	1,200
Totals, Manitoba[1]	-	-	**100**	**16,265**
Saskatchewan—				
Cypress Lake Storage	Southwest Sask.	Development of storage and irrigation on Frenchman River Valley in southwestern Sask., storage dams to raise level of Cypress Lake for irrigation along Frenchman River; includes canal leading to Robsart-Vidora area.	-	80,000
Val Marie Irrigation District	Val Marie	Dam on Frenchman River and distributing works.	8,549	8,000
Eastend Irrigation District	Frenchman River, southwestern Sask.	Storage dam on Frenchman River and canals to rehabilitate and extend an old irrigation project.	5,396	1,300
Maple Creek	Maple Creek	Development of Maple, Gap and Downie Creeks flowing northward from Cypress Hills for irrigation and stockwatering.	6,000	23,260
Swift Current	Swift Current	Development of Swift Current Creek and tributaries for irrigation, stockwatering, municipal and domestic supply.	25,000	98,350
Qu'Appelle River Valley	On Qu'Appelle River from Moose Jaw east.	Development of Qu'Appelle River and tributaries for irrigation, stockwatering and domestic supply, ultimate irrigable acreage approximately 30,000 acres.	1,600	72,700
Totals, Saskatchewan[1]	-	-	**65,000**	**400,904**

[1] Includes other small projects.

Irrigation in British Columbia.*—The first right to the use of water for agricultural purposes in this Province was granted three months after the passing of an Act by the Imperial Government establishing the Crown Colony of British Columbia, in 1858.

Irrigation was used in these early years mainly for raising hay in valley bottom lands where it was easy to divert water out of the streams. By the end of the century, water was being conveyed to the benches and higher lands, especially where the climate and the benchlands were suitable for commercial fruit growing.

Companies were formed; large holdings were purchased and subdivided, and irrigation systems to supply them with water were constructed, largely, with earth ditches and wooden flumes. Most of these irrigation systems have since been taken over and are operated by Improvement Districts, under the Water Act, or by municipalities. To-day, the large irrigation systems of the Province are good examples of hydraulic structures. Owing to the generally rugged topography, irrigation engineering has been faced in this Province with many difficult problems; agricultural development having of necessity to follow the rather narrow valleys does not lend itself to simple and cheap irrigation systems.

* Prepared by J. E. Lane, Deputy Comptroller of Water Rights, Department of Lands and Forests, Victoria, B.C.

Due to the wide variations in climate and soil types found throughout the Province, three methods of irrigation are in use: (1) sprinkling, practised in fairly humid areas, where precipitation is moderate but insufficient during the growing period; (2) delivery by ditch or flume, with distribution over the ground by furrows, used in general for fruit and vegetable crops; and (3) irrigation by flooding, common in stock-raising areas on hay meadows.

Most of the irrigation is by gravity supply, but pumping from lakes and rivers is also practised. Pumping is costly and only warrantable in favoured areas for the growth of high-priced specialty crops.

Estimates of irrigable and irrigated land are given in the following Table. About 85,000 acres are under water licence and capable of being irrigated, nearly 100,000 acres are irrigated by individual effort, the majority being hay and grain for stock-ranches, and for field crops. In addition about 200,000 acres more could be brought under irrigation, but at a cost greater than that of existing works.

47.—Major Irrigation Projects in British Columbia, 1947

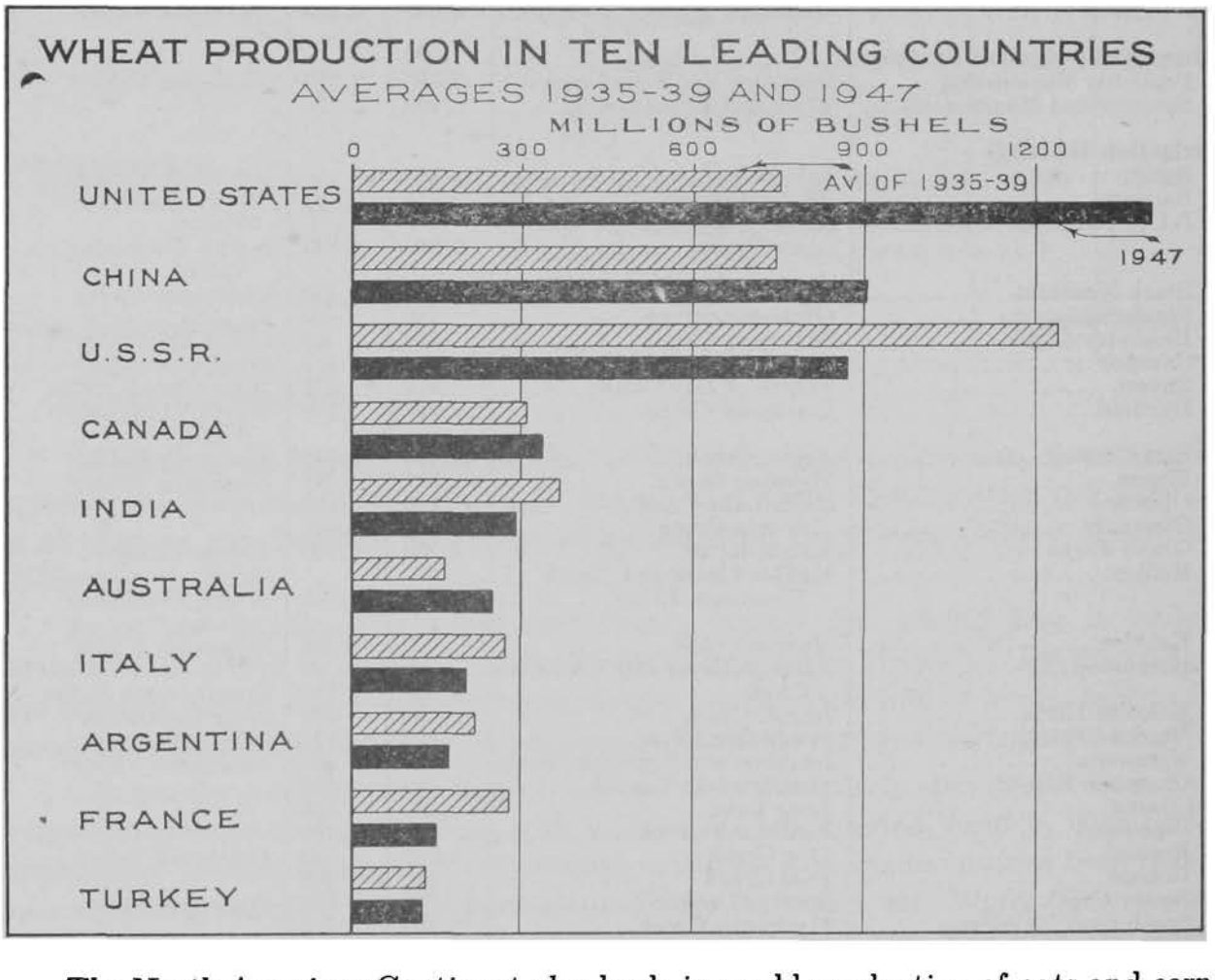
Project	Water Supply	Irrigable Area	Irrigated Area	Locality
		acres	acres	
Provincial Irrigation System—				
Southern Okanagan Lands Project	Okanagan River	5,000	4,200	Okanagan Valley
Municipal Irrigation Systems—				
Penticton Municipality	Penticton and Ellis Creeks	2,500	2,300	Okanagan Valley
Summerland Municipality	Trout and Eneas Creeks	3,800	3,400	" "
Irrigation Districts—				
Balfour	Laird Creek	240	150	Kootenay Valley
Barriere	Barriere River	315	160	North Thompson Valley
B.C. Fruitlands	Jameson and North Thompson River	3,200	2,800	North Thompson Valley
Black Mountain	Belgo Creek	4,000	3,850	Okanagan Valley
Black Sage	Okanagan River	180	150	" "
Blueberry Creek	Blueberry Creek	250	40	Columbia Valley
Cawston	Similkameen River	500	257	Okanagan Valley
Covert	Fourth of July Creek	272	272	Near Grand Forks
Darfield	Lindquist Creek	363	200	North Thompson Valley
East Creston	Arrow Creek	1,400	1,160	Kootenay Valley
Ellison	Kelowna Creek	687	687	Okanagan Valley
Girouard	Swan Lake Creek	110	110	" "
Glenmore	Kelowna Creek	2,000	1,946	" "
Grand Forks	Kettle River	2,700	2,200	Kettle Valley
Heffley	Heffley Creek and North Thompson River	2,700	1,633	North Thompson Valley
Kaleden	Marron Creek	500	430	Okanagan Valley
Keremeos	Ashnola River and Keremeos Creek	1,020	960	Similkameen Valley
Malcolm Horie	Joseph Creek	200	150	Near Cranbrook
Merritt Central	Coldwater River	125	125	Nicola Valley
Naramata	Lequime and Robinson Creeks	950	867	Okanagan Valley
Okanagan Falls	Shuttleworth Creek	400	180	" "
Oyama	Long Lake	350	350	" "
Peachland	Peachland Creek	450	400	" "
Renata	Dog Creek	200	140	Columbia Valley
Robson	Pass Creek	262	262	" "
Scotty Creek	Scotty Creek	863	863	Okanagan Valley
South East Kelowna	Hydraulic Creek	2,800	2,560	" "
Trout Creek	Trout Creek	350	350	" "
Vermilion	Kindersley Creek	800	400	Columbia Valley
Vernon	Coldstream and Jones Creeks	7,500	7,200	Okanagan Valley
Westbank	Powers Creek	700	648	" "
Winfield and Okanagan Centre	Vernon Creek	2,000	1,823	" "
Wynndel	Duck Creek	500	450	Kootenay Valley
Irrigation Companies—				
Columbia Valley Irrigated Fruitlands Company	Bruce Creek	2,000	367	Columbia Valley
Woods Lake Water Company	Oyama Creek	792	792	Okanagan Valley

Subsection 12.—International Agricultural Statistics

The following tables are summarized from statistics published by the Office of Foreign Agricultural Relations, United States Department of Agriculture, and give, by leading countries of the world, the acreages and production of wheat for the harvests of 1946 and 1947, oats, barley and corn for 1947, with averages for the years 1935-39.

North America was the world's leading producer of wheat, in both 1946 and 1947, with about 28 p.c. and 30 p.c., respectively, of total world production. The United States alone produced 20 p.c. of the total in 1946 and 24·4 p.c. in 1947. Although a large exporter of wheat, Canada produced only 7 p.c. and 6 p.c. of the world's total in the respective years. In 1947, China, which held first place in Asia, was second in world production of wheat with 15·7 p.c. of total production followed by the Union of Soviet Socialist Republics with 15·2 p.c.

Acreages sown to wheat in 1947 showed the slight increase of 3 p.c. over those of the previous year, total production increased by only 40,000,000 bushels.



The North American Continent also leads in world production of oats and corn in 1947, with the United States producing 32 p.c. of total oats and 52 p.c. of corn. Asia was the leading continent for world barley production with 29 p.c. of the total, China contributing 14·5 p.c. The Union of Soviet Socialist Republics and the United States followed closely with 14·2 p.c. and 13·0 p.c.

48.—Estimated Acreages and Production of Wheat Harvested in 1946 and 1947 in Specified Countries, with Averages, 1935-39

Continent and Country	Acreages			Production		
	Average 1935-39	1946	1947	Average 1935-39	1946	1947
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
North America—						
Canada	25,595	24,453	24,260	312,399	413,725	340,758
Mexico	1,244	1,124	1,236	14,284	12,676	15,616
United States	57,293	67,201	73,907	758,629	1,155,715	1,406,761
Totals, North America[1]	**84,000**	**92,460**	**99,100**	**1,086,000**	**1,583,000**	**1,764,000**
Europe—						
Albania	99	135	130	1,507	2,200	2,000
Austria	633	545	495	16,057	10,300	9,700
Belgium	402	375	220	16,150	16,200	6,500
Bulgaria	3,078	3,768	3,688	64,076	67,900	–
Czechoslovakia	2,175	2,250	2,040	57,000	53,000	–
Denmark	319	221	58	14,470	10,916	2,000
Eire	225	643	580	7,689	13,000	17,900
Finland	230	388	395	6,100	8,083	8,000
France	12,560	10,600	9,250	286,510	250,000	150,000
Germany	4,250	–	–	147,000	–	–
Greece	2,150	1,912	2,000	30,205	28,500	20,600
Hungary	4,091	2,698	3,149	91,210	41,400	40,000
Italy	12,581	11,700	11,550	279,000	238,000	205,000
Luxembourg	47	41	20	1,215	959	450
Netherlands	338	302	225	14,791	13,200	8,000
Norway	80	95	86	2,391	2,760	2,390
Poland	3,260	–	–	74,000	–	–
Portugal	1,227	1,500	1,545	16,092	16,500	13,000
Roumania	6,900	–	–	112,000	–	–
Spain	11,253	9,400	9,625	157,986	133,000	110,000
Sweden	740	750	724	26,351	25,018	15,000
Switzerland	183	240	235	6,050	8,500	7,000
United Kingdom	1,843	2,062	2,162	62,361	73,435	62,832
Yugoslavia	5,400	–	–	97,700	–	–
Totals, Europe[1]	**74,000**	**67,000**	**64,460**	**1,588,000**	**1,300,000**	**1,020,000**
Union of Soviet Socialist Republics (Europe and Asia)	104,000	73,000	75,000	1,240,000	780,000	875,000
Asia—						
Iran	4,191	–	–	72,128	76,426	61,178
Iraq	1,724	2,000	–	18,114	14,697	–
Lebanon	–	161	–	–	2,572	1,470
Palestine	533	340	–	3,244	2,873	–
Syria	1,363	1,927	–	19,485	21,311	–
Turkey	8,952	9,246	9,465	135,690	180,000	130,000
China	49,000	55,000	56,000	750,000	859,000	905,000
Manchuria	2,896	–	–	36,035	–	–
India	34,492	34,568	34,159	370,660	333,237	297,920
Japan	1,738	1,495	1,510	50,133	22,597	–
Korea	832	–	–	10,240	–	–
Totals, Asia[1]	**107,000**	**111,700**	**113,100**	**1,483,000**	**1,548,000**	**1,490,000**
South America—						
Argentina	15,834	13,657	12,300	221,769	206,314	175,000
Brazil	442	–	–	4,652	–	–
Chile	1,963	1,873	1,965	31,562	33,163	–
Peru	285	280	–	3,274	3,300	–
Uruguay	1,210	659	–	13,255	6,681	–
Totals, South America[1]	**20,500**	**17,990**	**17,000**	**281,000**	**262,000**	**237,000**
Africa—						
Algeria	4,184	3,200	3,700	35,201	36,000	28,000
Egypt	1,464	1,646	1,692	45,848	42,725	42,000
French Morocco	3,254	2,200	3,000	23,197	25,500	24,000
Tunisia	1,915	1,670	–	14,965	12,500	11,000
Union of South Africa	1,926	2,300	–	16,259	14,760	–
Totals, Africa[1]	**13,700**	**12,380**	**13,940**	**143,000**	**140,000**	**130,000**

For footnote, see end of table, p. 402.

48.—Estimated Acreages and Production of Wheat Harvested in 1946 and 1947 in Specified Countries, with Averages, 1935-39—concluded

Continent and Country	Acreages			Production		
	Average 1935-39	1946	1947	Average 1935-39	1946	1947
	'000 acres	'000 acres	'000 acres	'000 bu.	'000 bu.	'000 bu.
Oceania—						
Australia	13,128	12,526	14,500	169,744	116,490	250,000
New Zealand	221	137	–	7,129	5,000	–
Totals, Oceania[1]	**13,300**	**12,663**	**14,650**	**176,873**	**121,490**	**256,000**
World Totals[1]	**417,000**	**387,190**	**397,250**	**5,998,000**	**5,735,000**	**5,775,000**

[1] Estimated totals, which in the case of production are rounded to millions, include allowances for any missing data for countries shown and for other producing countries not shown.

49.—Estimated Production of Oats, Barley and Corn Harvested in 1947, in Specified Countries, With Averages, 1935-39

Continent and Country	Oats		Barley		Corn	
	Averages 1935-39	1947	Averages 1935-39	1947	Averages 1935-39	1947
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
North America—						
Canada	338,071	278,670	88,882	141,372	7,010	6,682
Cuba	–	–	–	–	6,000	6,500
Guatemala	–	–	–	–	15,700	–
Honduras	–	–	–	–	3,717	–
Mexico	465	1,929	3,960	6,430	67,523	86,609
Nicaragua	–	–	–	–	1,500	2,500
United States	1,045,329	1,231,561	238,622	284,497	2,315,554	2,447,422
Europe—						
Albania	–	–	–	–	5,067	5,500
Austria	28,865	17,200	13,338	6,200	6,732	–
Belgium	40,946	41,000	3,570	8,000	–	–
Bulgaria	7,966	7,000	15,168	12,000	31,173	35,000
Czechoslovakia	85,000	–	51,800	–	11,300	6,000
Denmark	70,205	62,004	52,881	62,923	–	–
Eire	39,265	47,500	5,413	5,800	–	–
Finland	45,000	28,900	7,900	8,000	–	–
France	328,653	225,000	53,015	55,000	22,559	9,000
Germany	315,000	–	130,000	–	4,000	–
Greece	8,479	5,000	9,267	6,200	10,078	10,000
Hungary	20,042	13,000	30,178	22,000	92,007	73,000
Italy	38,360	32,500	10,000	9,500	113,174	92,500
Luxembourg	2,910	2,800	–	–	–	–
Netherlands	25,314	24,300	5,683	8,500	–	–
Norway	12,940	11,700	5,467	3,700	–	–
Poland	204,000	–	76,000	–	–	–
Portugal	6,555	7,000	1,783	3,000	13,083	15,700
Roumania	37,500	–	28,000	–	172,000	–
Spain	39,369	35,000	97,059	70,000	28,955	20,000
Sweden	87,198	47,000	9,951	8,313	–	–
Switzerland	1,593	5,200	430	2,500	–	–
United Kingdom	138,628	189,000	36,596	85,160	–	–
Yugoslavia	21,900	–	18,800	–	176,600	–
Union of Soviet Socialist Republics (Europe and Asia)	1,165,000	820,000	425,000	310,000	170,000	125,000
Asia—						
Burma	–	–	–	–	1,640	–
China	60,317	52,697	347,000	316,962	262,000	286,000
French Indo-China	–	–	–	–	21,168	–
India	–	–	118,356	111,000	108,000	105,000
Iran	–	–	35,728	51,211	–	–

49.—Estimated Production of Oats, Barley and Corn Harvested in 1947, in Specified Countries, With Averages, 1935-39—concluded

Continent and Country	Oats		Barley		Corn	
	Averages 1935-39	1947	Averages 1935-39	1947	Averages 1935-39	1947
	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.	'000 bu.
Iraq	–	–	31,677	29,854	–	–
Japan	11,481	–	65,436	47,325	3,017	3,600
Java and Madura	–	–	3,238	–	79,976	–
Korea	2,718	–	52,096	–	4,177	–
Lebanon	–	–	–	919	–	–
Manchuria	–	–	6,462	–	86,586	–
Palestine	–	–	3,238	–	–	–
Philippine Islands	–	–	–	–	16,129	17,322
Syria	662	–	15,386	–	–	–
Turkey	16,893	12,821	96,129	71,686	22,971	21,632
South America—						
Argentina	50,182	–	25,586	–	301,986	–
Brazil	–	–	–	–	215,153	–
Chile	7,670	–	5,041	–	2,496	–
Colombia	–	–	–	–	15,276	–
Uruguay	3,100	–	649	–	5,188	–
Africa—						
Algeria	10,859	6,500	33,132	19,000	–	–
Angola	–	–	–	–	13,084	–
Basutoland	–	–	–	–	2,822	–
Belgian Congo	–	–	–	–	5,000	–
Egypt	–	–	10,697	7,826	63,229	55,000
French Morocco	2,751	2,500	53,279	58,000	8,505	8,500
French West Africa	–	–	–	–	21,473	–
Kenya	–	–	–	–	3,350	–
Madagascar	–	–	–	–	3,969	–
Southern Rhodesia	–	–	–	–	5,923	–
Tunisia	1,674	600	9,048	5,000	–	–
Union of South Africa	6,966	12,356	1,451	2,500	80,132	–
Oceania—						
Australia	23,351	–	11,651	–	7,030	–
New Zealand	3,539	–	952	–	318	–
World Totals[1]	**4,365,000**	**3,805,000**	**2,365,000**	**2,190,000**	**4,730,000**	**4,750,000**

[1] Estimated world totals include allowances for any missing data for countries shown and for other producing countries not shown.

CHAPTER XI.—FORESTRY*

CONSPECTUS

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The forests of Canada cover a vast region in the north temperate climatic zone, reaching from the Atlantic Ocean to the Pacific; they extend northward from the International Boundary to beyond the Arctic Circle. Wide variations in climatic, physiographic and soil conditions cause marked differences in the character of the forests in different parts of the country, whereby more or less well-defined forest regions may be recognized.

Section 1.—Forest Regions

At pp. 184-188 of the 1941 edition of the Year Book the forest regions of Canada are separately described, together with the dominant and associated tree species common to each.

Section 2.—Important Tree Species

In Canada there are more than 125 tree species of which 33 are conifers, commonly called "softwoods". While the number of deciduous or "hardwood" species is large, only about a dozen of these are of much commercial importance in the lumber trade, and about 80 p.c. of the volume of merchantable timber is made up of softwoods.

A short description of the individual tree species is given at pp. 384-387 of the 1947 Canada Year Book. For more detailed information on Canadian trees refer to the Dominion Forest Service Bulletin No. 61, "Native Trees of Canada", published by the Department of Mines and Resources, Ottawa.

Section 3.—Forest Resources

The forested area of Canada is estimated at 1,290,960 sq. miles, or 37 p.c. of the total land area. In comparison, only 16 p.c. of the land area is considered to be of present or potential value for agriculture, and only 7 p.c. is now classed as "improved and pasture". The forested area within the boundaries of the nine provinces totals 1,167,960 sq. miles, or 58 p.c. of the provincial land area. About 478,000 sq. miles of the existing forests are classed as "unproductive". They are made up of small trees which cannot be expected to reach merchantable size because they are growing on poorly drained lands, or at high altitudes, or are subject to other adverse site conditions. These unproductive forests, however, perform

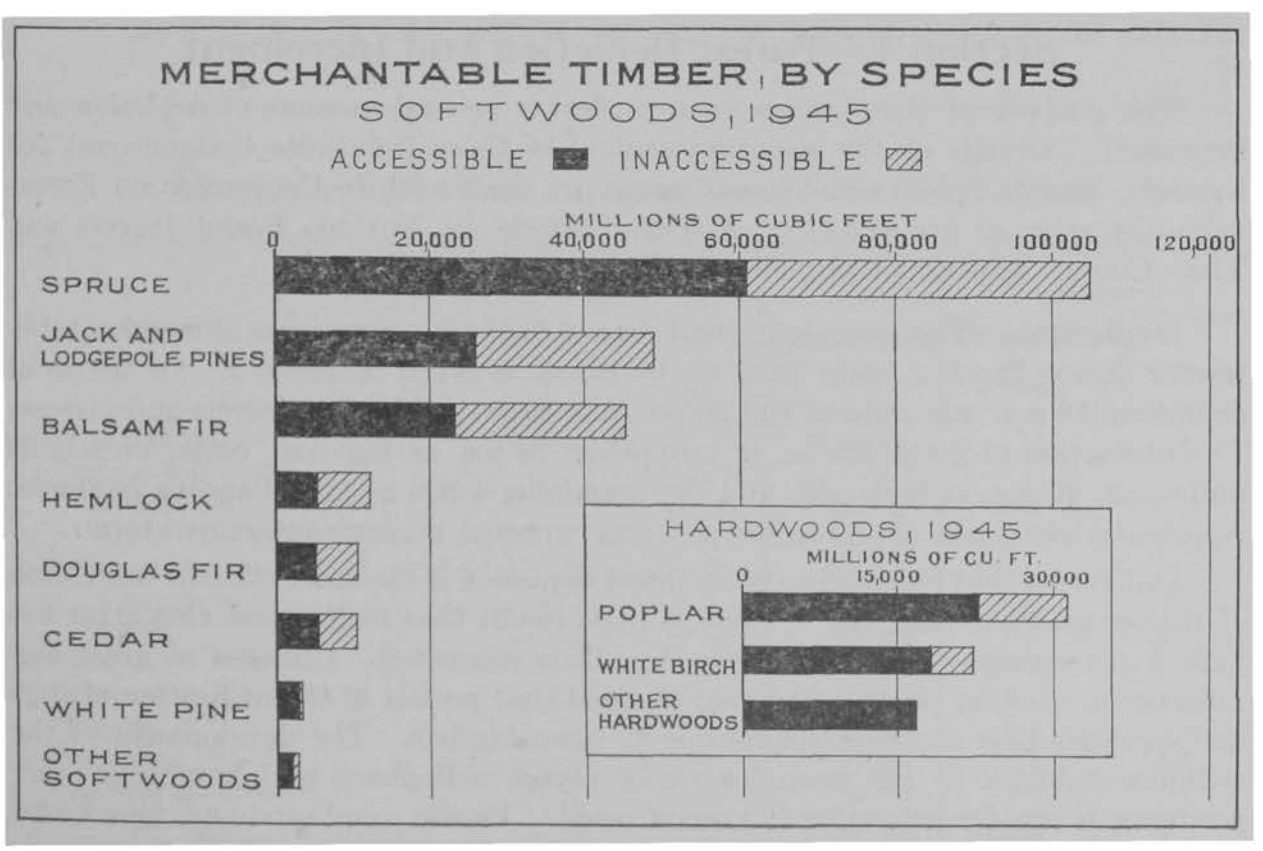
* Sections of this Chapter that deal with forestry and forest administration have been prepared by the Economics Division, Dominion Forest Service, Department of Mines and Resources. Sections dealing with forest utilization and forest industries, except as otherwise noted, have been revised under the direction of W. H. Losee, Director, Census and Merchandising Division, Dominion Bureau of Statistics, by L. J. Pouliot, Chief, Forest Products Statistics.

valuable functions. They help to protect watersheds and conserve water supplies; they provide fuel and building materials to natives and travellers in remote areas; and they are the habitat of valuable fur-bearing and game animals.

The productive forests covering more than 813,000 sq. miles are considered capable of producing continuous crops of timber suitable for domestic and industrial purposes. A considerable proportion of these forests is not yet accessible for commercial operations, but constitutes a valuable reserve for the future. About 435,000 sq. miles of productive forests are considered to be economically accessible at the present time. One-half of the productive forest area bears trees large enough for use as sawlogs, pulpwood or fuelwood, and the other half is occupied by young growth of various ages, kinds and degrees of stocking.

The total stand of timber of merchantable size is estimated to be 311,201,000,000 cu. ft., of which 191,347,000,000 cu. ft. is accessible. These cubic volumes are volumes of wood that can actually be used. Expressed in commercial terms, the accessible timber is made up of 250,250,000,000 bd. ft. of logs in trees large enough to produce sawlogs and 1,684,710,000 cords of smaller material suitable for pulpwood, fuelwood, posts, mining timbers, etc.

Since the end of the War there has been increased interest and activity in forest inventory surveys, particularly on the part of the Provincial Governments. The work is being greatly facilitated by the use of air survey methods. These prove of great value both in the preparation of the basic maps and for the actual forest inventory information.



1.—Estimate of Total Stand of Timber in Canada, by Type and Size, and by Provinces and Regions

Province and Region	Conifers			Broad-Leaved			Totals		
	Saw Material	Small Material	Total Equivalent Volume[1]	Saw Material	Small Material	Total Equivalent Volume[1]	Saw Material	Small Material	Total Equivalent Volume[1]
Accessible	Million ft. b.m.	'000 cords	Million cu. ft.	Million ft. b.m.	'000 cords	Million cu. ft.	Million ft. b.m.	'000 cords	Million cu. ft.
Prince Edward Island..	65	560	61	40	240	28	105	800	89
Nova Scotia.....	4,850	23,165	2,939	1,600	5,940	825	6,450	29,105	3,764
New Brunswick.....	6,000	50,000	5,450	3,000	30,000	3,150	9,000	80,000	8,600
Quebec.....	41,110	453,330	46,755	14,390	176,120	17,848	55,500	629,450	64,603
Ontario.....	42,560	273,790	31,784	11,390	286,140	26,600	53,950	559,930	58,384
Totals, Eastern Provinces.....	*94,585*	*800,845*	*86,989*	*30,420*	*498,440*	*48,451*	*125,005*	*1,299,285*	*135,440*
Manitoba.....	855	9,645	991	1,620	19,110	1,948	2,475	28,755	2,939
Saskatchewan.....	1,850	8,920	1,128	2,100	51,060	4,760	3,950	59,980	5,888
Alberta.....	7,000	74,400	7,724	2,080	36,000	3,476	9,080	110,400	11,200
Totals, Prairie Provinces.....	*9,705*	*92,965*	*9,843*	*5,800*	*106,170*	*10,184*	*15,505*	*199,135*	*20,027*
British Columbia—									
Coast.....	76,110	13,925	14,503	[2]	[2]	–	76,110	13,925	14,503
Interior.....	33,630	172,365	21,377	[2]	[2]	–	33,630	172,365	21,377
Totals, British Columbia.....	*109,740*	*186,290*	*35,880*	[2]	[2]	–	*109,740*	*186,290*	*35,880*
Totals, Accessible.....	**214,030**	**1,080,100**	**132,712**	**36,220**	**604,610**	**58,635**	**250,250**	**1,684,710**	**191,347**
Totals, Inaccessible[3]..	**176,345**	**873,385**	**107,531**	**3,700**	**136,260**	**12,323**	**180,045**	**1,009,645**	**119,854**
Grand Totals.....	**390,375**	**1,953,485**	**240,243**	**39,920**	**740,870**	**70,958**	**430,295**	**2,694,355**	**311,201**

[1] Cubic volumes do not include wood in stumps and unusable tops. [2] There are no available estimates of the relatively small quantities of hardwoods in British Columbia. [3] Including estimates of stands in the Northwest Territories and Yukon.

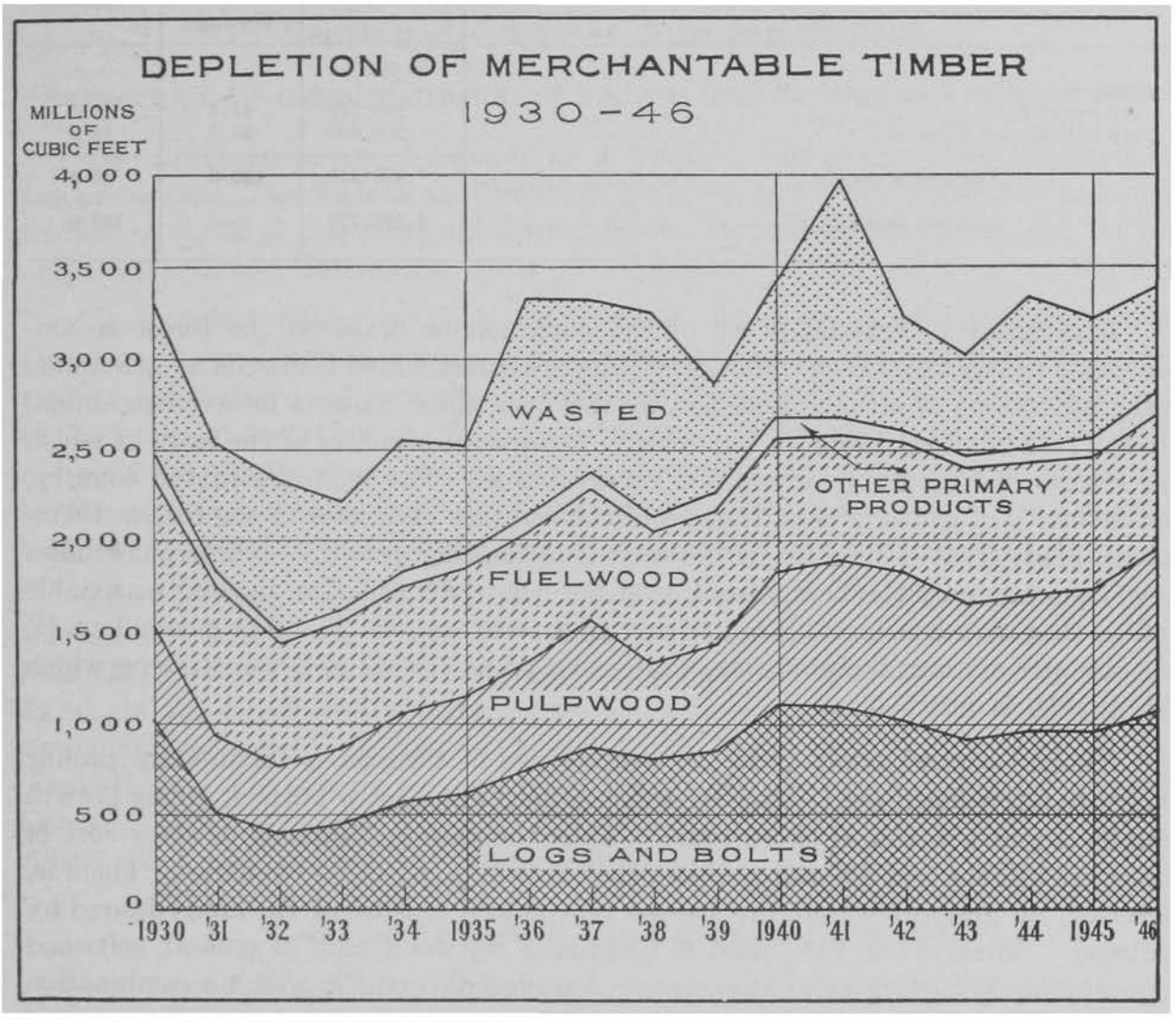
Section 4.—Forest Depletion and Increment

The purpose of this Section is to present a general account of depletion and increment. Details of the scientific control of those influences that account for wastage, viz., forest fires and insect pests, are dealt with in the section on Forest Administration at pp. 412-418. A special article on Noxious Forest Insects and Their Control appears at pp. 389-400 of the 1947 Year Book.

Depletion.—The average annual rate of depletion of reserves of merchantable timber during the ten years 1936-45, by cause, is given in Table 2. Of the total depletion, 74 p.c. was utilized and 26 p.c. was destroyed by fire, insects and disease. The utilization of 2,443,225 cu. ft. comprised 38 p.c. as logs and bolts, 29 p.c. as pulpwood, 29 p.c. as fuelwood, and the remaining 4 p.c. as miscellaneous products. Approximately 7 p.c. of the utilization was exported in unmanufactured form.

One factor that indirectly affects forest depletion is the more efficient utilization of timber that has been cut. There is little doubt that in the past altogether too high a percentage of the hewn logs has been discarded. Changes of great significance are taking place in the uses of wood that permit of the utilization of sizes and qualities that are unmerchantable as sawn lumber. The development of the cellulose industry in the manufacture of rayon, cellophane and numerous other products, is rapidly extending the use of wood. Plastic wood products, fibre board and laminated wood will undoubtedly provide an increasing demand for the so-

called inferior classes of wood so that more complete utilization of the forest resources through the elimination of much of the waste that now occurs can be expected. (See Section 6, pp. 418-420, on Forest Utilization.)



2.—Average Annual Forest Depletion During the Period 1936-45

Item	Usable Wood	Percentages of—	
		Utilization or Wastage	Depletion
Products Utilized—	M cu. ft.		
Logs and Bolts—			
Domestic use	892,417	36·5	27·1
Export	37,921	1·6	1·1
Pulpwood—			
Domestic use	566,212	23·2	17·2
Export	138,883	5·7	4·2
Fuelwood	717,104	29·4	21·7
Hewn railway ties	15,058	0·6	0·5
Pit props	11,936	0·5	0·4
Poles, posts, rails	32,933	1·3	0·9
Miscellaneous products	30,761	1·2	1·0
Annual Utilization	**2,443,225**	**100·0**	**74·1**

2.—Average Annual Forest Depletion During the Period 1936-45—concluded

Item	Usable Wood	Percentages of—	
		Utilization or Wastage	Depletion
	M cu. ft.		
Wastage—			
By forest fires	353,547	41·4	10·7
By insects and disease	500,000	58·6	15·2
Annual Wastage	**853,547**	**100·0**	**25·9**
Annual Depletion	**3,296,772**	–	**100·0**

Increment.—Practically all of the depletion or drain on the forest is concentrated in the 435,000 sq. miles of productive forest which is classed as accessible, and replacement of normal depletion by this area alone requires an average annual growth rate of about 12 cu. ft. per acre. Complete estimates of the rates at which the forests of Canada grow are not yet available. The vast size of the country, the diversity of growing conditions, and the complex character of the forests themselves, place great difficulties in the way of estimating growth. Numerous studies have been made by the Dominion Forest Service which indicate, beyond reasonable doubt, that over considerable tracts annual growth exceeds 25, 30 or even 40 cu. ft. per acre per annum; however, there are other areas classed as productive on which the growth is much less.

Natural reproduction of forest tree species in Canada is fortunately prolific except in a few localities. After an area has been cut over or burned, young growth usually appears within a short time. Thus the re-establishment of some sort of forest growth is a less difficult problem than it is in many other countries. There is, however, no guarantee that the species reproduced will be of the kinds desired by industry. Most of the wood used in Canada is softwood and, in general, softwood reproduction is fairly good; but there are considerable areas in which a combination of overcutting and repeated fires have resulted, not in the permanent destruction of the forest, but in the replacement of valuable stands by new ones of inferior type.

Many stands of 'second growth' that have come up after cutting or fire are now reaching merchantable size and are beginning to attract attention. Anticipating the need for practical guidance in the management of these accessible young forests, the Dominion Forest Service is devoting the major efforts of various forest experiment stations to the improvement of the quality and the acceleration of the growth of young stands that nature has established. Operators, too, are showing more interest in putting their operations on a self-sustaining basis and working plans are being developed with this in view.

There is no room for doubt that the introduction of better methods of forest management, including the provision of more adequate forest protection, can make the forests of Canada more productive than they have ever been. It is true that stocks of very large trees, whose growth required upwards of 300 years, are disappearing and will not be replaced; but, though the forest industries of the future must use smaller logs than did those of the past, good forest management can make possible a considerable expansion of those industries when market conditions warrant.

The potential capacity of many forest soils to produce more usable wood in a given period than they have ever done in the past is already being demonstrated on such areas as the Dominion Forest Experiment Station at Petawawa, Ont., and on some of the better-managed farm woodlots.

Section 5.—Forest Administration

Subsection 1.—Administration of Federal and Provincial Timber-Lands

The forest resources of Canada as a whole are owned and administered by the provinces. The Federal Government, however, is responsible for the administration of those of the National Parks, Forest Experiment Stations, and Yukon and the Northwest Territories.

The general policy of both the Federal Government and the Provincial Governments has been to dispose of the timber by means of licences to cut, rather than to sell timber-land outright. Under this system, the State retains ownership of the land and control of the cutting operations. Revenue is received in the form of Crown dues or stumpage (either in lump sums or in payments made as the timber is cut); ground-rents and fire-protection taxes are collected annually. Both ground-rent and Crown dues may be adjusted at the discretion of the Governments.

The Maritime Provinces did not adopt this policy to the same extent as did the rest of Canada. In Prince Edward Island practically all the forest land has been alienated and is in small holdings, chiefly farmers' woodlots. In Nova Scotia 71 p.c. of the forest land is privately owned; nearly one-half of this is in holdings exceeding 1,000 acres. In New Brunswick nearly 50 p.c. is under private ownership. The percentages of privately owned forest land in the other provinces are as follows: Quebec, 7·2 p.c.; Ontario, 6·0 p.c.; Manitoba, 12·7 p.c.; Saskatchewan, 11·9 p.c.; Alberta, 7·7 p.c.; and British Columbia, 3·4 p.c.

3.—Forest Reserves in Canada, by Provinces, 1947

NOTE.—Areas of National Parks (which are also forest reserves) are not included in this table, but may be found at pp. 33-35.

Province	Dominion Forest Experiment Stations	Provincial Forest Reserves	Total
	sq. miles	sq. miles	sq. miles
Prince Edward Island	Nil	Nil	-
Nova Scotia	"	"	-
New Brunswick	35·16	268·00	303·16
Quebec	7·25	5,485·00	5,492·25
Ontario	97·10	19,526·00	19,623·10
Manitoba	25·25[1]	4,367·09	4,367·09
Saskatchewan	Nil	14,082·43	14,082·43
Alberta	62·60	14,329·00	14,391·60
British Columbia	Nil	31,134·05	31,134·05
Totals	**202·11**	**89,191·57**	**89,393·68**

[1] Under National Park reservation and therefore not included in total.

Forest Lands under Federal Control.—The forests under Federal control are administered by the Department of Mines and Resources. The National Parks Bureau has charge of the National Parks, and the Bureau of Northwest

Territories and Yukon Affairs administers the timber in those areas. The Indian Affairs Branch administers, in trust for the Indians, the timber within their reservations. The Dominion Forest Service has charge of the Forest Experiment Stations.

Timber Control.—An outline of the controls applied to meet the dislocation in the lumber industry during the war years is given at pp. 277-280 of the 1946 Year Book. Since the end of the War, the domestic demand for lumber for all purposes including construction, railway maintenance and general industrial use, has been extraordinarily high and export demand has also reached unprecedented heights. The 1947 production is estimated at 5,346,000,000 feet b.m. Of this amount it is estimated that 2,600,000,000 feet b.m. were retained for domestic requirements. The high rate of production was made possible by an increase both in number and in efficiency of the labour force available to all branches of the industry.

To ensure adequate supplies for domestic housing and industrial requirements, controls were continued throughout 1947 on the export of lumber, poles, railway ties, plywood, veneers, pulpwood, doors, flooring and other millwork. Prices were decontrolled on Sept. 15, 1947, and, while upward adjustments resulted from this action, prices quickly stabilized at levels consistent with increased costs of production. Decontrol of both price and distribution of fuelwood was effected as ample supplies were available. Although price control on pulpwood was also discontinued, control was maintained on the export of this item to ensure equitable distribution for both domestic mills and foreign markets.

Forestry and FAO.—Canada has undertaken to co-operate in the forestry work of the Food and Agriculture Organization of the United Nations. The functions of the Organization as they concern forestry are outlined at pp. 264-265 of the 1946 Year Book.

Forest Lands under Provincial Control.—With the exception of relatively small areas owned by the Federal Government, the Crown lands and the timber on them are administered by the provinces in which they lie. As new regions are explored, their lands are examined and the agricultural land disposed of. Land suitable only for forest is set aside for timber production, and the policy of disposing of the title to lands fit only for the production of timber has been virtually abandoned in every province of Canada. Efforts are being made, especially in Quebec and Ontario, to encourage the establishment and maintenance of forests on a community basis. Information regarding forest administration in the individual provinces is given at pp. 234-236 of the 1942 Year Book.

Recent Royal Commissions on Forestry.—*British Columbia.*—In 1944, a Royal Commission on Forestry was established by the Province of British Columbia with Mr. Justice (now Chief Justice) Gordon Sloan sitting as sole Commissioner. Over a period of two years the Commission held a series of hearings and received representations from the Government, the forest industries, and the public. In his report, the Commissioner presented a review of the whole forest situation in the Province; a number of the recommendations were implemented by legislation shortly after the report was presented. One recommendation which the Government considered unacceptable was that the administration of the forest resources of the Province should be placed in the hands of a more or less independent commission. It was the view of the Government that administration should continue to lie with the Department of Lands and Forests.

As a direct result of the report, the Forest Act was amended by the Legislature in 1947, giving the Minister power to enter into an agreement, described as a forest management licence, with any person for the management of Crown lands specified in the agreement and reserved to the sole use of the licensee for the purpose of growing continuously and perpetually successive crops of forest products. This important advance in forestry legislation will undoubtedly lead to great improvement in forestry practice in the Province.

Saskatchewan.—In 1945 the Province of Saskatchewan appointed a Royal Commission, under the chairmanship of Mr. Frank Eliason, to inquire into and report upon matters relating to the forest resources and industries in Saskatchewan. During the course of the investigations two interim reports were published recommending more adequate fire protection and severe penalties for infractions of forest protection regulations. Recommended also was the curtailment of the annual cut on forest areas under provincial control to an amount roughly approximating one-twentieth of the estimated stand of merchantable spruce timber in each particular area. It was urged that a proper detailed forest inventory be made as soon as possible so that the amount of allowable cut for succeeding years might be more accurately estimated on a sustained-yield basis.

In their final report, the Commission recommended that the management of the forests remain under direct control of the Minister and that an advisory board be appointed to promote forest conservation. Recommended also were the establishment of at least one nursery growing white spruce and jack pine and one experimental forest farm unit.

A new policy of timber disposal now replaces the old practice of selling timber on a stumpage basis with a system of cutting and processing timber by contract. All timber for resale from Crown lands remains the property of the people of the Province, and is turned over at railhead to the Saskatchewan Timber Board for marketing.

Ontario.—An Ontario Royal Commission on Forestry was appointed in 1946, under Major-General Howard Kennedy, C.B.E., M.C., as sole Commissioner, to investigate all phases of Ontario's forest industries and to work out a comprehensive policy towards the attainment of "total forestry" which was defined by the Commissioner as "the complete utilization of the forest resources of the Province for the greatest use and enjoyment of its people".

All field work was carried out during the one summer, and the woods operations of every large and medium-size industrial concern in the Province were visited and reported on. Public hearings were held in eleven centres where 142 briefs were presented.

The inquiry resulted in the compilation of most complete and up-to-date information on the methods, processes and equipment of the forest industries of Ontario and the resources which supply them. The report which the Commissioner submitted to the Government proposed radical changes in methods of timber administration in Ontario. He recommended the pooling of all Crown forest resources and their redistribution into twelve areas which would be controlled by Forest Operating Companies. All woods operations within each area would be combined and co-ordinated to the best advantage of the individuals or corporations holding shares in the Operating Company. In order to provide continuity of

forest policy through successive governments, an Advisory Committee to the Minister of Lands and Forests was recommended with representation from industrial, financial, labour, educational and professional groups.

An extensive reforestation program was recommended for an estimated 2,500,000 acres of wasteland. Commencing in five years' time, the program would involve 100,000 acres annually for ten years, the remainder of the area to be planted in the following ten-year period at the rate of 150,000 acres per annum.

The Commissioner advised a widely expanded road-building program, with a view towards the opening up of every major watershed. Unless this were done it would be impossible to obtain maximum output from the forest areas, or develop them to the best advantage for recreational and tourist activities.

Measurement of timber by the Doyle Rule was considered obsolete, and it was proposed that all wood, whether logs or bolts, be measured on a cubic unit basis. It was recommended also that the standard cord, as set out in the Dominion Weights and Measures Act, be adopted.

Pulpwood agreements, both export and domestic, should be reviewed and adjusted so that the permissible annual cuts might correspond with the probable annual growth on the areas involved.

The Commissioner proposed that future Government policy be inclined in favour of the lumber industry rather than against it, as would appear to have been the case during the past decade. He urged also that policy should be aimed toward the attainment of the highest possible degree of manufacture within the country.

Other Provinces.—In the five other forest provinces, although formal public inquiry has not been considered necessary, forestry problems are receiving close attention from governments and from industry, and steps are being taken to improve and strengthen administrative and protective services.

Subsection 2.—Forest-Fire Protection

The Federal Government is responsible for fire-protection measures in the forests under its administration. Each of the Provincial Governments, except that of Prince Edward Island, maintains a fire-protection organization co-operating with owners and licensees for the protection of all timbered areas, the cost being distributed or covered by special taxes on timber-lands. In each province, with the exception just mentioned, provincial legislation regulates the use of fire for clearing and other legitimate purposes, and provides for close seasons during dangerous periods. An interesting development in this connection in the Province of Quebec is the organization of a number of co-operative protective associations among lessees of timber-limits. These associations have their own staffs, which co-operate with those of the Board of Transport Commissioners and the Provincial Government. The latter contributes money grants, and also pays for the protection of vacant Crown lands lying within the area of the associations' activities.

In the matter of forest-fire protection along railway lines, the provincial services are assisted by the Dominion Railway Act administered by the Board of Transport Commissioners. This Act gives to that body wide powers relating to fire protection along railway lines under its jurisdiction. Certain officers of the various forest authorities are appointed ex-officio officers of the Board of Transport Commissioners and co-operate with the fire-ranging staffs which the railway companies are required to employ under the Dominion Railway Act.

In many districts in Canada, radio-equipped aircraft are used to good effect for the detection and suppression of forest fires. Where lakes are numerous, sea-planes or flying boats can be used for detection, and for the transportation of fire-fighters and their equipment to fires in remote areas. In Western Canada, equipment and supplies are sometimes dropped by parachute to isolated fire crews; in one province parachutists are now employed to fight fires which are difficult of access by other means.

In the more settled areas with better transportation facilities, fire detection is carried out by means of lookout towers fitted with telephone or radio for reporting fires. Field staffs and equipment are maintained at strategic points ready to deal with fires when they are reported. These staffs, when not engaged on fire control duties, are employed on the construction and maintenance of roads, trails, telephone lines, fire guards and other necessary improvements.

Portable gasoline pumps, which usually weigh between 60 and 100 lb. each, and linen hose are important equipment. These pumps can be carried to a fire by canoe, motor-boat, automobile, aircraft, pack-saddle or back-pack and can provide hose pressures up to 200 lb. per square inch, depending upon the elevation above and distance from the water supply. Hose lines over a mile in length are frequently used. Small hand-pumps supplied by 5-gallon portable containers are also used effectively in many cases. Tractors equipped with bulldozers or ploughs are commonly used for fire-line construction. In some regions, trucks fitted with water tanks and power pumps are employed for the control of fires adjacent to roads.

In addition to these improved measures, the enactment of legislation has tended to reduce the fire menace. The establishment of close seasons for brush-burning, and seasons during which permits are required for setting out fires and for travel in the forests during dangerous dry periods, have been of enormous value as preventive measures. Education of the public as to the need for care with fire is, however, the basic method of reducing the large number of fires which occur each year as a result of man's negligence.

Another important advance in forest protection is the development by the Dominion Forest Service of methods for the daily measurement of the actual degree of forest-fire danger. In the forest types and regions in which the necessary research has been completed the forest authorities are able, not only to gauge the trend of increasing fire danger at any given time but, by the aid of weather forecasts, to anticipate the trend one or two days in advance and so regulate their activities to meet hazardous conditions as they develop. Increased attention is being devoted to the scientific planning of fire-control operations so as to achieve adequate protection at minimum cost.

The various governmental forest authorities conduct forest conservation publicity work independently and in co-operation with the Canadian Forestry Association. Since its beginning in 1900, that Association has played an important part in securing popular co-operation in reducing the fire hazard. By means of its magazine, which has a large circulation, by railway lecture cars and motor-trucks provided with motion-picture equipment, and by co-operation with radio broadcasting stations and the press, the Association reaches a large proportion of the population of the Dominion. Special efforts are made through the schools, by

specially appointed junior forest wardens and other means, to educate the younger generation as to the value of forests, the devastation caused by fire and the means of preventing such destruction.

Forest-Fire Statistics.—Although the number of forest fires in 1946 was slightly greater than the average for the previous ten years, the total area burned and the estimated values destroyed were less than one-half the average figures. Forest-fire losses in the Maritime Provinces were somewhat higher than normal; elsewhere, the damage caused by forest fires was well below the average.

Summary statistics of fire losses are given in Tables 4 and 5, which include for the first time reports from the Yukon and the Northwest Territories. Fuller details by regions are given in the Annual Report of the Department of Mines and Resources for the year ended Mar. 31, 1947.

4.—Forest-Fire Losses, 1946, with Ten-Year Averages, 1936-45

Item		Provinces[1]		Yukon and N.W.T.[2]
		Average 1936-45	1946	1946
Fires under 10 acres	No.	3,811	4,372	17
Fires 10 acres or over	"	1,702	1,531	57
Total Fires	**No.**	**5,513**	**5,903**	**74**
Area Burned—				
Merchantable timber	acres	553,455	109,478	296,396
Young growth	"	660,059	190,914	24,880
Cut-over lands	"	357,650	128,591	3,880
Non-forested lands	"	858,226	587,723	1,148,591
Totals, Area Burned	**acres**	**2,429,390**	**1,016,706**	**1,473,747**
Merchantable Timber Burned—				
Saw timber	M ft. b.m.	779,565	102,102	8,669
Small material	cords	2,442,265	454,468	257,297
Estimated Values Destroyed—				
Merchantable timber	$	2,579,973	635,268	270,064
Young growth	$	899,177	384,069	3,210
Cut-over lands	$	294,634	94,426	3,895
Other property burned	$	545,259	710,949	Nil
Totals, Damage	**$**	**4,319,043**	**1,824,712**	**277,169**
Actual cost of fire-fighting	$	914,903	897,940	7,659
Totals, Damage and Cost	**$**	**5,233,946**	**2,722,652**	**284,828**
Area under protection	sq. miles	-	750,000	110,000

[1] Includes Federal lands within provincial boundaries.

[2] Reported for the first time.

5.—Forest Fires, by Causes, 1946, with Ten-Year Averages, 1936-45

Cause	Provinces[1]				Yukon and N.W.T.[2]	
	Average 1936–45		1946		1946	
	No.	p.c.	No.	p.c.	No.	p.c.
Camp-fires	961	17	1,068	18	62	84
Smokers	961	17	1,293	22	3	4
Settlers	763	14	622	11	Nil	–
Railways	368	7	691	12	"	–
Lightning	1,025	19	956	16	3	4
Industrial operations	155	3	293	5	Nil	–
Incendiary	302	5	163	3	1	1
Public works	48	1	57	1	1	1
Miscellaneous known	467	9	439	7	Nil	–
Unknown	463	8	321	5	4	6
Totals	**5,513**	**100**	**5,903**	**100**	**74**	**100**

[1] Includes Federal lands within provincial boundaries. [2] Reported for the first time.

Subsection 3.—Scientific Forestry

The great forestry problem is the management of Crown forests, first under provisional and later under more intensive working plans, so as to ensure a sustained yield. Forest research activities in this direction are now assuming great importance. The Dominion Forest Service of the Department of Mines and Resources operates five forest experiment stations with a total area of 227 sq. miles.* Here investigations of the underlying principles governing the growth of forests and improvement in the rate of increment are made and practical methods of management tested.

About 600 technically trained foresters are employed by the Dominion, by provincial forest services or by pulp, paper, and lumber companies. A number of foresters are actively engaged in commercial logging operations and, in addition to administrative work, these men carry on forest surveys either for the estimation of timber-stands and making of maps, or to determine natural growth and reproduction conditions and factors.

Through the use of air photographs taken largely by the Royal Canadian Air Force and base maps prepared by the mapping organizations of the Departments of Mines and Resources and National Defence, the Dominion Forest Service has taken a leading part in the development of methods for the interpretation of air photographs for forestry purposes. Provincial forest services and timber holding companies are accelerating their use of air photographs. It is now possible not only to delineate the different forest types, but also to obtain from air photographs information that facilitates the preparation of quantitative timber estimates, and greatly reduces the amount of groundwork required. Aerial photographs drawn to scales suitable for mapping purposes covering upwards of 1,000,000 sq. miles are now available in the National Air Photographic Library of the Department of Mines and Resources, and about 135,000 sq. miles of forest have been mapped and classified from the photographs. Still greater use of air photographs for forestry purposes is expected in future.

* See Table 3, p. 409.

Specialized work in sylvicultural research and problems connected with forest utilization are carried on by the Forest Service of the Department of Mines and Resources. On the other hand, the Department of Agriculture conducts specialized research work in the fields of forest pathology and forest entomology. Details of the programs of work under each heading follow.

Sylvicultural Research.—Research in the field of sylviculture is centred in five Dominion Forest Experimental Stations located in New Brunswick, Quebec, Ontario, Manitoba and Alberta, but supplementary studies are conducted in other areas in co-operation with the Provincial Governments and with industry. The purpose of this work is to keep all forest lands in continuous production and to obtain the highest possible volume of timber of good quality within a shorter period of time than is permitted by the unaided operations of nature, and at a cost that is economically feasible. Problems of regeneration, methods of cutting and tree breeding—by selection and developments of superior strains for artificial propagation —are dealt with.

Forest Products Research.—Research in this field is carried out by the Forest Products Laboratories of Canada operating in two centres—Ottawa and Vancouver. The Ottawa Laboratory conducts general research in lumber seasoning, timber mechanics, timber physics, timber pathology, wood preservation, wood chemistry and wood utilization. The Vancouver Laboratory is located on the campus of the University of British Columbia, and provides research facilities for the British Columbia forest industries to study problems pertaining to the industry in that section of the country.

Pulp and paper research is carried on at the Pulp and Paper Research Institute of Canada at Montreal and is organized under a co-operative agreement between the Federal Government, the Canadian Pulp and Paper Association and McGill University. The work of the Institute is under the control of a Joint Administrative Committee consisting of representatives of the three parties concerned. The program of work includes woodlands research and refers to investigations in the Division of Industrial and Cellulose Chemistry of McGill University.

Forest Pathology.*—Forest pathology is that branch of the science of botany which deals with disease in forest trees with the object of preventing or controlling such disease. It includes the study of all forms of loss in the forest except those caused by fire and insects. The study of disease in shade and ornamental trees and of decay of wood in service are branches of forest pathology.

Owing to the low value per unit area of forest growth and the long-time element necessary for the crop to mature it is not economically feasible to make large direct expenditures for the prevention or control of disease. The situation here is entirely different from that which obtains in regard to agricultural crops where the comparatively high value of the crop and the short rotation permit the economic application of direct control and cultural methods, such as spraying, dusting, irrigation, cultivation and fertilization. It is only in the case of forest nurseries and ornamental individuals of high value that such measures can be applied to trees. In practice forestry control of disease is accomplished principally by the selection of a rotation which provides for harvesting the crop before loss from decay becomes serious and by the elimination of undesirable and diseased individual trees at the time of thinning

* Prepared in the Division of Botany and Plant Pathology, Department of Agriculture, Ottawa.

and of final cutting. If these and other measures are based upon adequate knowledge the incidence of indigenous disease can be kept within tolerable limits. On the other hand diseases that have been brought in from foreign countries, such as white pine blister rust, Dutch elm disease, and chestnut blight, must be controlled largely by direct methods such as the eradication of alternate hosts and the removal of infected trees.

In Canada investigations in forest pathology are carried on by the Federal Government in the Division of Botany and Plant Pathology, Science Service Branch, Department of Agriculture. In addition to the staff at Ottawa, field laboratories are maintained at Fredericton, N.B., Toronto, Ont., and Victoria, B.C. It is likely that a laboratory to serve the Prairie Provinces will be established during 1948. No work in forest pathology is done by any of the provinces except Quebec which maintains its own service.

Forest Entomology.—The study of forest insect problems in Canada is entrusted to the Forest Insect Investigations Unit of the Division of Entomology, Science Service, Department of Agriculture. Laboratories are maintained at Ottawa, Ont.; Sault Ste. Marie, Ont.; Fredericton, N.B.; Winnipeg, Man.; Indian Head, Sask.; Vernon, B.C.; and Victoria, B.C. In addition there are four sub-laboratories and a number of temporary field stations and camps. In conjunction with various government and commercial agencies surveys are made, the results of which are collated at Ottawa. Fundamental studies, which are purely scientific, are then made with a view to understanding relationships underlying fluctuations in insect population. It is anticipated that all these studies will in future be made at Sault Ste. Marie, Ont. Other functions of the Division are those dealing with emergency projects and control operations. When sudden and spectacular outbreaks of insects cause public alarm the Division of Entomology is called upon for remedies; as these are applied a thorough study of the bionomics of the species involved is made. Control operations are classified as sylvicultural, biological, chemical and mechanical. Sylvicultural and biological methods offer the best solution for the majority of forest-insect problems.

In order to salvage infested areas forest entomologists study all outbreaks to determine the condition of the forest, the severity of the attack, the probable rate of future infestation, and the rate of deterioration of timber subsequent to death from insect attack. A regular system of reporting by companies and forest services has been developed for this purpose and prognostications and recommendations are made on the basis of the reports.

To prevent the introduction of insect pests from other countries, the Plant Protection Division of the Department of Agriculture is authorized by the Destructive Insect and Pest Act to examine at certain specified ports all importations of trees and to issue clearances if satisfied that the trees are free from contamination.

A more detailed analysis of the activities of the Forest Insect Investigations Unit is given in a special article entitled "Noxious Forest Insects and Their Control", which appears at pp. 389-400 of the 1947 edition of the Year Book.

Forest Insects Control Board.—The mounting loss and damage through forest insects in Canada is a matter of great concern to governments and the forest industry in this country. In particular, the present uncontrolled epidemic of spruce budworm threatens the loss of raw materials on a scale approaching a national disaster.

To meet this situation an Order in Council was passed by the Federal Government on Sept. 14, 1945, setting up a Forest Insects Control Board which operated under the Department of Reconstruction and Supply until Jan. 1, 1948, when it was transferred to the Department of Mines and Resources. The Board is composed of ten members, one of whom is chairman, and includes representatives from the Departments of Reconstruction and Supply, Mines and Resources, and Agriculture, also one member from the pulp and paper industry, one member from each of the Provinces of British Columbia, Ontario and Quebec, one member to represent the three Maritime Provinces, and one member from Manitoba who represents the three Prairie Provinces.

The creation of the Forest Insects Control Board did not involve the taking over or replacement of any existing service, entomological or otherwise. Its purpose was to secure additional funds where necessary, and to supplement the functions of existing Federal and provincial agencies and co-ordinate their several efforts into one cohesive program with a view to expediting the solution of the forest insect problem in Canada.

Section 6.—Forest Utilization

Forest utilization is concerned with the broad group of industries that include the hewing down of timber in the forest and the transforming of it into the many utilitarian shapes and forms required by modern standards of living. Thus they provide the raw material for sawmills, pulp and paper mills and for the still wider range of secondary industries that take the products of these basic industries and convert them into more highly manufactured goods such as veneers and plywoods, sash and doors, furniture and all the vast range of industries that use wood in any form in their processes. The Manufactures Chapter cannot do more than treat these industries in their relationship to all industry, but the purpose here is to relate them to the primary resources of the forest. These industries, especially the pulp and paper industry and the lumber industry, contribute substantially to the value of Canada's export trade and thereby provide the exchange necessary to pay for a large share of the imports that have to be purchased from other countries, particularly the United States.

Subsection 1.—Woods Operations

In connection with operations in the woods, it should be borne in mind that the forests not only provide the raw material for the sawmills, pulp-mills, wood distillation, charcoal, excelsior and other plants, but that they also provide logs, pulpwood and bolts for export in the unmanufactured state, and fuel, poles, railway ties, posts and fence rails, mining timber, piling and other primary products, which are finished in the woods ready for use or exportation. There are also a number of minor forest products, such as Christmas trees, maple sugar and syrup, balsam gum, resin, cascara, moss and tanbark, that go to swell the total.

It has been estimated that operations in the woods in Canada in 1946 gave employment during the logging season amounting to 41,638,000 man days, and distributed $277,000,000 in wages and salaries.

6.—Values of Woods Operations, by Products, 1941-46

Product	1941	1942	1943	1944	1945	1946
	$	$	$	$	$	$
Logs and bolts	86,514,625	92,897,611	99,852,479	115,788,036	120,682,306	150,933,681
Pulpwood	88,193,045	103,619,151	110,844,790	124,363,926	146,172,701	183,085,359
Firewood	26,662,296	27,264,486	45,152,897	44,332,748	45,193,219	49,544,756
Hewn railway ties	1,547,780	878,830	1,138,663	1,289,165	1,339,920	1,131,951
Poles	2,467,336	2,663,603	2,032,681	5,217,255	5,663,793	5,302,324
Round mining timber	2,458,435	2,169,268	3,418,857	3,509,015	6,437,074	12,149,767
Fence posts	964,568	1,291,393	1,902,546	2,216,585	2,690,569	3,091,268
Wood for distillation	588,747	745,408	774,344	887,260	687,102	452,196
Fence rails	262,521	341,607	464,365	513,135	367,741	605,503
Miscellaneous products	3,503,736	2,500,534	3,033,661	3,453,698	5,090,476	6,972,509
Totals	**213,163,089**	**234,371,891**	**268,615,283**	**301,570,823**	**334,324,901**	**413,269,314**

7.—Wood Cut in Operations in the Woods, Equivalents in Merchantable Wood and Total Values, by Chief Products, 1945 and 1946, with Comparative Totals, 1936-44

NOTE.—Details by chief products and by provinces for the years 1926-45 will be found in the "Annual Estimate of Operations in the Woods, 1945", published by the Forestry Branch, Dominion Bureau of Statistics. A change in computing the converting factor was introduced in 1944-45 and is described at p. 265 of the 1946 Year Book.

Year and Product		Quantity Reported or Estimated	Converting[1] Factor	Equivalent Volume of Merchantable Wood	Total Value
				M. cu. ft.	$
Totals, 1936		–	–	**2,139,400**	**134,804,228**
1937		–	–	**2,378,374**	**163,249,887**
1938		–	–	**2,136,729**	**148,265,857**
1939		–	–	**2,258,583**	**157,747,398**
1940		–	–	**2,676,814**	**194,567,875**
1941		–	–	**2,683,731**	**213,163,089**
1942		–	–	**2,608,605**	**234,371,891**
1943		–	–	**2,475,906**	**268,615,283**
1944		–	–	**2,508,046**	**301,570,823**
1945					
Logs and bolts	M ft. b.m.	5,063,696	200[2]	964,794	120,682,306
Pulpwood	cord	9,145,673	85	777,382	146,172,701
Firewood	"	9,045,199	80	723,616	45,193,219
Hewn railway ties	No.	1,308,665	5	6,543	1,339,920
Poles and piling	"	868,038	15	13,020	5,663,793
Round mining timber	cu. ft.	17,451,931	1	17,452	6,437,074
Fence posts	No.	18,381,454	1·2	22,058	2,690,569
Wood for distillation	cord	70,862	80	5,669	687,102
Fence rails	No.	5,244,508	1	5,245	367,741
Miscellaneous products		–	–	30,279	5,090,476
Totals, 1945		–	–	**2,566,058**	**334,324,901**
1946					
Logs and bolts	M ft. b.m.	5,603,944	200[2]	1,072,413	150,933,681
Pulpwood	cord	10,523,256	85	894,476	183,085,359
Firewood	"	9,102,452	80	728,196	49,544,756
Hewn railway ties	No.	1,042,054	5	5,210	1,131,951
Poles and piling	"	830,911	15	12,464	5,302,324
Round mining timber	cu. ft.	30,564,858	1	30,565	12,149,767
Fence posts	No.	18,810,803	1·2	22,573	3,091,268
Wood for distillation	cord	43,411	80	3,473	452,196
Fence rails	No.	5,087,190	1	5,087	605,503
Miscellaneous products		–	–	38,261	6,972,509
Totals, 1946		–	–	**2,812,718**	**413,269,314**

[1] In estimating the annual drain on Canada's forest resources, certain converting factors have been used, each of which represents in cubic feet the quantity of merchantable wood used to produce one unit of the material in question. [2] 175 for British Columbia coastal region.

8.—Equivalent Volumes of Solid Wood and Values of Products of Woods Operations, by Provinces, 1944-46

Province	Equivalent Volumes of Solid Wood			Values of Products		
	1944.	1945	1946	1944	1945	1946
	M cu. ft.	M cu. ft.	M cu. ft.	$	$	$
Prince Edward Island	12,047	12,271	13,270	938,829	944,267	1,146,189
Nova Scotia	98,263	103,823	125,290	11,179,112	12,478,263	17,311,397
New Brunswick	194,065	185,382	218,288	27,109,995	28,306,356	37,372,259
Quebec	965,724	993,674	1,070,300	123,936,131	139,733,279	168,758,131
Ontario	461,507	479,289	564,501	61,398,201	70,420,303	90,412,114
Manitoba	66,815	67,523	70,630	5,035,177	5,605,913	6,684,339
Saskatchewan	104,471	96,833	90,749	6,092,958	5,679,126	5,850,368
Alberta	101,302	108,055	119,583	5,974,375	6,850,147	8,271,682
British Columbia	503,852	519,208	540,107	59,906,045	64,307,247	77,462,835
Totals	**2,508,046**	**2,566,058**	**2,812,718**	**301,570,823**	**334,324,901**	**413,269,314**

Subsection 2.—The Lumber Industry

The manufacture of sawn lumber is the second most important industry in Canada depending on the forest for its raw materials.

The total number of sawmills, tie, shingle, lath, veneer, stave, heading and hoop mills and mills for cutting-up and barking or rossing of pulpwood that reported in 1946 was 6,001, as compared with 5,295 in 1945. Employees numbered 49,352 and wages and salaries amounted to $63,811,260. The logs, bolts and other materials and supplies of the industry were valued at $156,107,527, the gross value of production was $287,910,057 and net production $129,408,392.

Lumber production in Canada reached its maximum in 1946 at almost 5,083,280,000 ft. b.m. Average values were fairly uniform up to 1916, but increased rapidly from 1917 to 1920, only to decline gradually during the following years to the lowest level for the entire period, which was reached in 1932. With the exception of 1938, increases took place each year from 1933 to 1946.

9.—Quantities and Values of Lumber and All Sawmill Products, by Provinces, 1945 and 1946

Province or Territory	Lumber Production				Total Values[1]	
	Quantities		Values		1945	1946
	1945	1946	1945	1946		
	M ft. b.m.	M ft. b.m.	$	$	$	$
Prince Edward Island	8,885	12,232	344,731	492,477	407,865	562,631
Nova Scotia	250,795	330,578	10,075,523	14,519,554	11,395,270	16,159,079
New Brunswick	269,375	316,141	12,143,966	14,948,556	14,640,642	17,230,075
Quebec	1,029,313	1,161,607	45,790,905	55,249,378	56,109,217	66,160,934
Ontario	522,497	673,441	23,825,561	34,181,404	29,705,850	41,526,408
Manitoba	63,453	59,234	2,364,945	2,290,813	2,493,378	2,483,193
Saskatchewan	125,082	104,970	4,227,527	3,703,021	4,632,856	3,947,249
Alberta	189,412	255,675	5,897,668	8,398,471	6,729,682	9,383,450
British Columbia	2,055,082	2,169,096	76,354,956	96,382,732	104,972,850	130,433,625
Yukon	266	306	20,170	23,293	20,420	23,413
Totals	**4,514,160**	**5,083,280**	**181,045,952**	**230,189,699**	**231,108,030**	**287,910,057**

[1] Includes all other sawmill products.

10.—Quantities and Values of Lumber, Shingles and Lath Produced, 1937-46

NOTE.—Figures for the years 1908-28, inclusive, will be found at p. 300 of the 1931 Year Book, for 1929-30 at p. 262 of the 1943-44 edition and for 1931-36 at p. 415 of the 1947 edition.

Year	Lumber Cut		Shingles Cut		Lath Cut	
	Quantity	Value	Quantity	Value	Quantity	Value
	M ft. b.m.	$	M	$	M	$
1937	4,005,601	82,776,822	3,048,395	7,631,691	392,922	1,231,965
1938	3,768,351	72,633,418	2,761,978	6,894,654	239,467	656,320
1939	3,976,882	78,331,839	3,469,411	9,048,876	163,686	476,252
1940	4,628,952	105,988,216	4,420,240	9,600,497	216,465	688,167
1941	4,941,084	129,287,703	4,160,772	12,309,632	204,991	731,227
1942	4,935,145	149,854,527	3,720,482	13,191,084	181,994	737,874
1943	4,363,575	151,899,684	2,565,752	10,020,804	114,029	554,278
1944	4,512,232	170,351,406	2,697,724	11,411,359	110,639	645,010
1945	4,514,160	181,045,952	2,665,432	11,737,224	117,731	752,245
1946	5,083,280	230,189,699	2,646,022	14,512,796	134,591	908,564

Lumber Exports.—The exports of planks, boards and square timber are given in Table **11** for the years 1938-47. Exports of square timber account for less than one per cent of the total.

11.—Exports of Planks, Boards and Square Timber to the United Kingdom, United States and All Countries, 1938-47

Year	United Kingdom		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	M ft. b.m.	$	M ft. b.m.	$	M ft. b.m.	$
1938	984,757	19,881,672	450,118	11,581,308	1,753,164	37,412,178
1939	1,223,974	26,294,286	627,087	16,900,984	2,211,933	50,547,603
1940	1,616,909	41,722,505	651,315	20,437,997	2,548,681	69,803,423
1941	826,804	25,179,948	1,231,588	41,506,390	2,300,875	74,813,296
1942	647,392	22,634,538	1,432,128	53,406,452	2,179,956	80,691,895
1943	902,539	35,881,525	730,479	33,622,548	1,741,276	74,738,504
1944	851,537	38,569,538	878,603	44,562,967	1,882,519	90,949,524
1945	878,663	39,217,064	929,417	50,209,833	2,001,042	99,994,581
1946	709,522	36,508,137	964,673	60,452,695	2,083,285	126,192,546
1947	1,121,244	77,791,267	1,065,216	79,774,161	2,735,027	209,215,250

Subsection 3.—The Pulp and Paper Industry

The rapid development of this industry in Canada is traced briefly at p. 265 of the 1940 Year Book. Summary statistics for the combined pulp and paper industries are given at pp. 426-427 of this volume.

There are three classes of mills in the industry. These, in 1946, numbered 31 making pulp only, 56 combined pulp and paper mills and 26 making paper only.

The industry in Canada includes three forms of industrial activity, operations in the woods with pulpwood as a product, the manufacture of pulp and the manufacture of paper. Some of the important pulp companies operate sawmills to utilize the larger timber on their limits to the best advantage, and some lumber manufacturers divert a proportion of their spruce and balsam logs to pulp-mills. Less than one-fifth of the pulpwood cut in Canada is exported in raw or unmanufactured form and a large proportion of such exports is cut from private lands.

12.—Production, Consumption, Exports and Imports of Pulpwood, 1937-46

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Apparent Total Production of Pulpwood in Canada			Canadian Pulpwood Used in Canadian Pulp-Mills		Canadian Pulpwood Exported Unmanufactured		Imported Pulpwood Used in Canada	
	Quantity[1]	Total Value	Average Value per Cord.	Quantity[1]	P.C. of Total Production	Quantity[1]	P.C. of Total Production	Quantity[1]	P.C. of Total Consumption
	cords	$	$	cords		cords		cords	
1937....	8,298,165	63,057,205	7·60	6,593,134	79·5	1,705,031	20·5	20,505	0·3
1938....	6,438,344	53,761,999	8·35	4,686,085	72·8	1,752,259	27·2	33,668	0·7
1939....	6,899,986	58,302,668	8·45	5,360,546	77·7	1,539,440	22·3	25,694	0·5
1940....	8,499,922	74,347,132	8·75	6,948,493	81·7	1,551,429	18·3	47,626	0·7
1941....	9,544,699	88,193,045	9·24	7,688,307	80·6	1,856,392	19·4	81	[2]
1942....	9,653,574	103,619,151	10·73	7,665,724	79·4	1,987,850	20·6	1,714	[2]
1943....	8,801,368	110,844,790	12·59	7,260,776	82·5	1,540,592	17·5	2,379	[2]
1944....	8,668,566	124,363,926	14·35	7,169,430	82·7	1,499,136	17·3	8,209	0·1
1945....	9,145,673	146,172,701	15·98	7,474,375	81·7	1,671,298	18·3	4,133	[2]
1946....	10,523,256	183,085,359	17·40	8,667,875	82·4	1,855,381	17·6	16,881	0·2

[1] All quantities are given in terms of rough or unpeeled wood. [2] Less than one-tenth of one per cent.

The manufacture of pulp is the second stage in this industry. This is carried on by mills producing pulp alone and also by paper manufacturers operating pulp-mills in conjunction with paper-mills to provide their own raw material. Such mills usually manufacture a surplus of pulp for sale in Canada or for export. Spruce, supplemented by balsam fir in the east and by hemlock in the west, is the most suitable species of wood for the production of all but the best classes of paper.

The preliminary preparation of pulpwood is frequently carried on at the pulp-mill, but there are also a number of 'cutting-up' and 'rossing' mills operating on an independent basis, chiefly for the purpose of saving freight on material cut at a distance from the mill or on material intended for exportation. Pulpwood is measured by the cord (4′ by 4′ by 8′ of piled material). One cord of rough pulpwood contains approximately 85 cu. ft. of solid wood, and one cord of peeled pulpwood 95 cu. ft.

Pulp Production.—Of the total 1946 pulp production 74 p.c. was made in combined pulp and paper mills for their own use in manufacturing paper. The remainder was made for sale in Canada or for export. Over 60 p.c. was groundwood pulp and over 18 p.c. unbleached sulphite fibre, these two being the principal components of newsprint paper. Bleached sulphite, bleached and unbleached sulphate, soda fibre and groundwood and chemical screenings made up the remainder. A considerable market has developed for screenings in connection with the manufacture of rigid insulating boards.

The manufacture of the 6,615,410 tons of pulp produced in 1946 entailed the use of 8,684,756 cords of rough pulpwood valued at $154,581,001 and the equivalent of 95,171 rough cords of other wood (i.e., sawmill chips, slabs and edgings, sawdust, butt cores, etc.) valued at $1,706,725. The total value of materials used in the manufacture of pulp was $176,798,465.

13.—Pulp Production, Mechanical and Chemical, 1937-46

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Mechanical Pulp[1]		Chemical Fibre[1]		Total Production	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1937	3,384,744	46,663,759	1,756,760	70,065,469	5,141,504	116,729,228
1938	2,520,738	39,707,479	1,147,051	48,189,669	3,667,789	87,897,148
1939	2,796,093	43,530,367	1,370,208	53,601,450	4,166,301	97,131,817
1940	3,368,209	56,017,547	1,922,553	92,987,720	5,290,762	149,005,267
1941	3,550,285	61,749,788	2,170,562	113,689,763	5,720,847	175,439,551
1942	3,308,118	65,208,919	2,298,343	126,936,143	5,606,461	192,145,062
1943	3,033,751	63,721,703	2,239,079	130,797,449	5,272,830	194,519,152
1944	3,113,142	72,097,231	2,157,995	138,944,181	5,271,137	211,041,412
1945	3,393,426	86,990,626	2,207,388	144,882,496	5,600,814	231,873,122
1946	4,122,046	113,599,526	2,493,364	174,024,701	6,615,410	287,624,227

[1] Includes screenings.

14.—Pulp Production, by Chief Producing Provinces, 1937-46

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Quebec		Ontario		Canada[1]	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1937	2,551,546	55,277,014	1,466,555	33,964,784	5,141,504	116,729,228
1938	1,858,971	44,220,224	1,057,984	25,821,023	3,667,789	87,897,148
1939	2,119,183	49,026,966	1,158,576	27,631,051	4,166,301	97,131,817
1940	2,794,384	76,996,100	1,369,389	38,235,733	5,290,762	149,005,267
1941	2,971,386	89,103,399	1,507,324	46,908,967	5,720,847	175,439,551
1942	2,896,440	97,632,408	1,518,967	51,936,704	5,606,461	192,145,062
1943	2,617,403	94,054,176	1,490,966	54,818,046	5,272,830	194,519,152
1944	2,767,081	105,042,991	1,316,365	54,934,993	5,271,137	211,041,412
1945	2,887,176	114,197,036	1,468,682	62,596,260	5,600,814	231,873,122
1946	3,460,853	140,930,891	1,837,975	84,049,038	6,615,410	287,624,227

[1] Includes production in British Columbia, Manitoba, New Brunswick and Nova Scotia.

Pulp Exports.—The quantities and values of pulp exported from Canada in the years 1938-47 are given in Table **15.**

15.—Exports of Pulp to the United Kingdom, United States and All Countries, 1938-47

Year	United Kingdom		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1938	67,694	3,678,448	453,861	21,561,546	554,037	27,730,738
1939	72,437	2,712,942	606,588	26,836,718	705,515	31,000,602
1940	176,218	9,966,249	825,268	46,576,654	1,068,517	60,930,149
1941	265,977	15,412,380	1,108,845	68,161,163	1,411,724	85,897,736
1942	294,056	17,950,527	1,197,425	76,087,788	1,510,746	95,266,873
1943	263,392	17,349,975	1,269,043	80,969,868	1,556,457	100,012,775
1944	292,808	21,393,993	1,077,811	77,081,637	1,408,031	101,563,024
1945	290,885	22,276,514	1,093,631	79,589,366	1,434,527	106,054,911
1946	119,973	10,122,012	1,252,648	99,972,972	1,418,558	114,020,659
1947	136,976	14,741,287	1,499,302	156,121,526	1,698,712	177,802,612

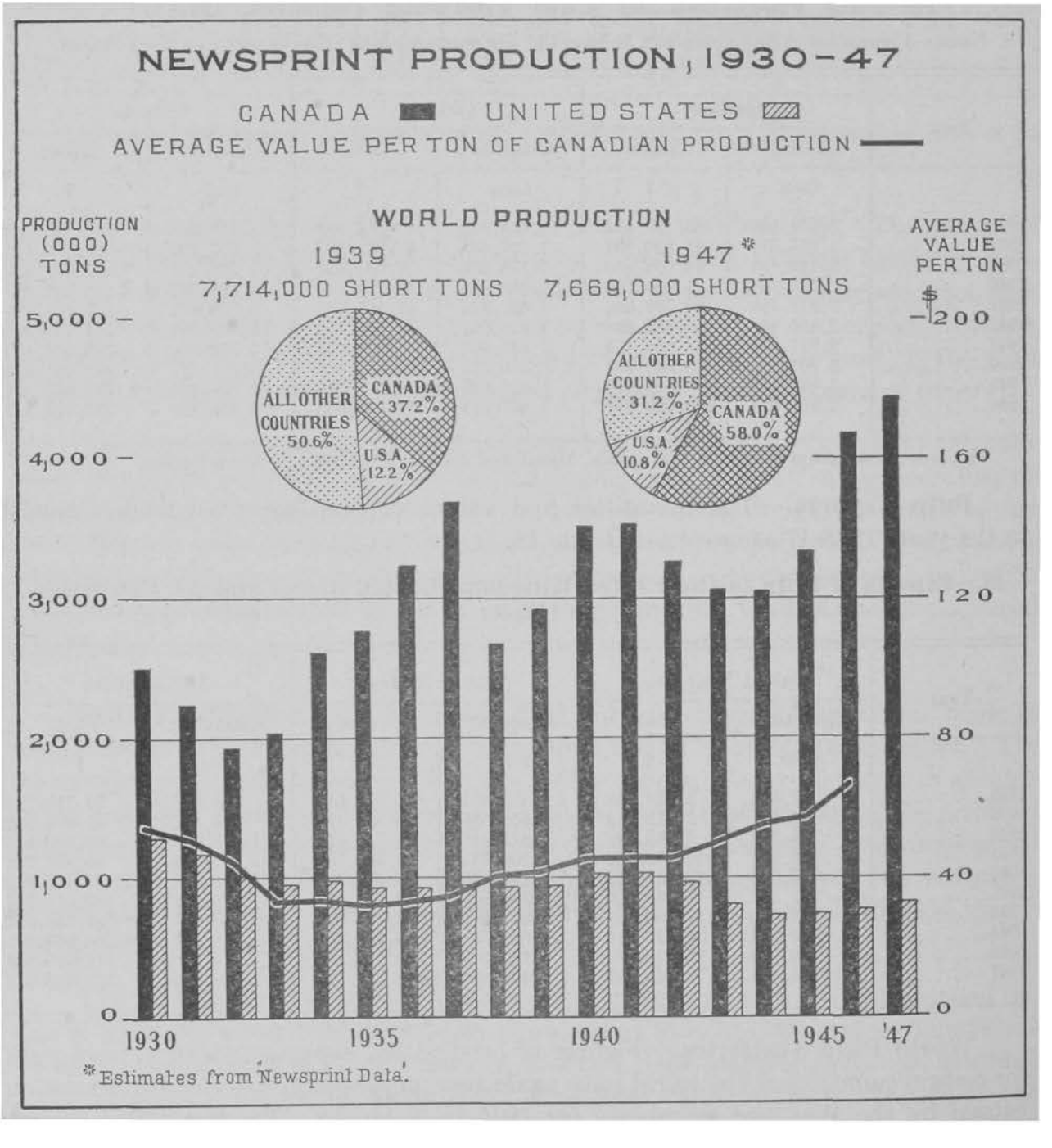
World Pulp Statistics.—Figures of production, exports and imports of pulp for certain countries of the world have again become available after the interruption caused by the War and are shown for 1946 in Table **16.** Pre-war world figures of pulp exports are given at p. 201 of the 1941 Year Book.

16.—World Pulp Production, Exports and Imports, by Countries, 1946

(Source: United States Pulp Producers Association)

Country	Production	Exports	Imports
	'000 tons	'000 tons	'000 tons
Canada	6,555[1]	1,419	14
Newfoundland	419	48	–
United States	10,606	39	1,795
Finland	1,320	606	–
Norway	504	184	63
Sweden	2,957	1,980	–
Other	3,639[2]	124[2]	2,528[2]
Totals	**26,000[2]**	**4,400[2]**	**4,400[2]**

[1] Slightly lower than Bureau of Statistics figures given in Table 13 because of the exclusion of certain types of pulp by the Association. [2] Estimated.



Paper Production.—During 1946 there were 82 establishments producing paper and paper board in Canada as compared with 80 in 1945. In addition to newsprint, Canadian mills have a highly developed production of fine paper, wrapping paper, tissues, paper board and other cellulose products.

17.—Paper Production, by Type, 1937-46

NOTE.—Figures for earlier years will be found in the corresponding table of previous Year Books.

Year	Newsprint Paper		Book and Writing Paper		Wrapping Paper	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1937	3,673,886	126,424,303	84,168	12,620,507	108,734	10,237,823
1938	2,668,913	107,051,202	73,834	11,098,901	90,879	9,069,298
1939	2,926,597	120,858,583	90,135	12,773,781	109,907	10,712,394
1940	3,503,801	158,447,311	102,696	15,518,667	139,716	14,457,299
1941	3,519,733	158,925,310	117,444	18,476,397	162,581	16,744,806
1942	3,257,180	147,074,109	121,419	19,181,665	165,991	17,221,769
1943	3,046,442	152,962,868	122,174	19,047,039	145,545	15,614,453
1944	3,039,783	165,655,165	155,498	23,700,310	156,721	16,699,663
1945	3,324,033	189,023,736	162,198	24,468,409	162,175	17,558,552
1946	4,162,158	280,809,610	189,318	29,995,156	175,369	20,797,070

Year	Paper Boards		Tissue and Miscellaneous Paper		Totals, Paper	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1937	422,710	21,719,730	55,863	4,883,060	4,345,361	175,885,423
1938	356,891	19,288,172	58,841	5,142,492	3,249,358	151,650,065
1939	413,687	21,359,828	60,176	5,071,476	3,600,502	170,776,062
1940	500,094	31,078,759	73,107	6,334,773	4,319,414	225,836,809
1941	649,840	40,214,658	75,178	7,089,121	4,524,776	241,450,292
1942	609,175	38,641,867	78,002	8,150,102	4,231,767	230,269,512
1943	568,101	37,528,257	84,082	8,883,535	3,966,344	234,036,152
1944	588,348	39,091,667	104,026	10,399,036	4,044,376	255,545,841
1945	595,131	40,100,872	116,039	11,686,045	4,359,576	282,837,614
1946	683,643	50,213,833	136,630	15,140,721	5,347,118	396,956,390

Quebec produced 53·6 p.c. of the total quantity in 1946, Ontario 29·6 p.c., British Columbia 6·9 p.c. and Nova Scotia, New Brunswick and Manitoba the remaining 9·9 p.c.

18.—Paper Production, by Provinces, 1945 and 1946

Province	1945		1946	
	Quantity	Value	Quantity	Value
	tons	$	tons	$
Quebec	2,292,442	148,180,691	2,867,594	213,045,633
Ontario	1,267,796	86,395,223	1,579,537	120,929,769
British Columbia	334,502	20,353,984	370,950	26,733,893
Nova Scotia, New Brunswick and Manitoba	464,836	27,907,716	529,037	36,247,095
Totals	**4,359,576**	**282,837,614**	**5,347,118**	**396,956,390**

Exports of Newsprint.—Total exports of newsprint from Canada in the years 1938-47 are given in Table **19.**

19.—Exports of Newsprint Paper to the United Kingdom, United States and All Countries, 1938-47

Year	United Kingdom		United States		All Countries	
	Quantity	Value	Quantity	Value	Quantity	Value
	tons	$	tons	$	tons	$
1938	172,096	5,694,747	1,938,297	85,190,912	2,424,655	104,615,042
1939	176,754	5,811,462	2,206,386	97,057,620	2,658,723	115,687,288
1940	145,109	6,850,525	2,586,147	119,361,872	3,242,789	151,360,196
1941	94,082	4,492,699	2,762,241	129,162,253	3,262,012	154,356,543
1942	35,123	1,704,069	2,792,181	130,519,094	3,005,291	141,065,618
1943	30,427	1,773,834	2,544,691	129,787,019	2,810,288	144,707,065
1944	41,908	2,557,791	2,408,960	133,398,723	2,805,776	157,190,834
1945	105,648	6,564,645	2,533,564	146,507,805	3,058,946	179,450,771
1946	82,888	5,954,814	3,323,238	224,782,463	3,858,467	265,864,969
1947	55,520	4,623,491	3,675,349	291,892,729	4,220,779	342,293,158

Since 1913 Canada has led the world in the export of newsprint. In 1938 the quantity of newsprint exported by the principal newsprint-producing countries was 3,806,737 short tons, of which Canada contributed 63·7 p.c. World comparisons for later years are not available.

World Newsprint Statistics.—During the war years world figures of newsprint production and exports were not, of course, obtainable. However, production figures for the leading producing countries have again become available from the Newsprint Association of Canada and are given for 1946 in Table **20.** The 1939 figures are also included for comparative purposes. Figures for post-war exports of newsprint from those countries are still unavailable.

20.—World Newsprint Production, by Countries, 1946 as Compared with 1939

(Source: Newsprint Association of Canada)

Country	1939	1946	Country	1939	1946
	'000 tons	'000 tons		'000 tons	'000 tons
Canada	2,869[1]	4,143[1]	Norway	226	121
United States	939	771	France	276	108
Newfoundland	308	363	Japan	437	83
United Kingdom	848	330	Holland	104	33
Sweden	305	289	Other Europe	256	217
Finland	519	258	All other	12	54
Russia	200	200			
Germany	415	150	**Totals**	**7,714**	**7,120**

[1] Slightly lower than Bureau of Statistics figures given in Table **17** because of the exclusion of certain paper not classed as newsprint by the Association.

Statistics of the Combined Pulp and Paper Industries.*—The manufacture of pulp, the manufacture of paper and the manufacture of products made of paper may, under certain conditions, be treated as three industries, for they are frequently carried on in separate plants by entirely independent companies. The manufacture of basic stock and the converting of this paper into towels, stationery and other highly processed paper products are often combined in one plant. This

* See Chapter XVI and the Index for further particulars regarding the pulp and paper and paper-converting industries.

further converting of paper within the pulp and paper industry itself represents only a small part of Canada's production of converted paper and boards, the bulk of which is still made in special converting mills classified in other industrial groups.

The presence of these different combinations in one mill makes it difficult to separate many of the statistics relating to the manufacture of pulp, basic paper and converted paper products. All converting operations carried on in paper mills in this industry are attributed to the particular industrial group of converting plants to which they properly belong. Including manufacturing operations as far as the basic paper-making stage, there were altogether 113 mills in operation in 1946. The employees numbered 44,967 and their salaries and wages amounted to $101,364,636. If the pulp made for their own use in combined pulp and paper mills is disregarded, the total of materials and supplies used in the industry as a whole can be considered as amounting to $223,448,338 in 1946, $179,369,499 in 1945 and $157,995,141 in 1944; the gross value of production as $527,814,916 in 1946, $398,804,515 in 1945 and $369,846,086 in 1944; and net value of production, $258,164,578 in 1946, $180,401,885 in 1945 and $174,492,103 in 1944.

The pulp and paper industry is one of the leading single manufacturing industries in Canada. During the war years certain other industries rose temporarily to higher positions, but the pulp and paper industry has now resumed its former place. In 1946 it was first in net value of production, in gross value of production and in salaries and wages paid, and second in employment. Only the manufacturing stages of the industry are considered in these comparisons, no allowance being made for capital invested, men employed, wages paid or primary products sold in connection with the woods operations. These form an important part of the industry as a whole but cannot be separated from woods operations carried on in connection with sawmills and other industries. In world trade, generally speaking, pulp and paper are Canada's main commodities; usually greater than wheat and far greater than nickel. Newsprint alone, over a considerable period, has brought Canada more export dollars than wheat, nickel or any other single commodity.* The United States market absorbs, annually, practically all pulpwood exports and over 80 p.c. of the pulp and the paper shipments of Canada. About one-half of the paper consumed in the United States is either of Canadian manufacture or is made from wood or wood-pulp imported from Canada.

Subsection 4.—The Veneer and Plywood Industry†

The Canadian veneer and plywood industry has enjoyed phenomenal growth during the past decade. Plywood production has quadrupled since 1939 and similar increases have been made in the production of veneer.

Plywood is manufactured in Canada from both softwoods and hardwoods. The softwood plywood industry is centred chiefly on the West Coast where Douglas fir is the main species used. The first plywood plant in British Columbia commenced operations in 1912. Subsequently other plants were opened for the production of fir plywood and now Canada's annual production of softwood plywood is measured in terms of several hundred million square feet.

* For reasons given in Section 1, Part II of Chapter XXI, gold is excluded from Canadian trade statistics.

† Prepared by the Forest Products Laboratories, Dominion Forest Service, Department of Mines and Resources, Ottawa.

In Eastern Canada the mills concentrate on the production of hardwood veneers and plywoods. Birch is the most important species but maple, elm, basswood and other hardwoods are also used to a lesser extent. The very urgent demand for aircraft plywood during the Second World War greatly stimulated hardwood plywood production. Prior to 1939 practically the entire output was produced by cold-press methods but war requirements for resin-bonded plywood resulted in the production of high-quality plywood for the exacting requirements of the aircraft industry. The production of aircraft plywoods alone rose to approximately 35,000,000 sq. ft. annually in the last two years of the War.

In the post-war period a number of plants have materially increased their output of both softwood and hardwood veneers of high quality. In Eastern Canada alone there are now 24 plants producing veneer and plywood and a number of others are being built to supply the increased demands of export markets.

The use of plywood is expanding as its properties are becoming more widely appreciated. It is replacing solid wood construction in the furniture and allied industries for core stock, flooring, concrete form work, structural panels and sheathing for houses. Because it is obtainable in the large sizes it assists in expediting the construction of dwellings. Its smooth, unbroken surface makes it particularly suited for such purposes as linings for railroad cars, bus bodies, bins, boat sheathing, etc., and the ease with which it can be fabricated makes it the preferred material for a multitude of other applications.

As a result of wartime research curved plywood manufacture has become an increasingly important development in Canada's plywood industry. Curved plywood barrel staves are being manufactured and plywood house trim, moulded plywood boats, canoes, furniture and similar products have been developed and are being constantly improved. It has been found that the veneers of Canadian manufacture are well adapted to the many various applications of the plywood industry.

Exports of Canadian veneers and plywoods in the past ten years have risen from a value of $682,743 in 1936 to a peak of $18,498,881 in 1947.

21.—Veneers and Plywoods Produced for Sale, by Types, 1944-46

Year	Domestic Softwood		Domestic Hardwood		Imported Wood		Totals	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Veneers—1/10" Basis							
	M sq. ft.	$	M sq. ft.	$	M sq. ft.	$	M sq. ft.	$
1944.....	35,739	300,931	137,770	5,391,261	33,982	606,735	207,491	6,298,927
1945.....	26,781	185,879	117,027	3,948,767	41,736	744,979	185,544	4,879,625
1946.....	46,006	336,141	138,416	4,189,891	39,918	725,238	224,340	5,251,270
	Plywoods—1/4" Basis							
	M sq. ft.	$	M sq. ft.	$	M sq. ft.	$	M sq. ft.	$
1944.....	220,158	8,221,621	29,734	6,518,760	737	142,453	250,629	14,882,834
1945.....	289,560	10,724,453	30,176	4,122,151	999	182,091	320,735	15,028,695
1946.....	271,791	12,372,446	49,659	6,000,550	3,905	671,019	325,355	19,044,015

Subsection 5.—The Wood-Using Industries*

Sawmills and pulp- and paper-mills draw their raw material directly from the forest in the form of logs and pulpwood, and produce sawn lumber, other sawmill products and pulp and paper. There are also a number of important industries that use these products as raw material for further manufacture. Some of them produce commodities made almost entirely of wood or wood-pulp, some manufacture articles in which wood is the most important component, and others produce articles in which wood is necessary but forms only a small proportion of the value. There are, in addition, a number of industries that use wood indirectly in the manufacture of articles that do not contain wood as a component part. The first class includes the manufacture of sash, doors, other mill-work and planing-mill products: boxes, baskets, cooperage and other containers; canoes, boats and small vessels; kitchen, bakery and dairy woodenware; wooden pumps, piping, tanks and silos; spools, handles, dowels and turnery. The second class includes products where wood is the outstanding material used and includes furniture, vehicles and vehicle supplies, coffins and caskets, etc. The third class, where wood has a secondary importance, includes the manufacture of agricultural implements, railway rolling-stock, musical instruments, brooms and brushes, etc. The fourth class can be said to include practically every form of industrial activity, as few, if any, are entirely independent of the use of wood, directly or indirectly.

A classification based on the chief component material in the products of each manufacturing establishment is now largely used in compiling manufacturing statistics and for external trade purposes. In 1945, this group, comprising 2,575 establishments, gave employment to 50,949 persons and paid out $68,276,967 in salaries and wages. The gross value of its products was $229,737,695 and the net value $109,396,119.

The importance of secondary industry in providing employment will be appreciated when it is noted that the number of employees in this wood-using group is greater than 50,000 as compared with pulp and paper with approximately 40,000 employees in 1945.

22.—Wood Used in Wood-Using Industries, 1943-45

Year	Sawn Lumber		Sawlogs, Veneer Logs, Flitches		Veneers and Plywoods		Other Wood Used	Total
	Quantity	Value	Quantity	Value	Quantity	Value		
	M ft. b.m.	$	M ft. b.m.	$	M ft. b.m.	$	$	$
1943.....	1,160,404	49,980,271	168,772	5,072,978	227,380	4,155,297	34,920,754	94,129,300
1944.....	1,146,468	53,960,077	212,332	9,110,064	157,629	5,131,321	37,929,231	106,130,693
1945.....	1,241,563	60,878,661	204,815	8,688,883	156,305	5,676,482	41,971,936	117,215,962

Subsection 6.—The Paper-Using Industries†

The paper-using industries are a stage removed from the wood-using industries in that they take paper—a secondary product—as their raw material and fabricate it into still more highly processed forms.

* Prepared by the Forest Products Laboratories, Dominion Forest Service, Department of Mines and Resources, Ottawa.

† Prepared by the Pulp and Paper Research Institute of Canada, Montreal, Que.

The paper-using industries are classified for census purposes into four groups:—

(1) Those comprising the largest and most important class are engaged in the printing of news, advertisements, coloured designs, illustrations, etc., on paper in the publication of newspapers, periodicals, advertising matter, books, etc., and comprise six closely related industries, namely: printing and bookbinding, lithographing, engraving, stereotyping and electrotyping, trade composition, and blueprinting.

(2) Another large group of industries use paper or paper board as a raw material for conversion into paper bags, boxes, envelopes, wallboard and other commodities.

(3) The roofing paper industry is engaged wholly or chiefly in the manufacture of asphalt shingles and siding, composition roll roofings, and tar and asphalt felts and sheathings.

(4) The miscellaneous paper goods industry is engaged wholly or chiefly in coating, treating, cutting and otherwise transforming paper and paper board for special purposes exclusive of paper boxes and bags and roofing paper.

In considering the use of paper in industry, cases frequently occur where the same sheet of paper passes from one group of industries to another. The finished product of the paper-mill becomes the raw material of the coating-mill where its surface is treated to make it suitable for lithography. It then becomes the raw material of the lithographing industry where its surface is covered with a decorative, coloured design. It next becomes the raw material of the paper-box manufacturer who uses it to cover an ornamental box which is used by still another industry in the distribution of confectionery.

Another important fact in connection with the use of paper as a raw material is that old or waste paper can be salvaged, repulped, treated if necessary, and used over and over again being mixed with new pulp in making certain classes of paper from good bond and writing papers to paper boards.

The growth of the paper-using industries in Canada has been greatly accelerated by the production of cheap paper and paper board made of wood-pulp and by the development of typesetting and typecasting machines and the rotary press for high-speed printing. In addition, the education of the people and the printing industry have marched hand in hand during the past half century in Canada. With the ability to read came the demand for increased production of printed matter which has stimulated the publishing business.

Composition roofing consisting of paper felt saturated with asphalt or tar and coated with a mineral surfacing is being increasingly used as a substitute for metal roofing, slates and wooden shingles.

The use of fibre wallboard as a building material especially for insulating purposes, and a paper felt saturated with asphalt as a mulch paper to retain soil moisture and inhibit weed growth when certain crops are grown, are recent developments.

In recent years the manufacture of containers and packages of various kinds has grown very rapidly since ways have been found of converting tough and cheap paper stocks into strongly made boxes which compete very favourably with the wooden crates and packing cases formerly used. Small attractive paper containers for use in retail trade are growing in favour with the purchasing public and constitute an important branch of the paper-using industries.

In 1945, the paper-using industries employed 20,823 persons and had a gross value of production of $138,055,346.

CHAPTER XII.—FUR RESOURCES AND PRODUCTION

CONSPECTUS

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Section 1.—History of the Fur Trade

A historical outline tracing the development of the fur trade is published at pp. 281-282 of the 1946 Year Book. See also list of Special Articles under Fur Trade at the front of this volume.

Section 2.—The Fur Industry

Subsection 1.—Wild Life

The fur resources of Canada are among its most valuable assets, and though, with the advance of settlement, trapping has moved farther and farther northward and the practice of fur farming has developed considerably, wild life still produces the greater portion of Canadian furs. Over an area of about 1,550,000 square miles, which is approximately 45 p.c. of the total land area of Canada, wild life is relatively more productive than agriculture and of the products of wild life, furs are the principal item and the principal support of the population of that area.

Many of the most valuable fur-bearing animals are subject to marked fluctuations in numbers. The periods of abundance and of scarcity recur with sufficient regularity to be called cycles and these cycles have an important bearing on the pelt take year by year.

The conservation of fur-bearers, which has marked the policy of Federal and provincial authorities to an increasing extent, has been made necessary by an increasing demand for furs coupled with decreasing supplies. The resulting substantial rise in prices also brought about a tendency to 'over-trapping', and it has been found necessary to control the 'take' by prohibition, close seasons and the enforcement of trapping regulations. However, in a country of such extent, where trappers, both White and Indian, are scattered over a vast wilderness, prohibition of capture of certain animals with the aim of conserving future catches is not always effective. Such furs become higher priced because of this scarcity and the temptation to violate protective measures is great.

One noteworthy reconstructive measure that appears to have had a very beneficial influence on the rehabilitation of certain fur-bearers, especially beaver and muskrat, is the organized development of marshlands where these animals are actively assisted to increase their numbers in their natural habitat.

All provinces to-day have their trapping regulations and license individual trappers. Some provinces register trap lines. The Saskatchewan Government has recently inaugurated a system whereby districts are assigned to individual licensed trappers. The licensee in his own interests will see to it that no poaching is carried on in his preserve.

Statistics of wild-life fur production are combined with the production of fur farms in Section 3, pp. 432-436.

Subsection 2.—Fur Farming*

In the early days of the fur trade, it was the practice in Canada for trappers to keep foxes alive until the fur was prime, and from this custom has arisen the modern fur-farming industry. The earliest authentic record of raising foxes in captivity comes from Prince Edward Island, where about 65 years ago a number of foxes were raised on a farm near Tignish. After 1890, a period of rising prices for furs encouraged fox-farming and the industry grew rapidly. The beauty of the fur of the silver fox and the consequent high prices realized from the sale of the pelts, caused attention to be directed chiefly to this breed, which is a colour phase of the common red fox established through selective breeding carried on by the pioneer fox farmers. While experiments were being carried on in Prince Edward Island, attempts at raising foxes in captivity were also being made in other provinces; the records show that foxes were successfully bred in Quebec in 1898, in Ontario in 1905 and in Nova Scotia in 1906. The profitableness of fur farming became widely known in 1910 when prices obtained for the first silver pelts at the auction in London, England, were published. An average of $1,339 per pelt was received on the sale of 25, one alone bringing the sum of $2,627. A boom followed but this collapsed in 1914 and it was some time before the industry regained stability. Fur farming is now carried on in all provinces of the Dominion and the number of farms, until the outbreak of war in 1939, showed a steady increase. An experimental fox ranch is operated by the Federal Government at Summerside, P.E.I., where problems of breeding, feeding, housing and general care are studied.

Although the fox was the first fur-bearing animal to be raised in captivity, many other kinds are now being bred—mink, raccoon, skunk, marten, fisher and rabbit. Mink are the most numerous and the most valuable of such farm-raised animals. From 1920 to 1939 there was a rapid expansion of fur farming in Canada and during that period there was a marked change in the type of furs that were most acceptable to the market. Black fox was popular 25 years ago. A few years later the highest prices were being paid for quarter and half silvers and during recent years the full silver and new types have been setting the upper price limit. The development of new colour phases in foxes and mink has proven to be an incentive to the fur-farming industry. New-type fox such as platinum, platinum-silver, pearl-platinum and white-marked are meeting a ready market as are the new-type mink including silver-sable, platinum, silverblu, snow-white and a number of other colour phases.

In recent years chinchilla farming has been increasing and an association, the National Chinchilla Breeders of Canada, has been formed. These fur-bearers are now registrable under Live Stock Registrations of the Federal Department of Agriculture.

Statistics of fur farming are given in Section 3.

Section 3.—Statistics of Fur Production*

Total Fur Production Statistics.—Early records of raw-fur production are confined to the decennial censuses, when account was taken of the numbers and values of pelts obtained by trappers. In 1920 the Dominion Bureau of Statistics commenced an annual survey of raw-fur production, basing its statistics on information supplied by the licensed fur traders. This survey was continued for some years.

* Revised in the Agricultural Division, Dominion Bureau of Statistics.

More recently, annual statements, based on royalties, export tax, etc., have been made available by the provincial game departments (except Prince Edward Island), and these statements are now used in the preparation of the statistics issued annually by the Bureau. In Prince Edward Island, the statistics are based on returns supplied directly to the Bureau by fur traders who deal in furs produced in the Province.

1.—Pelts of Fur-Bearing Animals Produced, with Percentages Sold from Fur Farms, Years Ended June 30, 1928-47

Year	Pelts		Percentage of Value Sold from Fur Farms[1]	Year	Pelts		Percentage of Value Sold from Fur Farms[1]
	Number	Value			Number	Value	
		$				$	
1928	3,601,153	18,758,177	11	1938	4,745,927	13,196,354	43
1929	5,150,328	18,745,473	13	1939	6,492,222	14,286,937	40
1930	3,798,444	12,158,376	19	1940	9,620,695	16,668,348	31
1931	4,060,356	11,803,217	26	1941	7,257,337	21,123,161	26
1932	4,449,289	10,189,481	30	1942	19,561,024	24,859,869	19
1933	4,503,558	10,305,154	30	1943	7,418,971	28,505,033	24
1934	6,076,197	12,349,328	30	1944	6,324,240	33,147,392	28
1935	4,926,413	12,843,341	31	1945	6,994,686	31,001,456	31
1936	4,596,713	15,464,883	40	1946	7,593,416	43,870,541	30
1937	6,237,640	17,526,365	40	1947	7,486,914	26,349,997	37

[1] Approximate.

Ontario leads the provinces in value of fur production, accounting for 26·6 p.c. of the total in the 1946-47 season. The numbers of pelts taken in both Alberta and Manitoba were higher than in Ontario, but in those provinces muskrat and squirrel, which are lower-priced furs, made up the major portion of the total while in Ontario the more valuable mink, beaver and fox pelts brought the total value to a much higher level.

2.—Pelts of Fur-Bearing Animals Produced, by Provinces, Years Ended June 30, 1946 and 1947

Province or Territory	1946			1947		
	Pelts	Value	Percentage of Total Value	Pelts	Value	Percentage of Total Value
	No.	$		No.	$	
Prince Edward Island	34,201	1,195,930	2·7	35,168	658,962	2·5
Nova Scotia	184,119	1,123,390	2·6	160,935	716,009	2·7
New Brunswick	95,976	1,053,699	2·4	66,113	834,641	3·2
Quebec	645,123	7,444,582	17·0	511,485	3,913,915	14·8
Ontario	1,240,661	10,822,246	24·7	1,142,490	7,005,904	26·6
Manitoba	1,489,079	6,507,406	14·8	1,348,730	3,099,159	11·8
Saskatchewan	1,131,845	3,671,751	8·3	1,086,464	2,303,554	8·7
Alberta	1,501,722	5,209,064	11·9	1,837,653	3,738,788	14·2
British Columbia	598,373	3,414,795	7·8	751,060	2,047,135	7·8
Yukon	107,252	677,495	1·5	58,777	373,176	1·4
Northwest Territories	565,065	2,750,183	6·3	488,039	1,658,754	6·3
Canada	**7,593,416**	**43,870,541**	**100·0**	**7,486,914**	**26,349,997**	**100·0**

The average values of nearly all types of pelts showed marked decreases in the year ended June 30, 1947, from the previous year. Ermine dropped from $2·97 to $1·61, muskrat from $3·26 to $1·94, squirrel from 79 cents to 44 cents, red fox from $6·74 to $3·81, beaver from $50·80 to $29·46, white fox from $22·83 to $13·49, new-type fox from $47·83 to $28·62, standard silver fox from $27·93 to $17·21, marten from $56·17 to $32·45 and standard mink from $29·03 to $19·61. As a result of these decreases in average values, the total value of production declined from $43,870,541 in 1945-46 to $26,349,997 in 1946-47, though the number of pelts taken was only slightly smaller in the later year.

3.—Pelts of Fur-Bearing Animals Taken, by Kinds, Years Ended June 30, 1946 and 1947

Kind	1946			1947		
	Pelts	Total Value	Average Value	Pelts	Total Value	Average Value
	No.	$	$	No.	$	$
Badger	6,373	17,211	2·70	2,090	3,293	1·58
Bear, white	202	5,158	25·53	150	3,840	25·60
Bear, unspecified	1,145	3,738	3·26	1,150	2,904	2·53
Beaver	153,902	7,817,490	50·80	127,622	3,760,045	29·46
Cat, domestic	92	46	0·50	50	25	0·50
Chinchilla	40	920	23·00	64	2,240	35·00
Coyote or prairie wolf	37,501	262,144	6·99	24,114	90,167	3·74
Ermine (weasel)	672,152	1,998,477	2·97	524,126	844,589	1·61
Fisher	4,150	258,344	62·25	4,189	162,483	38·79
Fitch	344	1,879	5·46	500	1,748	3·50
Fox, blue	3,046	91,130	29·92	3,765	59,720	15·86
Fox, cross	19,703	310,664	15·77	14,700	140,426	9·55
Fox, red	121,728	819,986	6·74	85,274	325,249	3·81
Fox, silver	133,639	3,732,812	27·93	120,927	2,080,668	17·21
Fox, new-type	32,312	1,545,399	47·83	37,910	1,085,316	28·62
Fox, white	27,169	620,170	22·83	67,314	907,920	13·49
Fox, other	212	1,537	7·25	87	444	5·10
Lynx	9,338	347,332	37·20	8,151	193,132	23·69
Marten	19,831	1,113,998	56·17	20,661	670,412	32·45
Mink, standard	381,421	11,073,699	29·03	437,343	8,574,488	19·61
Mink, mutation	885	53,743	60·72	5,261	144,580	27·48
Muskrat	3,420,496	11,159,502	3·26	2,795,687	5,431,833	1·94
Nutria	6	13	2·17	30	90	3·00
Otter	12,337	404,188	32·76	11,730	290,446	24·76
Rabbit	307,655	246,671	0·80	180,170	144,994	0·80
Raccoon	36,092	112,299	3·11	24,406	53,476	2·19
Skunk	125,794	193,341	1·54	73,901	62,380	0·84
Squirrel	2,061,205	1,626,927	0·79	2,911,413	1,288,751	0·44
Wild cat	1,585	23,340	14·73	1,365	6,837	5·01
Wolf	2,569	21,198	8·25	2,177	12,613	5·79
Wolverine	492	7,185	14·60	587	4,888	8·33
Totals	**7,593,416**	**43,870,541**	–	**7,486,914**	**26,349,997**	–

Fur-Farm Statistics.—The number of fur farms in Canada dropped considerably during the war years because of difficulties experienced in securing feed and necessary labour. Most of those going out of business were the smaller farms or farms operated as a side-line to general farming. On the other hand, the value of land and buildings in 1946 showed an increase of 55·6 p.c. over the 1939 figure and the value of fur-bearing animals on the farms an increase of 136·0 p.c.

4.—Fur Farms, Land and Buildings, and Fur-Bearing Animals, by Provinces, 1944-46

Province or Territory	Fur Farms			Values of Land and Buildings			Values of Fur-Bearing Animals		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
	No.	No.	No.	$	$	$	$	$	$
P. E. Island	619	567	503	673,496	646,985	614,030	825,268	914,216	574,222
Nova Scotia	406	380	350	210,690	231,177	249,293	324,151	441,229	421,333
New Brunswick	494	426	383	290,422	273,795	274,915	635,250	651,438	467,125
Quebec	2,071	2,087	1,768	1,471,621	1,682,790	1,751,435	2,685,027	2,935,726	2,595,564
Ontario	988	1,089	1,348	1,547,082	1,953,493	2,490,908	2,447,177	3,467,485	4,318,112
Manitoba	485	528	638	1,190,080	1,497,892	2,021,523	1,346,652	2,115,805	2,367,444
Saskatchewan	457	479	467	603,903	650,016	935,260	942,571	1,304,476	1,357,211
Alberta	637	774	1,027	1,355,258	1,655,825	2,383,295	1,841,522	2,691,959	3,049,500
British Columbia	239	260	313	498,317	549,299	831,831	501,296	890,424	1,184,776
Yukon	Nil	Nil	Nil	–	–	–	–	–	–
Totals	**6,396**	**6,590**	**6,797**	**7,840,869**	**9,141,272**	**11,552,490**	**11,548,914**	**15,412,758**	**16,335,287**

5.—Fur-Bearing Animals on Fur Farms, as at Dec. 31, 1943-46

Kind of Animal	1943		1944		1945		1946	
	No.	Value	No.	Value	No.	Value	No.	Value
		$		$		$		$
Chinchilla	244	50,000	263	100,700	402	127,050	1,285	668,020
Coyote	28	675	17	266	Nil	–	2	30
Fisher	124	13,405	115	13,860	160	18,835	192	24,285
Fitch	255	1,396	153	1,185	189	1,143	170	1,375
Fox, blue	1,985	190,577	2,357	251,875	3,252	354,369	3,560	324,384
Fox, cross	602	25,098	603	23,572	497	22,350	324	7,238
Fox, new-type	20,786	2,015,892	28,158	2,493,602	35,297	3,020,387	37,235	2,213,688
Fox, red	535	13,069	551	9,718	557	7,375	399	3,969
Fox, silver	74,514	4,233,722	71,121	3,707,483	68,277	3,380,426	57,711	2,111,301
Fox, other	3	275	20	1,835	19	1,685	40	2,605
Lynx	Nil	–	Nil	–	14	1,700	6	300
Marten	298	24,988	291	28,312	305	30,308	352	36,790
Mink	119,266	3,465,492	144,166	4,907,501	200,851	8,439,144	274,670	10,936,409
Nutria	357	6,882	219	6,925	201	6,049	110	3,660
Raccoon	258	3,428	169	2,076	193	1,917	173	1,226
Skunk	2	4	2	4	6	20	4	7
Totals	**219,257**	**10,044,903**	**248,205**	**11,548,914**	**310,220**	**15,412,758**	**376,233**	**16,335,287**

6.—Values of Fur-Bearing Animals and of Pelts Sold from Fur Farms, 1943-46

Kind of Animal	1943		1944		1945		1946	
	Animals	Pelts	Animals	Pelts	Animals	Pelts	Animals	Pelts
	$	$	$	$	$	$	$	$
Chinchilla	Nil	Nil	3,800	Nil	23,225	Nil	295,130	Nil
Coyote	75	2,138	100	360	Nil	"	Nil	"
Fisher	Nil	3,124	8,652	2,909	3,590	544	9,260	637
Fitch	158	1,736	240	1,159	679	997	484	1,088
Fox, blue	13,008	57,337	28,675	125,005	37,305	151,122	18,998	83,397
Fox, cross	1,330	39,128	1,170	29,565	314	19,080	190	10,119
Fox, new-type	310,870	770,142	316,753	1,091,036	312,967	1,633,938	142,887	1,388,526
Fox, red	695	15,391	564	8,953	442	6,138	312	4,269
Fox, silver	328,857	4,241,614	248,484	3,093,065	301,897	2,956,725	171,499	1,723,633
Fox, other	Nil	575	Nil	1,108	185	674	225	964
Marten	2,010	1,775	11,253	2,820	8,440	1,280	15,484	510
Mink	229,257	3,823,656	520,530	3,884,243	1,064,018	5,505,272	1,844,627	3,571,314
Nutria	915	652	925	272	375	257	475	103
Raccoon	168	1,394	93	369	63	447	67	121
Totals	**887,343**	**8,958,662**	**1,141,239**	**8,240,864**	**1,753,500**	**10,276,474**	**2,499,638**	**6,784,681**

Section 4.—Marketing and Foreign Trade

The first Canadian fur auction sale was held at Montreal in 1920 and since then that city has been the leading Canadian fur mart. To-day, auction sales are also held at Vancouver, B.C., Edmonton, Alta., Regina, Sask., and Winnipeg, Man., and at Regina the Saskatchewan Government maintains a Fur Marketing Service to assist the producers in that Province.

Grading.—In 1939 the Dominion Department of Agriculture introduced the grading of furs. One of the Department's main objectives in grading is to secure uniformity so that furs may be purchased by grade without the necessity of buyers from other countries personally examining the pelts. Grading offers many advantages to the producer as well as to the trade in general. It educates the rancher as to the proper value of his pelts, and creates an incentive to improve the quality of the product; it furnishes guidance in the planning of future matings, aids in raising the standard of quality of the entire crop of pelts and helps in advancing the level of prices for high-quality pelts.

Exports and Imports.—Prior to the Second World War Canada marketed her fur pelts mainly in the United Kingdom but, since that market was practically dormant during the war years, the fur trade was carried on for the most part with the United States. A definite revival of trade with the United Kingdom was shown in 1946 and 1947.

The Canadian fur trade, both exports and imports, is chiefly in undressed furs, the value of dressed and manufactured furs going out of Canada or coming in making up a comparatively small proportion of the total. A good part of the exports consists, of course, of those furs which Canada produces in greatest abundance, mink being the most valuable, followed by fox, beaver and muskrat. On the

other hand, such furs as Persian lamb, certain types of muskrat, rabbit and squirrel, oppossum and raccoon, which are not produced to any extent in Canada, make up the major portion of the imports.

Exports and imports to and from the United States, the United Kingdom and all countries are given for the years 1944-47 in the Foreign Trade Chapter, Tables **13** and **14**.

7.—Exports and Imports of Furs, by Kinds, 1947

Kind	Exports			Kind	Imports		
	United Kingdom	United States	All Countries		United Kingdom	United States	All Countries
	$	$	$		$	$	$
Undressed—				Undressed—			
Beaver	789,861	3,538,388	4,331,359	Fox	15,188	102,619	157,687
Ermine	404,582	270,788	677,623	Kolinsky	Nil	81,053	81,053
Fisher	66,637	83,316	149,953	Marine	"	25	175,790
Fox, all types	1,815,115	1,430,008	3,916,989	Mink	44,656	655,225	737,852
Lynx	93,745	149,862	244,184	Muskrat	5,216	3,253,224	3,305,876
Marten	160,107	391,529	554,464	Opossum	Nil	44,148	53,336
Mink	1,773,412	11,233,564	13,014,356	Persian lamb	113,474	6,196,579	7,614,161
Muskrat	864,217	1,921,286	2,806,864	Rabbit	360	518,334	916,320
Otter	61,762	213,581	278,873	Raccoon	Nil	402,567	407,255
Rabbit	718	181,223	181,941	Sheep and lamb	"	116,000	415,657
Raccoon	3,597	77,360	83,821	Squirrel	"	549,651	626,228
Skunk	17,237	50,880	77,325	Viscacha	"	Nil	2,077
Squirrel	1,256,714	126,941	1,428,774	Other	27,668	1,085,904	1,269,934
Weasel	20,818	194,238	216,388				
Wolf	28,339	25,292	53,869				
Other	3,246	10,994	19,206	Dressed—			
				Astrachan	Nil	41,315	41,315
Dressed—				Rabbit	189	29,291	35,559
Fox	Nil	1,050	24,074	Other	272,381	1,325,081	1,614,786
Other	10,906	199,199	574,782				
Manufactured	7,615	242,502	412,896	Manufactured	218,605	4,185,392	4,996,237
Totals	**7,378,628**	**20,342,001**	**29,047,741**	**Totals**	**697,737**	**18,586,408**	**22,451,123**

CHAPTER XIII.—THE FISHERIES

CONSPECTUS

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Section 1.—The Early Fisheries

Historical records show that European fishing vessels frequented the waters of Canada's Atlantic Coast 400 years and more ago, and the prolific grounds have been fished continuously ever since that time. When John Cabot reached the North American mainland at the close of the fifteenth century he found Basque fishing vessels off the coast. The Old World fishermen had even ventured up the St. Lawrence, as Jacques Cartier found when he went inland in 1534. To-day the fishing industry—on the Pacific Coast and in the inland provinces, as well as in the Atlantic area—is an enterprise of great importance to Canada. According to the 1941 Census, 36,403 persons 14 years of age or over were gainfully occupied in the fishing industry on full time. Many others, of course, were engaged in the fishing industry on a part-time basis.

More detailed reference to the history of the fisheries of the Atlantic Coast will be found in the 1934-35 Year Book, p. 348.

Section 2.—The Canadian Fishing Grounds

Canada's fishing grounds fall naturally into three main divisions, Atlantic, freshwater or inland, and Pacific, and are among the most extensive and prolific in the world. A description of each, the fish obtained and methods of fishing, may be found on pp. 222-225 of the 1932 Year Book.

Section 3.—Governments and the Fisheries

Subsection 1.—The Federal Government*

The right of fisheries regulations for all parts of Canada rests with the Federal Government (Fisheries Act, 22-23 Geo. V, c. 42) but fisheries administration is carried out by either Federal or Provincial authorities, depending upon the area. In general, the Federal Government administers the tidal or sea fisheries and the Provincial Governments administer the fisheries in the non-tidal waters within their respective boundaries, but there are certain exceptions to this rule. In Quebec, by agreement between the Provincial and Federal Governments, all fisheries, both sea and freshwater, are under provincial administration. Again, the Federal Government administers the non-tidal fisheries of Nova Scotia as well as the fisheries of Yukon and the Northwest Territories. Some protective work in connection with non-tidal fisheries is carried on by the Federal Government in British Columbia, Prince Edward Island and New Brunswick.

* Revised by the Department of Fisheries, Ottawa.

Revenue received by the Federal Government from the fisheries in the year ended Mar. 31, 1947, amounted to $973,160 as compared with $1,109,484 in the preceding year. Expenditures in connection with the fisheries in 1946-47 were $3,700,019, as compared with $3,374,102 in 1945-46. Included in these expenditures were outlays in connection with the International Pacific Salmon Fisheries Commission and the International Fisheries Commission, or Pacific Halibut Commission, as well as the costs of departmental administration, etc.

Conservation.—A prime objective of the Federal fisheries authorities, ever since Confederation, has been intelligent conservation of the country's fisheries resources. Such moves as control of fishing seasons, the regulation of fishing operations including control of types of gear, the imposition of catch limitations where found desirable, the prevention of obstruction or pollution of fishing waters, and the prohibition of the capture of undersized fish, have been taken to achieve this objective.

In addition to the effort to maintain and increase fish abundance, the Department of Fisheries has carried on for many years a program of fish culture in various areas where fisheries administration is a Federal responsibility. In 1946-47 the Fish Culture Branch operated 13 hatcheries, 6 rearing stations, 6 salmon retaining ponds, and several egg-collecting stations, at a cost of $221,580. During the year, almost 23,500,000 trout and salmon fry and fingerlings, plus some older fish, were transferred from the fish-culture establishments to suitable waters.

The Department's program for the development of "farms" for the commercial rearing of oysters in Atlantic regions where oyster areas are under Federal jurisdiction has shown substantial progress despite a slowing down during the war years. The program was begun in Prince Edward Island some years ago and has been carried on successfully there, in Nova Scotia and in some parts of New Brunswick. Oyster farming takes place on grounds made available to lessees by the Department on prescribed conditions. The methods of operation followed by the lessees are those advised by the Fisheries Research Board. In British Columbia and most of New Brunswick, the oyster areas are under Provincial jurisdiction.

Direct Assistance to Fishermen.—The Department makes available to fishermen and fish producers instruction and advice as to the most efficient methods of fish handling and processing. This is done with the co-operation of the Fisheries Research Board. The fisheries inspectors employed by the Department on the two coasts are qualified by courses of training to advise fishermen as to the best handling and processing methods. Special departmental officers, working in appropriate districts, also give expert instruction, orally or by operational demonstrations, as to certain processing methods. In addition, information obtained by the Research Board through studies and experiments at its six permanent stations, or research centres, is put freely at the disposal of the fishing industry. The Department arranges for adult-education specialists from St. Francis Xavier University, Antigonish, N.S., the Social Economic Service, Ste. Anne-de-la-Pocatière, Que., and the University of British Columbia, Vancouver, B.C., to assist fishermen in studying their problems and devising plans for meeting those problems through joint action. The cost of this special educational work is met by the Department.

A lecture-demonstration program on the nutritive values of Canadian fish foods and the best methods of preparing them for meals is carried on in different

parts of the country by the Department through qualified home economists. This program which has been in progress for some years is designed to assist in increasing the demand for fishery products.

For the benefit of the fisherman, weather reports and forecasts, prepared by the Dominion Meteorological Service, are broadcast several times daily from stations of the Canadian Broadcasting Corporation which cover the fishing areas concerned. The reports are also available to other stations for broadcasting.

During the War when special food demands had to be met by increased fisheries production, financial assistance toward the construction of additional fishing vessels of certain types was given by the Department of Fisheries. Under this plan, 20 vessels of the packer-seiner type were built on the Pacific Coast and about 15 draggers were constructed on the Atlantic Coast. Since the War 10 or 15 additional draggers have been constructed under a continuation of the assistance plan in the Atlantic area.

Fishing Bounty.—A bounty established by legislation and representing interest on the Halifax Award, is paid annually to fishermen and owners of fishing boats and vessels on the Atlantic Coast to assist in sea-fisheries development and construction of fishing vessels and boats (45 Vict., c. 18, 1882, and 54-55 Vict., c. 42, 1891).

1.—Government Bounties Paid to Fishermen, by Provinces, 1945 and 1946

Province	1945		1946	
	Bounties	Amount[1]	Bounties	Amount[1]
	No.	$	No.	$
Prince Edward Island	1,242	9,813	1,456	10,910
Nova Scotia	8,842	78,431	9,594	82,008
New Brunswick	2,248	20,717	2,418	20,961
Quebec	6,211	50,914	5,953	46,112
Totals	**18,543**	**159,875**	**19,421**	**159,991**

[1] Includes payments to owners of vessels and boats.

Scientific Research.—On the scientific side the Department is serviced by the Fisheries Research Board of Canada which operates under the control of the Minister of Fisheries. The Board has six permanent fisheries research stations—two on the Pacific Coast, three on the Atlantic Coast, and one at Winnipeg—and one or two sub-stations. The station at Winnipeg is concerned entirely with fresh-water studies. Fisheries scientists and technicians carry on at these stations, or from these stations as bases, year-round investigations and experiments in connection with problems of the Canadian fisheries. Some of the stations are concerned with biological studies and others with investigations and experiments relating to fish handling and fish processing. Reference to fisheries research will be found in a special article on scientific and industrial research which appears at pp. 998-1001 of the 1940 Year Book.

International Problems.—Since 1933, under the *modus vivendi* which grew out of the unratified treaty of 1888, United States fishing vessels have been permitted entry to Canadian Atlantic ports to purchase bait and other supplies. From time to time in the past, the problem regarding United States privileges in

connection with fisheries in Canadian Atlantic waters has been of considerable importance and an outline of this problem will be found at pp. 351-352 of the 1934-35 Year Book. Port privileges have also been extended on the Pacific Coast to United States halibut fishing vessels for some years past and, more recently, to United States vessels fishing for black cod and several other species. Canadian fishing vessels have been granted similar privileges in United States ports on the Pacific Coast. The privileges include permission to tranship catches, buy bait, ship crews, etc.

In the Great Lakes regions where international questions relating to the fisheries are complicated by the existence of Provincial and State Government authorities as well as the Federal authorities of Canada and the United States, the two countries have signed an agreement to provide for the development, protection and conservation of the Great Lakes fisheries through joint action. This Convention, signed in Washington, D.C., on Apr. 2, 1946, following a study of Great Lakes fisheries matters by a board representative of Canada and the United States, provided for the establishment and maintenance by the two Governments of a Joint Commission which "shall undertake to develop a comprehensive plan for the effective management of the fisheries resources of the Great Lakes for the purpose of securing a maximum use of these resources consistent with their perpetuation". The term "Great Lakes" is defined as including Lake Ontario, Lake Erie, Lake St. Clair, Lake Huron, Lake Michigan, Lake Superior, and the connecting waters, bays and component parts of each lake, and also the St. Lawrence River from Lake Ontario to the 45th parallel of latitude.

On the Pacific Coast, preservation of the halibut fishery and the restoration to its former proportions of the sockeye salmon fishery of the Fraser River system, through joint action by Canada and the United States, have been undertakings of prime importance in comparatively recent years. The halibut fishery is dealt with by the International Fisheries Commission, equally representative of both countries, and through its research and subsequent regulatory control the halibut stocks have been greatly increased. As a matter of fact the stocks have been more than doubled, in the principal fishing areas at least, since 1930 when the halibut resources of the North Pacific and Bering Sea were apparently nearing depletion.

The International Pacific Salmon Fisheries Commission, also equally representative of the two countries, has achieved a major object in its program for restoring the Fraser sockeye fishery. This was the conquest of conditions at Hell's Gate Canyon, a narrow gorge on the Fraser River in British Columbia through which the fish must pass to reach the spawning grounds. Large-scale fishways were cut through the rock on either side of the Canyon, following intensive scientific and engineering studies by Commission experts, and have been successful in enabling spawning salmon to make their way past Hell's Gate at water levels which had previously blocked ascent and had therefore kept down the size of the run by reducing reproduction. Several other fishways, smaller than those at Hell's Gate but nevertheless of considerable importance as aids in increasing the sockeye stocks, have also been constructed by the Commission or are planned.

Costs of each commission are shared equally by Canada and the United States. The Salmon Commission has its headquarters at New Westminster, B.C., and the Halibut Commission at Seattle, Wash., U.S.A.

FAO and Its Relation to Fisheries.—The term "Agriculture" in the United Nations Food and Agriculture Organization in its broadest sense includes the fisheries and forestry. The functions of the Organization as they concern the fisheries in particular are given at pp. 291-294 of the 1946 Year Book.

Subsection 2.—The Provincial Governments

A general outline of the work undertaken by the different Provincial Governments in connection with the administration of commercial and game fisheries, assistance to the industry, educational and research work, and conservation may be found at pp. 279-286 of the 1945 Year Book.

Section 4.—The Modern Fishing Industry*

Subsection 1.—Primary Production

Expansion in the commercial fishing industry of Canada began in the latter half of the nineteenth century. In 1844 the estimated value of the catch was only $125,000. By 1900 it had reached almost $22,000,000 and the growth continued with little interruption until 1918, when it reached $60,000,000. This figure was not again reached until 1941, owing largely to lower prices rather than to smaller catches, but in that year a new peak of $62,258,997 was reached. Since that time, the value has increased progressively each year, reaching an all-time high of $121,124,732 in 1946. This was an increase of $7,253,632, or 6·4 p.c., over the previous record attained in 1945. The figures given represent the total value of fish as marketed, whether in a fresh, dried, canned or otherwise prepared state.

2.—Values of the Products of the Fisheries, 1870-1946

Year	Value	Year	Value	Year	Value
	$		$		$
1870	6,577,391	1920	49,241,339	1937	38,976,294
1875	10,350,385	1925	47,942,131	1938	40,492,976
1880	14,499,979	1929	53,518,521	1939	40,075,922
1885	17,722,973	1930	47,804,216	1940	45,118,887
1890	17,714,900	1931	30,517,306	1941	62,258,997
1895	20,199,338	1932	25,957,109	1942	75,116,933
1900	21,557,639	1933	27,496,946	1943	85,594,544
1905	29,479,562	1934	34,022,323	1944	89,439,508[1]
1910	29,965,142	1935	34,427,854	1945	113,871,100[1]
1915	35,860,708	1936	39,165,055	1946	121,124,732

[1] Revised since the publication of the 1947 Year Book.

Among the provinces British Columbia occupies first place, having in 1946 36·2 p.c. of the total value of products. Nova Scotia came second with 28·3 p.c., and New Brunswick third with 13·6 p.c.

* Revised under the direction of W. H. Losee, Director, Census of Industry and Merchandising, Dominion Bureau of Statistics, by W. H. Lanceley, Chief, Fisheries and Animal Products Statistics.

3.—Values of the Products of the Fisheries, by Provinces, 1941-46

Province or Territory	1941	1942	1943	1944	1945	1946
	$	$	$	$	$	$
Prince Edward Island	952,026	1,639,539	2,860,946	2,598,975	3,076,811	4,470,877
Nova Scotia	12,634,957	15,297,482	21,684,435	23,674,055[1]	30,706,900	34,270,761
New Brunswick	6,484,831	7,132,420	11,128,864	11,968,692	13,270,376	16,419,983
Quebec	2,842,041	4,194,092	5,632,809	5,361,567	7,907,692[1]	7,927,022
Ontario	3,518,402	4,135,205	5,292,268	4,938,193	7,261,661	6,296,658
Manitoba	3,233,115	3,577,616	4,564,551	3,581,795	4,263,670	4,871,037
Saskatchewan	414,492	585,782	1,154,544	1,482,223	1,286,361	1,148,886
Alberta	440,444	492,182	795,000	929,887	1,450,502	1,339,083
British Columbia	31,732,037	38,059,559	32,478,632	34,900,990	44,531,858	43,817,147
Yukon	6,652	3,056	2,495	3,131	115,269[2]	563,278[2]
Totals	**62,258,997**	**75,116,933**	**85,594,544**	**89,439,508**[1]	**113,871,100**[1]	**121,124,732**

[1] Revised since the publication of the 1947 Year Book. [2] Includes the Northwest Territories reported for the first time in 1945.

The cod of the Atlantic and the salmon of the Pacific were rivals for first place in the earlier years of the fishing industry but since 1895 salmon has definitely been in first place with lobster second until the War reduced the foreign market. In 1946, cod, with an increase over 1945 of 12 p.c. in the quantity caught, took second place in order of marketed value; herring was third.

4.—Quantities of Sea and Inland Fish Landed, by Groups, 1929-46

NOTE.—Figures for the years 1918-28 are given at p. 431 of the 1947 Year Book.

Year	Sea Fish					Inland Fish	Total
	Groundfish[1]	Salmon	Shellfish	Flatfish[2]	Other		
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1929	2,918,245	1,549,325	602,889	366,640	5,186,114	877,639	11,500,852
1930	2,495,457	2,360,699	629,859	316,477	4,510,985	749,465	11,062,942
1931	2,050,073	1,341,913	628,410	231,919	4,660,131	689,395	9,601,841
1932	1,994,963	1,328,807	681,669	213,047	3,310,383	634,963	8,163,832
1933	2,060,947	1,454,137	590,342	223,221	3,145,844	655,753	8,130,244
1934	2,401,343	1,694,808	595,420	152,743	3,769,606	716,949	9,330,869
1935	2,179,380	1,822,136	538,627	168,454	3,967,981	735,535	9,412,113
1936	2,457,376	2,027,430	509,792	179,425	4,947,148	813,422	10,934,593
1937	2,381,519	1,722,097	535,382	209,728	5,012,291	891,652	10,752,669
1938	2,458,844	1,765,087	541,423	236,158	4,758,094	895,427	10,655,033
1939	2,325,802	1,500,835	491,842	255,853	5,170,316	893,087	10,637,735
1940	2,617,309	1,457,014	465,586	233,705	6,570,641	791,516	12,135,771
1941	2,514,153	1,936,642	653,805	228,311	5,762,700	893,041	11,988,652
1942	2,537,368	1,645,269	557,049	187,407	6,306,617	828,378	12,062,088
1943	2,830,612	1,241,157	576,938	207,694	6,591,089	910,751	12,358,241
1944	3,024,318	1,098,647	616,311	232,327	5,956,708	863,145	11,791,456
1945	3,760,927	1,727,373	628,966	278,546	6,067,078	908,919	13,371,809
1946	4,160,847	1,515,215	763,641	356,305	5,477,581	912,746	13,186,335

[1] Includes cod, haddock, hake, cusk and pollock. [2] Includes halibut, sole, flounders, Canadian plaice, yellowtail, witch, skate and others.

5.—Quantities of Sea and Inland Fish Landed, by Provinces, 1929-46

NOTE.—Figures for the years 1918-28 are given at p. 431 of the 1947 Year Book.

Year	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1929	243,404	2,749,064	1,564,926	870,682	338,514	331,291
1930	256,710	2,577,768	1,243,913	772,266	349,507	238,941
1931	235,830	2,117,177	1,139,620	850,766	332,044	189,595
1932	237,368	1,957,136	1,017,549	919,719	308,627	184,018
1933	223,473	2,155,217	1,296,624	933,361	292,012	198,913
1934	233,262	2,380,033	1,357,389	1,065,623	312,306	234,590
1935	208,918	2,239,843	1,384,219	896,111	352,131	196,960
1936	248,138	2,503,948	1,586,686	977,278	342,533	262,827
1937	275,250	2,540,309	1,380,808	796,101	360,910	284,412
1938	294,204	2,769,046	1,274,405	949,461	349,104	298,612
1939	305,661	2,779,909	1,583,296	988,294	338,473	325,602
1940	255,915	2,765,829	1,445,685	1,029,704	279,620	307,426
1941	250,523	2,736,573	1,779,864	968,610	269,466	417,202
1942	292,454	2,551,281	1,623,387	1,115,848	263,780	359,353
1943	332,405	2,995,413	1,815,208	1,148,645	305,932	358,646
1944	272,227	3,345,588	1,751,725	1,028,860	310,392	293,231
1945	310,535	3,955,288	1,556,964	1,235,779	342,748	310,960
1946	351,171	4,176,630	2,220,764	1,271,629	329,971	286,958

Year	Saskatchewan	Alberta	British Columbia	Grand Total[1]	Total Sea Fish	Total Inland Fish
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
1929	61,160	79,388	5,261,274	11,500,852	10,623,213	877,639
1930	46,843	51,210	5,524,384	11,062,942	10,313,477	749,465
1931	52,605	32,848	4,649,962	9,601,841	8,912,446	689,395
1932	36,139	27,124	3,474,946	8,163,832	7,528,869	634,963
1933	41,820	29,813	2,958,005	8,130,244	7,474,491	655,753
1934	40,383	40,364	3,666,154	9,330,869	8,613,920	716,949
1935	49,531	41,567	4,041,788	9,412,113	8,676,578	735,535
1936	64,503	51,243	4,896,753	10,934,593	10,121,171	813,422
1937	97,761	62,376	4,954,195	10,752,669	9,861,017	891,652
1938	87,805	69,200	4,562,864	10,655,033	9,759,606	895,427
1939	87,240	56,720	4,172,224	10,637,735	9,744,648	893,087
1940	72,457	71,912	5,906,896	12,135,771	11,344,255	791,516
1941	78,445	68,552	5,418,891	11,988,652	11,095,611	893,041
1942	81,802	61,850	5,712,050	12,062,088	11,233,710	828,378
1943	104,866	66,431	5,230,536	12,358,241	11,447,490	910,751
1944	129,588	76,338	4,583,226	11,791,456	10,928,311	863,145
1945	100,215	85,824	5,440,291	13,371,809	12,462,890	908,919
1946	77,970	110,696	4,293,881	13,186,335	12,273,589	912,746

[1] Includes Yukon for all years and the Northwest Territories for 1945 and 1946.

In Table 6 the quantities given are those of primary products caught, but the values are those of all products marketed, both primary and secondary. The grand totals are subdivided to show the values of the sea fisheries and inland fisheries, respectively, as compared with the whole. More detailed tables of quantities and values of both sea and inland fish marketed may be found in "Fisheries Statistics of Canada", published by the Dominion Bureau of Statistics.

6.—Quantities Caught and Values of All Products Marketed of the Chief Commercial Fishes, 1942-46

NOTE.—The catch as shown in this table is in each case exclusive of the quantity of livers landed, but the value includes the value of the livers landed.

Kind of Fish		1942	1943	1944	1945[1]	1946[1]	Increase or Decrease 1946 Compared with 1945
Salmon	cwt.	1,646,558	1,242,391	1,099,161	1,727,855	1,515,482	−212,373
	$	22,926,861	15,642,190	16,385,365	25,994,395	25,230,333	−764,062
Cod	cwt.	1,942,293	2,155,179	2,360,450	2,929,332	3,266,570	+337,238
	$	9,962,312	13,064,805	14,787,461	19,662,480	21,742,405	+2,079,925
Herring	cwt.	3,619,720	3,226,632	3,219,158	3,949,864[2]	3,735,731	−214,133
	$	10,931,007	11,937,287	11,040,489	13,890,284[2]	17,344,354	+3,454,070
Lobsters	cwt.	280,250	301,092	333,502	371,801	383,085	+11,284
	$	5,084,558	8,228,533	9,048,220	13,260,185	14,504,489	+1,244,304
Halibut	cwt.	121,757	139,043	146,250	162,576	194,599	+32,023
	$	2,455,970	3,065,375	3,299,972	3,646,936	4,402,089	+755,153
Sardines	bbl.	320,558	396,381	413,152	338,925[2]	502,758	+163,833
	$	2,143,623	3,003,796	3,425,899	2,914,111[2]	4,210,104	+1,295,993
Whitefish	cwt.	167,062	167,806	177,000	188,713[2]	192,002	+3,289
	$	3,055,373	3,575,923	3,518,279	4,094,709[2]	4,044,957	−49,752
Pickerel (Doré)	cwt.	128,041	135,034	149,841	148,009[2]	137,543	−10,466
	$	1,440,774	2,142,376	2,233,768	2,740,497[2]	3,149,465	+408,968
Haddock	cwt.	262,060	307,454	259,650	322,208	347,376	+25,168
	$	1,734,410	2,544,409	2,255,325	2,297,485	2,468,055	+170,570
Mackerel	cwt.	303,080	370,857	342,869	402,069	295,175	−106,894
	$	1,318,204	2,274,137	2,206,689	2,810,020	2,147,151	−662,869
Lake trout	cwt.	46,321	46,988	49,877	56,382	73,830	+17,448
	$	1,032,249	1,253,059	1,145,527	1,404,540	1,691,286	+286,746
Hake	cwt.	238,485	213,451	197,001	238,161	258,834	+20,673
	$	689,985	1,102,601	917,844	1,398,081	1,601,752	+203,671
Pollock	cwt.	87,855	149,630	202,154	266,384	282,795	+16,411
	$	286,110	700,663	803,401	1,155,011	1,262,936	+107,925
Swordfish	cwt.	19,335	30,209	19,890	27,171	27,757	+586
	$	519,869	1,017,184	678,870	1,165,225	1,229,769	+64,544
Grayfish	cwt.	100,790	79,024	24,439	56[3]	50[3]	−6
	$	1,294,144	2,106,565	3,751,567	2,347,693	1,110,877	−1,236,816
Ling cod	cwt.	42,500	58,691	84,250	79,143	73,825	−5,318
	$	633,567	874,633	1,282,617	1,166,738	1,064,627	−102,111
Clams	cwt.	155,536	135,785	150,769	144,800[2]	203,273	+58,473
	$	478,557	561,439	664,403	633,628	1,060,795	+427,167
Smelts	cwt.	71,480	60,024	69,115	65,154[2]	54,519	−10,635
	$	724,040	863,346	1,011,983	965,113[2]	986,520	+21,407
Saugers	cwt.	141,419	85,321	66,233	59,849	49,481	−10,368
	$	1,238,500	1,056,374	791,006	727,067[2]	895,195	+168,128
Soles	cwt.	6,375	7,610	31,826	51,718	95,630	+43,912
	$	42,670	49,320	271,231	438,219	848,004	+409,785
Perch	cwt.	31,681	26,981	30,029	30,102[2]	44,993	+14,891
	$	414,097	400,457	351,082	532,267[2]	733,124	+200,857
Oysters	bbl.	41,089	43,618	55,815	37,208	66,652	+29,444
	$	293,913	376,030	523,936	500,536	707,649	+207,113
Alewives	cwt.	65,777	105,956	94,223	138,891	172,007	+33,116
	$	133,709	315,158	294,743	410,251	654,227	+243,976
Anchovies	cwt.	79,900	1,407	12,200	15,000[2]	25,400	+10,400
	$	80,295	11,483	261,160	82,545[2]	615,106	+532,561
Scallops	gal.	69,957	57,399	60,283	96,251	87,897	−8,354
	$	256,765	292,517	323,071	544,918	541,117	−3,801
Pike	cwt.	43,403	56,021	57,302	57,520[2]	47,492	−10,028
	$	203,322	450,946	481,820	516,236[2]	495,015	−21,221
Tuna	cwt.	4,023	4,693	9,924	19,231	22,523	+3,292
	$	25,911	37,849	165,079	378,998	482,580	+103,582
Tullibee	cwt.	72,274	88,534	65,593	79,519	104,789	+25,270
	$	336,747	490,516	436,760	645,355	446,827	−198,528
Black cod (Sablefish)	cwt.	12,279	20,959	22,325	20,987	23,790	+2,803
	$	193,840	399,923	414,753	368,408	446,008	+77,600
Blue pickerel	cwt.	44,381	96,609	94,133	65,825	19,723	−46,102
	$	563,639	1,391,170	954,509	1,474,056	397,995	−1,076,061
Grand Totals[4]	$	**75,116,933**	**85,594,544**	**89,439,508[3]**	**113,871,100[2]**	**121,124,732**	**+7,253,632**
Totals, Sea Fish[4]	$	**65,977,321**	**73,180,919**	**78,114,463[3]**	**98,995,493**	**106,515,597**	**+7,520,104**
Totals, Inland Fish[4]	$	**9,139,612**	**12,413,625**	**11,325,045**	**14,875,607**	**14,609,135**	**−266,472**

[1] Includes the Northwest Territories, reported for the first time in 1945. [2] Revised since the publication of the 1947 Year Book. [3] Livers only were landed on the Pacific Coast. [4] Totals include minor items not specified.

7.—Percentages of Total Value and Indexes of Volume of Fisheries Production, by Principal Kinds of Sea and Inland Fish, 1939-46

NOTE.—Based on values as marketed and quantities caught.

Kind of Fish	1939	1940	1941	1942	1943	1944	1945	1946
	PERCENTAGES OF TOTAL VALUE							
Salmon	33·5	31·4	34·4	30·5	18·3	18·3	22·8	20·8
Cod	8·1	11·0	12·0	13·3	15·3	16·5	17·3	18·0
Herring	9·4	13·9	10·8	14·5	13·9	12·3	12·2	14·3
Lobsters	9·4	7·1	6·2	6·8	9·6	10·1	11·7	12·0
Halibut	5·3	4·1	3·9	3·3	3·6	3·7	3·2	3·6
Sardines	5·7	4·2	4·6	2·9	3·5	3·8	2·6	3·5
Whitefish	4·3	4·3	4·0	4·1	4·2	3·9	3·6	3·3
Pickerel (Doré)	2·1	2·2	2·0	1·9	2·5	2·5	2·4	2·6
Haddock	3·4	3·2	2·3	2·3	3·0	2·5	2·0	2·0
Mackerel	2·2	1·5	1·8	1·8	2·7	2·5	2·4	1·8
Lake trout	2·0	1·8	1·6	1·4	1·5	1·3	1·2	1·4
Hake	0·5[1]	0·5[1]	0·5	0·9	1·3	1·0	1·2	1·3
Pollock	0·3	0·3	0·3	0·4	0·8	0·9	1·0	1·0
Swordfish	0·6	0·7	0·4	0·7	1·2	0·8	1·0	1·0
Grayfish	0·2	0·5	1·1	1·7	2·5	4·2	2·1[3]	0·9[3]
Ling cod	0·8	0·7	0·6	0·8	1·0	1·4	1·0	0·9
Clams	0·4[2]	0·5[2]	0·6	0·6	0·7	0·7	0·6	0·9
Smelts	1·2	1·4	1·0	1·0	1·0	1·1	0·8	0·8
Saugers	0·1	1·4	1·7	1·6	1·2	0·9	0·6	0·7
Soles	0·4	0·4	0·1	0·1	0·1	0·3	0·4	0·7
Perch	0·6	0·7	0·8	0·6	0·5	0·4	0·5	0·6
Oysters	0·4	0·4	0·5	0·4	0·4	0·6	0·4	0·6
Alewives	0·3	0·1	0·1	0·2	0·4	0·3	0·4	0·5
Anchovies	[4]	0·3	0·3	0·1	[4]	0·3	[4]	0·5
Scallops	0·2	0·3	0·3	0·3	0·3	0·4	0·5	0·4
Pike	0·5	0·4	0·6	0·3	0·5	0·5	0·5	0·4
Tuna	0·2	[4]	[4]	[4]	[4]	0·2	0·3	0·4
Tullibee	0·6	0·6	0·5	0·4	0·6	0·5	0·6	0·4
Black cod (Sablefish)	0·2	0·3	0·3	0·3	0·5	0·5	0·3	0·4
Blue pickerel	1·0	0·5	0·3	0·8	1·6	1·1	1·3	0·3
Grand Totals[5]	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**	**100·0**
Totals, Sea Fish[5]	84·8	86·2	87·3	87·8	85·5	87·3	87·1	87·9
Totals, Inland Fish[5]	15·2	13·8	12·7	12·2	14·5	12·7	12·9	12·1
	INDEXES OF VOLUME (1926=100)							
Salmon	68·9	66·9	88·9	75·5	57·0	50·4	79·2	69·5
Cod	60·9	72·0	72·9	72·4	80·3	87·9	109·1	121·7
Herring	138·9	193·4	115·0	149·4	133·1	132·0	163·0	154·1
Lobsters	92·7	78·9	81·9	82·5	88·7	98·2	109·5	112·8
Halibut	54·3	43·6	44·0	35·8	40·9	43·0	47·8	57·2
Sardines	183·1	129·6	256·2	185·1	228·9	238·6	195·7	290·3
Whitefish	86·3	88·2	93·7	87·6	88·0	92·8	99·0	100·7
Pickerel (Doré)	95·6	83·9	100·2	101·6	107·1	118·8	117·1	109·1
Haddock	77·5	71·6	57·9	52·7	61·9	52·3	64·9	69·9
Mackerel	450·8	309·4	304·0	262·4	321·1	296·9	128·2	255·6
Lake trout	80·3	69·1	71·9	58·9	59·7	63·4	71·6	93·8
Hake	139·3[1]	149·4[1]	119·0	157·9	141·3	130·4	157·7	171·4
Pollock	109·6	119·3	103·5	101·7	173·2	233·9	308·2	327·2
Swordfish	138·2	177·0	104·1	149·5	233·5	153·8	210·0	214·6
Grayfish	143·3	177·0	178·0	125·4	98·3	30·4	[3]	[3]
Ling cod[6]	95·6	95·8	82·2	85·5	118·7	170·4	160·1	149·3
Clams	176·1[2]	209·6[2]	288·5	286·8	250·3	278·0	267·0	374·8
Smelts	76·8	89·6	80·8	77·4	65·0	74·1	70·6	59·1
Saugers[7]	–	–	–	–	–	–	–	–
Soles	259·3	232·7	42·4	54·5	65·1	272·2	442·4	818·0
Perch	108·3	130·1	161·2	103·9	88·5	94·5	98·7	147·5
Oysters	133·1	121·1	266·0	187·7	194·8	250·8	167·2	299·5
Alewives	170·9	86·6	86·3	91·1	146·7	130·4	192·3	238·1
Anchovies[7]	–	–	–	–	–	–	–	–
Scallops	213·7	286·8	338·0	301·5	247·4	259·8	414·9	378·9
Pike	77·9	66·8	111·7	59·8	77·2	79·0	79·3	65·5
Tuna	931·5	305·1	316·7	264·1	308·1	651·6	1,262·7	1,478·9
Tullibee	68·8	71·1	75·6	71·2	87·2	64·6	78·3	103·2
Black cod (Sablefish)	87·5	134·5	168·7	118·5	202·3	215·5	202·6	229·7
Blue pickerel	202·6	69·7	53·4	146·1	317·9	309·8	216·6	64·9

[1] Includes cusk. [2] Includes quahaugs. [3] Livers only were landed on the Pacific Coast. [4] Less than 0·1 p.c. [5] Totals include minor items not specified. [6] Since ling cod was included with cod for 1926, the average of the years 1927-30 was taken as the quantity of ling cod for 1926 and this was deducted from the quantity of cod reported for 1926, the resulting amount being used as the base for the volume index. [7] Indexes are not given in this case since no production was recorded for the base year.

The capital investment in the fisheries industry, represented by vessels, boats, nets, traps, piers and wharves, etc., used in the primary operations of catching and landing the fish, had a total value in 1946 of $47,413,221 of which $39,473,378 or 83 p.c. was credited to the sea fisheries. The number of men engaged in fishing during the year was 73,514; of this number 51,961 were employed in the sea fisheries and 21,553 in the inland fisheries, a gain of 3,963 for the sea fisheries and 1,840 for the inland fisheries over the previous year.

8.—Fishing Vessels, Boats, Nets, Traps, etc., Used in Sea and Inland Fisheries, 1945 and 1946

Equipment	1945		1946	
	Number	Value	Number	Value
		$		$
Sea Fisheries—				
Steam trawlers	8	719,000	6	710,000
Draggers	43	791,500	99	1,419,050
Sailing, gasoline and diesel vessels	1,621	9,794,950	1,726	9,978,875
Gasoline and diesel boats	17,107	9,548,797	18,553	12,580,469
Sail and rowboats	12,687	354,838	12,600	375,834
Packers, carrying boats and scows	442	939,262	464	1,167,750
Herring gill nets	43,011	598,869	43,075	622,966
Mackerel gill nets	28,850	474,885	30,002	511,061
Salmon gill nets	2,294	91,488	2,158	109,497
Gill nets, other	2,584	166,846	2,213	154,592
Salmon drift nets	12,575	1,750,186	14,022	2,325,909
Salmon trap nets	802	457,475	794	398,500
Trap nets, other	605	330,800	730	398,165
Smelt gill nets	8,307	39,964	8,492	43,558
Smelt bag or box nets	6,433	321,780	6,374	347,195
Pound nets	48	4,800	57	5,970
Oulachon nets	52	3,280	54	5,030
Shrimp nets	41	7,100	44	8,800
Salmon purse seines	274	440,050	313	586,750
Salmon drag seines	9	6,100	9	6,100
Seines, other	1,042	723,445	1,063	813,225
Weirs	498	434,503	501	506,605
Skates of gear	9,245	270,778	11,620	325,085
Small drag nets and inshore trawls	72	19,650	75	26,790
Tubs of trawl	23,981	456,374[1]	33,858	504,374
Hand lines	52,585	224,282	61,988	268,597
Crab traps	5,874	18,445	7,140	28,802
Eel traps	356	624	411	743
Lobster traps	1,610,426	3,088,129	1,853,508	3,560,151
Lobster pounds	32	80,960	29	114,200
Oyster rakes	1,725	5,708	1,804	6,783
Scallop drags	254	11,798	307	16,138
Quahaug rakes	51	248	56	282
Fishing piers and wharves	1,582	507,755	1,599	600,945
Freezers and ice-houses	413	224,617	410	162,560
Small fish- and smoke-houses	5,442	629,229	5,596	683,834
Other gear	–	104,461[1]	–	98,193
Total Values, Sea Fisheries	–	**33,642,976[1]**	–	**39,473,378**
Inland Fisheries—				
Fish carriers	23[1]	142,200[1]	23	180,350
Tugs	99	781,700	109	940,625
Gasoline and diesel boats	1,909[1]	1,309,663[1]	1,876	1,617,624
Skiffs and canoes	4,476[1]	200,400[1]	5,174	230,499
Gill nets	–	2,927,141[1]	–	3,078,575
Seines	236[1]	24,163[1]	331	28,113
Pound nets	1,068	561,530	1,079	590,105
Hoop nets	3,229[1]	80,454[1]	3,686	83,530
Dip and roll nets	39	1,474	77	3,680
Lines	4,092[1]	11,025[1]	7,165	20,749
Weirs	171[1]	58,109[1]	205	54,840
Spears	61[1]	196[1]	44	151
Eel traps	200	400	288	12,435
Fish wheels	10	2,600	6	1,972
Fishing piers and wharves	666[1]	227,453[1]	585	198,710
Freezers and ice-houses	915[1]	766,454	959	763,958
Small fish- and smoke-houses	193[1]	198,770[1]	546	126,512
Other gear	–	6,871	–	7,415
Total Values, Inland Fisheries	–	**7,300,603[1]**	–	**7,939,843**
Grand Totals	–	**40,943,579[1]**	–	**47,413,221**

[1] Revised since the publication of the 1947 Year Book.

9.—Persons Employed in Primary Fishing Operations, 1944-46

Employed in—	Sea Fisheries			Inland Fisheries		
	1944	1945	1946	1944	1945	1946[1]
	No.	No.	No.	No.	No.	No.
Steam trawlers	85	155	162	Nil	Nil	Nil
Draggers	59	186	439	"	"	"
Vessels	6,551	7,466	7,809	1	1	1
Boats	36,697	36,760	38,097	9,160[2]	10,060[2]	10,415
Packers carrying boats and scows	666	768	693	100[2]	91[2]	104
Fishing, not in boats	2,363	2,663	4,761	8,527	9,562	11,034
Totals, Fishermen[3]	**46,421**	**47,998**	**51,961**	**17,787**	**19,713[2]**	**21,553**

[1] Included with "boats". [2] Revised since the publication of the 1947 Year Book. [3] These totals include all individuals employed in primary fishing operations irrespective of the period of employment. The census figures for 1941, given at p. 438, include only persons whose main occupation was fishing.

Subsection 2.—The Fish-Processing Industry

Of the 586 fish-processing establishments operating in Canada in 1946, only 30 were classified as salmon canneries. These canneries, however, accounted for $28,312,559 or 28 p.c. of the total production, which amounted to $100,124,371. Fish-processing establishments are classified according to the value of the principal product and it follows, therefore, that an establishment canning both salmon and herring might, in different years, be classified under either "salmon canneries" or "sardine and other fish canneries".

Much of the fish sold by the fish-processing industry is marketed in a fresh-frozen state. In 1946, about 38 p.c. of the product was so marketed, leaving 62 p.c. to be sold in the canned, cured or otherwise prepared state.

A special article on Developments in Fish Processing, prepared by the Deputy Minister of Fisheries, Ottawa, appears in the 1941 Year Book, pp. 225-226.

10.—Fish-Processing Establishments, by Provinces, 1945 and 1946

Year and Kind of Establishment	P.E.I.	N.S.	N.B.	Que.	B.C.	Canada
1945	No.	No.	No.	No.	No.	No.
Lobster canneries	48	36	46	11	Nil	141
Salmon canneries	Nil	1	Nil	Nil	29	30
Clam canneries	6	4	4	"	1	15
Sardine and other fish canneries	8	11	20	6	6	51
Fish-curing establishments	3	93	40	62	7	205
Fresh-fish and freezing plants	2	19	7	23	18	69
Reduction plants	1	8	3	6	11	29
Totals, 1945	**68**	**172**	**120**	**108**	**72**	**540**
1946						
Lobster canneries	47	32	45	11	Nil	135
Salmon canneries	Nil	2	Nil	Nil	28	30
Clam canneries	3	4	4	"	1	12
Sardine and other fish canneries	11	14	33	8	8	74
Fish-curing establishments	2	105	53	68	9	237
Fresh-fish and freezing plants	4	28	10	13	19	74
Reduction plants	1	7	3	5	8	24
Totals, 1946	**68**	**192**	**148**	**105**	**73**	**586**

11.—Materials Used by and Products of Fish-Processing Establishments, 1942-46

Material and Product	1942	1943	1944	1945	1946
	$	$	$	$	$
Materials Used—					
Fish	28,001,244	33,016,090	34,278,057	52,273,281	55,899,945
Edible oils	210,650	261,972	333,618	289,883	463,335
Salt	460,162	528,320	536,865	528,680	732,403
Containers	6,825,130	6,588,422	6,879,997	7,957,147	9,401,080
Other	2,249,185	2,971,981	3,878,005	1,015,340	1,516,065
Totals, Materials Used	**37,746,371**	**43,366,785**	**45,906,542**	**62,064,331**	**68,012,828**
Products—					
Fish marketed for consumption, fresh	15,601,349	21,491,772	25,178,906	38,569,015	38,389,352
Fish canned, cured or otherwise prepared	43,839,627	43,313,197	43,703,973	54,975,716	61,735,019
Totals, Products	**59,440,976**	**64,804,969**	**68,882,879**	**93,544,731**	**100,124,371**

12.—Employees in Fish-Processing Establishments, 1944-46

Employed in—	1944			1945			1946		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Lobster canneries	1,873	2,769	4,642	1,814	2,444	4,258	1,925	2,348	4,273
Salmon canneries	2,212	1,921	4,133	1,998	2,210	4,208	2,045	2,043	4,088
Clam canneries	70	202	272	156	231	387	134	308	442
Sardine and other fish canneries	1,379	1,361	2,740	1,432	1,369	2,801	1,789	1,738	3,527
Fish-curing establishments	2,882	847	3,729	3,035	873	3,908	3,835	881	4,716
Fresh-fish and freezing plants	1,000	306	1,306	1,112	368	1,480	1,427	603	2,030
Reduction plants	412	38	450	413	46	459	299	21	320
Totals	**9,828**	**7,444**	**17,272**	**9,960**	**7,541**	**17,501**	**11,454**	**7,942**	**19,396**

13.—Employees and Salaries and Wages in Fish-Processing Establishments, 1937-46

NOTE.—Figures for 1920-29 will be found at p. 275 of the 1942 Year Book; those for 1930-36 at p. 301 of the 1946 edition.

Year	On Salaries		On Wages		Contract and Piece-Workers		Totals	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
		$		$		$		$
1937	602	722,651	9,671	2,632,120	3,771	687,794	14,044	4,042,565
1938	642	772,493	9,092	2,775,425	4,750	680,037	14,484	4,227,955
1939	743	819,119	9,670	2,819,675	4,401	708,600	14,814	4,347,394
1940	790	988,340	8,843	3,540,220	5,411	868,230	15,044	5,396,790
1941	877	1,210,201	9,522	4,386,584	5,443	1,140,921	15,842	6,737,706
1942	933	1,314,050	11,295	6,228,282	3,489	848,377	15,717	8,390,709
1943	1,069	1,551,636	11,842	7,585,018	2,988	903,058	15,899	10,039,712
1944	1,218	1,861,835	13,461	8,711,423	2,593	743,054	17,272	11,316,312
1945	1,210	1,908,446	13,545[1]	9,359,573	2,746	699,091	17,501[1]	11,967,110
1946	1,398	2,156,716	14,954	11,643,093	3,044	945,235	19,396	14,745,044

[1] Revised since the publication of the 1947 Year Book.

CHAPTER XIV.—MINES AND MINERALS*

CONSPECTUS

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A short historical outline of the development of the mineral industry in Canada is given at pp. 309-310 of the 1939 Year Book and a special article on the Development of Canada's Mineral Resources in Relation to the War Effort, so far as that development had taken place by the middle of 1940, appears at pp. 289-309 of the 1940 edition. An article on the Outlook for the Mineral Industry in Relation to the Economic Development of Canada is given at pp. 302-314 of the 1946 edition.

Section 1.—Mining Laws and Government Controls

Subsection 1.—Mining Legislation

The mineral lands of Canada, like other Crown lands, are administered by either the Federal or the Provincial Governments. The Federal Government administers the mineral lands of Yukon and the Northwest Territories as well as those in Indian Reserves and in National Parks; all other mineral lands lying within the boundaries of the several provinces are administered by the respective Provincial Governments.

Mining Laws and Regulations on Dominion Lands.†—Dominion lands to which these regulations apply are those administered by the Lands and Development Services Branch, Department of Mines and Resources, and lie within Yukon and the Northwest Territories. Titles issued for Dominion lands, the property of the Federal Government, in these Territories reserve to the Crown the mines and minerals that may be found on or under such lands, together with the right of operation.

The Acts and regulations governing mining and quarrying on Dominion lands are: *Yukon and the Northwest Territories*—Coal Mining Regulations; Petroleum and Natural Gas Regulations (which provide that no person shall explore for petroleum or natural gas in Yukon or the Northwest Territories without first obtaining a permit to do so from the Minister of Mines and Resources); and Domestic Coal Permits. *Yukon*—Yukon Placer Mining Act (R.S.C., 1927, c. 216); Yukon Quartz Mining Act (R.S.C., 1927, c. 217); Dredging Regulations. *Northwest Territories*—Quartz Mining Regulations; Placer Mining Regulations; Dredging Regulations; Quarrying Regulations; and Permits to remove sand, stone and gravel from beds of rivers.

* Except where otherwise noted, this Chapter has been revised under the direction of W. H. Losee, Director, Census of Industry and Merchandising, Dominion Bureau of Statistics, by H. McLeod, Chief of the Mining, Metallurgical and Chemical Section.

† Revised by the Lands and Development Services Branch, Department of Mines and Resources, Ottawa.

Most of the regulations above mentioned have been amended recently and copies thereof and also copies of the Acts are available from the Lands and Development Services Branch of the Department of Mines and Resources, Ottawa.

Provincial Mining Laws and Regulations.*—The granting of land in any province, except Ontario, no longer carries with it mining rights upon or under such land. In Ontario, mineral rights are expressly reserved if they are not to be included. Some early grants in British Columbia, New Brunswick and Quebec also included certain mineral rights. Otherwise, mining rights must be separately obtained by lease or grant from the provincial authority administering the mining laws and regulations. Mining activities may be classified as placer, general minerals (usually metallic ores), fuel (coal, petroleum, gas) and quarrying. Under these divisions of the provincial mining industry, regulations may be summarized as follows:—

Placer.—In those provinces in which placer deposits occur there are regulations defining the size of placer holdings, the terms under which they may be acquired and held and the royalties to be paid.

General Minerals.—These are sometimes described as quartz, lode minerals or minerals in place. The most elaborate regulations apply in this division. In all provinces, except Alberta, a prospector's or miner's licence, valid for a year, must be obtained to search for mineral deposits. A claim of promising ground of a specified size may then be staked. This claim must be recorded within a time limit, with the payment of recording fees. Work to a specified value per annum must be performed upon the claim for a period up to five years, when a grant or lease of the mining rights may be obtained, subject to fees or annual rental. The taxation most frequently applied is a percentage of net profits of producing mines.

Fuels.—In those provinces in which coal occurs, the size of holdings is laid down and the conditions regarding work and rental under which they may be held. In some cases royalties are provided for. In the cases of petroleum and natural gas, a permit to drill on promising ground is usually first obtained. If oil or gas is discovered, the operator may obtain the lease or grant of a limited area subject to rental or fees. A royalty on production is sometimes payable.

Quarrying.—Regulations under this heading define the size of holding and the terms of lease or grant.

The legislation controlling mining and minerals in each province is given at pp. 278-279 of the 1942 Year Book. Copies of the legislation and regulations and details concerning them may be obtained from the following authorities:—

NOVA SCOTIA.—Minister of Mines, Parliament Buildings, Halifax.

NEW BRUNSWICK.—Department of Lands and Mines, Fredericton.

QUEBEC.—Minister of Mines, Quebec.

ONTARIO.—Department of Mines, Parliament Buildings, Toronto.

MANITOBA.—Director, Mines Branch, Department of Mines and Natural Resources, Winnipeg.

SASKATCHEWAN.—Department of Natural Resources and Industrial Development, Regina.

ALBERTA.—Department of Lands and Mines, Edmonton.

BRITISH COLUMBIA.—Department of Mines, Victoria.

* Compiled from material supplied by the Provincial Governments.

Subsection 2.—Government Controls

Control of Non-Ferrous Metals.*—The controls established to stimulate the production of non-ferrous metals, petroleum and coal during the war years 1939-45 were, by 1945, either dissolved or remained functions of supply distribution and prices taken over by the Wartime Prices and Trade Board (see 1947 Year Book, p. 441).

During the first six months of 1947 ceiling prices were increased on copper, lead, zinc, their alloys and scrap, and tin. In June, however, ceiling prices were removed from all non-ferrous metals with the exception of tin, its alloys and ingot metal containing tin, which, because of limited supply, remained under strict control.

The Dominion Coal Board.†—This Board was created in October, 1947 (11 Geo. VI, c. 57) to take over the powers, duties and functions of the Dominion Fuel Board that had systematically studied the fuel situation on behalf of the Government since 1922 (see 1947 Year Book, p. 441). The powers of the Dominion Coal Board are, however, much wider and its authority broader than those of the former Fuel Board. It has, for instance, wide emergency powers in regard to production and marketing and will administer the coal policy of the Government with the aim of securing a stable and prosperous industry with a minimum of public assistance.

Specifically the Board is charged with the responsibility of implementing the recommendations of the Royal Commission on Coal and the Act specifically states that it may undertake researches and investigations with respect to:—

(a) the systems and methods of mining coal;
(b) the problems and techniques of marketing and distributing coal;
(c) the physical and chemical characteristics of coal produced in Canada with a view to developing new uses therefor;
(d) the position of coal in relation to other forms of fuel or energy available for use in Canada;
(e) the cost of production and distribution of coal and the accounting methods adopted or used by persons dealing in coal;
(f) the co-ordination of the activities of Government Departments relating to coal; and
(g) such other matters as the Minister may request or as the Board may deem necessary for carrying out any of the provisions or purposes of this Act.

The Board will also administer, in accordance with regulations of the Governor in Council, any subventions or subsidies relating to coal voted by Parliament. (See Chapter XX).

Wide powers are provided to deal with production and distribution and use of fuel in case of a national fuel emergency.

Subsection 3.—Estimates of Resources

The Coal Reserves of Canada.‡—A description of the coal deposits and coal resources of Canada appears in the 1946 Year Book, pp. 337-347. The classification of coals described and indicated on the legends of the accompanying maps in that

* From information supplied by L. H. Burleigh, Executive Assistant to the Administrator of Non-Ferrous Metals, Wartime Prices and Trade Board.

† Contributed by F. G. Neate, Executive Secretary, Dominion Coal Board, Ottawa.

‡ Prepared by B. R. MacKay, Geologist, Geological Survey, and published by permission of the Director, Mines and Geology Branch, Department of Mines and Resources, Ottawa.

article, is the uniform scientific classification of the coals of the North American Continent as a whole which was evolved and later adopted after almost ten years of united research by the Committee of the American Society of Testing Materials, and the Canadian Associate Committee on Coal Classification that was set up in 1928 by the National Research Council of Canada.

The adoption of this classification made possible for the first time an accurate comparison of the coal deposits of Canada with those of the United States as shown on the map of the Coal Fields in Canada and the United States that appears in the 1946 article. Prior to this investigation, coal deposits in these two countries having identical chemical and physical characteristics were being assigned to different groups and even to different classes.

The classification of coals by rank is based on the fact that different coals represent different stages in the process of metamorphism from the original vegetation through the series of peat, lignite, sub-bituminous, bituminous, and anthracite, and that each of these stages shows a different percentage of fixed carbon content and a different calorific value as calculated on the mineral-matter-free basis (ash free). The higher rank coals are classified according to the percentage of fixed carbon on a dry basis, whereas the lower rank coals, i.e., those containing less than 69 p.c. fixed carbon, are classified according to B.t.u. per pound on the moist (as mined) basis. The limits of the thirteen groups and the four main classes are indicated in the following statement.

CLASSIFICATION OF COALS BY RANK

(American Society of Testing Materials designation 1937)

Class	Group	Limits of Fixed Carbon or B.t.u. Mineral-Matter-Free Basis	Requisite Physical Properties
I—Anthracite[1]	1. Meta-Anthracite	Dry F.C. 98 p.c. or more.	
	2. Anthracite	Dry F.C. 92 to 98 p.c.	
	3. Semi-anthracite	Dry F.C. 86 to 92 p.c.	Non-agglomerating.
II—Bituminous[3]	1. Low Volatile	Dry F.C. 78 to 86 p.c.	
	2. Medium Volatile	Dry F.C. 69 to 78 p.c.	
	3. High Volatile A	Dry F.C. less than 69 p.c. and moist[2] B.t.u. 14,000 or more.	
	4. High Volatile B	Moist[2] B.t.u. 13,000 to 14,000.	
	5. High Volatile C	Moist[2] B.t.u. 11,000 to 13,000	Either agglomerating or non-weathering.[5]
III—Sub-bituminous	1. A Coal	Moist[2] B.t.u. 11,000 to 13,000	Both weathering and agglomerating.
	2. B. Coal	Moist[2] B.t.u. 9,500 to 11,000.	
	3. C[4] Coal	Moist[2] B.t.u. 8,300 to 9,500.	
IV—Lignitic	1. Lignite	Moist[2] B.t.u. less than 8,300	Consolidated.
	2. Brown coal	Moist[2] B.t.u. less than 8,300	Unconsolidated.

[1] If coal is agglomerating it is classified in the Low Volatile Bituminous group. [2] Moist B.t.u. refers to coal containing its natural bed-moisture, but not including visible water on the surface of the coal. [3] There may be coking and non-coking varieties in each group of bituminous coal. [4] Coals having 69 p.c. or more Fixed Carbon on a dry mineral-matter-free basis shall be classified according to Fixed Carbon regardless of B.t.u. [5] There are three varieties of coal in the High Volatile C Bituminous group, i.e., (1) agglomerating and non-weathering, (2) agglomerating and weathering, and (3) non-agglomerating and non-weathering.

1.—Provincial Coal Reserves, Classified by Rank, with Percentages of Total for Each Province

Rank	Nova Scotia		New Brunswick		Ontario		Manitoba		Saskatchewan	
	Amount	P.C. of Total	Amount	P.C. of Total	Amount	P.C. of Total	Amount	P.C. of Total	Amount	P.C. of Total
	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.
Probable Reserves—										
Low volatile bituminous including anthracite	2,360	0·1	Nil	–	Nil	–	Nil	–	Nil	–
Medium volatile bituminous	25,504	0·8	"	–	"	–	"	–	"	–
High volatile bituminous	1,939,160	62·2	89,814	88·7	"	–	"	–	"	–
Sub-bituminous	Nil	–	Nil	–	"	–	"	–	"	–
Lignite	"	–	"	–	100,000	66·7	33,600	33·4	13,126,880	54·4
Totals, Probable Reserves	1,967,024	63·1	89,814	88·7	100,000	66·7	33,600	33·4	13,126,880	54·4
Possible Reserves—										
Low volatile bituminous including anthracite	6,720	0·2	Nil	–	Nil	–	Nil	–	Nil	–
Medium volatile bituminous	16,000	0·5	"	–	"	–	"	–	"	–
High volatile bituminous	1,124,662	36·2	11,566	11·3	"	–	"	–	"	–
Sub-bituminous	Nil	–	Nil	–	"	–	"	–	"	–
Lignite	"	–	"	–	50,000	33·3	67,200	66·6	11,004,000	45·6
Totals, Possible Reserves	1,147,382	36·9	11,566	11·3	50,000	33·3	67,200	66·6	11,004,000	45·6
Grand Totals, Probable and Possible Reserves	**3,114,406**	**100·0**	**101,380**	**100·0**	**150,000**	**100·0**	**100,800**	**100·0**	**24,130,880**	**100·0**

	Alberta		British Columbia		Yukon		Northwest Territories		Canada	
	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.	'000 tons	p.c.
Probable Reserves—										
Low volatile bituminous including anthracite	8,797,600	18·3	1,033,200	5·5	Nil	–	Nil	–	9,833,160	10·0
Medium volatile bituminous	11,854,080	24·5	10,337,748	54·8	87,360	4·6	"	–	22,304,692	22·5
High volatile bituminous	7,540,940	15·5	278,932	1·5	24,640	1·3	30,240	1·1	9,903,726	10·0
Sub-bituminous	6,245,120	13·6	Nil	–	Nil	–	Nil	–	6,245,120	6·4
Lignite	Nil	–	145,600	0·8	322,560	17·1	109,760	4·2	13,838,400	14·0
Totals, Probable Reserves	34,437,740	71·9	11,795,480	62·6	434,560	23·0	140,000	5·3	62,125,098	62·9
Possible Reserves—										
Low volatile bituminous including anthracite	4,334,400	9·0	1,738,800	9·2	Nil	–	Nil	–	6,079,920	6·1
Medium volatile bituminous	3,315,200	6·9	4,551,680	24·2	182,560	9·7	"	–	8,065,440	8·2
High volatile bituminous	3,473,120	7·3	630,956	3·4	28,560	1·6	1,696,800	64·3	6,965,664	7·1
Sub-bituminous	2,310,480	4·8	Nil	–	Nil	–	Nil	–	2,310,480	2·3
Lignite	3,360	0·1	113,120	0·6	1,238,720	65·7	792,960	30·4	13,269,360	13·4
Totals, Possible Reserves	13,436,560	28·1	7,034,556	37·4	1,449,840	77·0	2,489,760	94·7	36,690,864	37·1
Grand Totals, Probable and Possible Reserves	**47,874,300**	**100·0**	**18,830,036**	**100·0**	**1,884,400**	**100·0**	**2,629,760**	**100·0**	**98,815,962**	**100·0**

Table 1 gives the most recent estimate of Canadian minable coal reserves, based on data compiled for the Report of the Royal Commission on Coal, 1946. The method by which the estimates are arrived at is described in the 1946 Year Book article at pp. 466-467 of the 1947 Year Book.

It will be noted that the estimated coal reserves are arranged in five different classes. The reason for this is that more than one rank of coal occurs in some of the deposits and the tonnages of some of these are so small or indefinite, due to the lack of chemical analysis, that it is difficult or impossible to separate the different ranks.

The reserves of each of these classes are calculated under the headings "Probable Reserves" and "Possible (Additional) Reserves". The Probable Reserves are those that have been calculated on considerable geological, drilling and mining development data, whereas the Possible (Additional) Reserves are those based on geological data of much more limited extent.

Preliminary Statement of the Quebec-Labrador Iron-Ore Resources.*— Looking at this development in the perspective of time, the stages seem typical of many important mineral districts. The geological mapping of an early period has proved to be a valuable guide for prospecting, and the success achieved in a part of the field has encouraged research in the extensive favourable grounds indicated by the early exploration.

In 1895, Dr. A. P. Low, of the Geological Survey of Canada, reported, as a result of his explorations along canoe routes in the Labrador Peninsula, a belt of rocks, correlated with the Animikie Series of the Lake Superior Region, extending with a width of 40 miles and a length of over 350 miles northwesterly in the basins of the Hamilton and Koksoak Rivers. Along the southwestern part of this belt he found thick and extensive masses of iron formation. He gave descriptions, with analyses, of the siliceous iron ores that he encountered, and expressed the opinion that the iron ore of this region might become of economic importance.

The advent of the aeroplane made it possible, in this remote area of Quebec-Labrador, to prospect the iron-bearing rocks with the thoroughness required to discover the mineral deposits as now known. In 1929, Dr. J. E. Gill, having made observations from the air, made the first find of a high-grade hematite ore body, on a concession held by Weaver (Minerals) Ltd., at Ruth Lake in Labrador. This discovery was the incentive for subsequent prospecting for natural iron ore in this region.

In 1936, the Labrador Mining and Exploration Company, upon incorporation, acquired the Weaver concession, and in 1948 held from the Newfoundland Government about 19,000 square miles in the upper part of the Hamilton River Basin, Labrador. The Hollinger North Shore Mining Company, incorporated in 1942, held 3,900 square miles in an adjacent area to the north, in Quebec. In these areas, under the direction of Dr. J. A. Retty, Chief Geologist of these companies, intensive prospecting, geological mapping and reconnaissance programs were carried on during summer seasons since 1936. A number of rich hematite deposits, including the Goodwood, Ferriman, Burnt Creek and Ruth Lake, thousands of feet long and hundreds of feet wide, were revealed in a zone, about 50 miles long, crossing the Quebec-Labrador Boundary, and at Sawyer Lake some 40 miles farther to the southeast. In 1944, diamond drilling on the Sawyer Lake deposit penetrated

* Prepared by T. L. Tanton, Ph. D., Senior Geologist, Geological Survey of Canada, Department of Mines and Resources, Ottawa.

high grade iron ore to a depth of 220 feet. In 1946, drilling was commenced on the Ferriman and Ruth Lake deposits, and subsequently an extensive drilling program has been in progress and adits have been driven into the deposits. In March, 1948, it was reported that 41,000,000 tons of potential high-grade iron ore had been proved on the property of Labrador Mining and Exploration Company and 98,000,000 tons on the property of Hollinger North Shore Mining Company. The ore deposits under active investigation are so situated and of such a character as to admit of open-pit mining.

In 1947, transportation facilities into this area were improved by the construction of an air strip at Knob Lake, Que. Canada granted a charter to the Quebec North Shore and Labrador Railway Company permitting railway construction from the St. Lawrence River to the iron-bearing belt and along it to Ungava Bay. The distance from Seven Islands on the St. Lawrence to Ruth Lake is about 360 miles.

The iron-bearing belt, as mapped by Dr. Low, extends north-northwesterly beyond the Hollinger North Shore Exploration Company's concession in Quebec, for about 150 miles. Reports that have been made by companies with holdings in this area confirm the findings of Dr. Low, and indicate that the areas embrace ground that is geologically favourable for the occurrence of iron ore.

Section 2.—Summary of Mineral Production

The importance of mineral production as compared with other primary industries in Canada is indicated in Chapter XXVI while its part in the foreign trade of Canada is dealt with in Chapter XXI, Part II, especially Section 3, Subsections 2 and 3.

Subsection 1.—Value and Volume of Mineral Production

Historical Statistics.—Definite records of the annual value of mineral production go back to 1886 only, although actual production began with the earliest settlements. The figures given in Table 2 are not strictly comparable throughout the whole period, minor changes having been adopted in methods of computing both the metallic content of ores sold and the valuations of the products. Earlier methods resulted in a somewhat higher value than those now in use would have shown. However, the changes do not interfere with the general usefulness of the figures in showing the broad trends in the mineral industry.

2.—Value of Mineral Production, 1886-1947

Year	Total Value	Value per Capita	Year	Total Value	Value per Capita	Year	Total Value	Value per Capita
	$	$		$	$		$	$
1886.....	10,221,255	2·23	1930.....	279,873,578	27·42	1938.....	441,823,237	39·62
1890.....	16,763,353	3·51				1939.....	474,602,059	42·12
1895.....	20,505,917	4·08	1931[1].....	230,434,726	22·21	1940.....	529,825,035	46·55
1900.....	64,420,877	12·15	1932.....	191,228,225	18·19	1941.....	560,241,290	48·69
1905.....	69,078,999	11·51	1933.....	221,495,253	20·83	1942.....	566,768,672	48·63
1910.....	106,823,623	15·29	1934.....	194,110,968	18·07	1943.....	530,053,966	44·87
1915.....	137,109,171	17·18	1935.....	312,344,457	28·80	1944.....	485,819,114	40·57
1920.....	227,859,665	26·63	1936.....	361,919,372	33·05	1945.....	498,755,181	41·15
1925.....	226,583,333	24·38	1937.....	457,359,092	41·41	1946.....	502,816,251	40·86
						1947[2].....	619,133,429	49·21

[1] Beginning with 1931, exchange equalization on gold production is included. [2] Subject to revision.

Current Production.—Higher market prices for most metals and record outputs of fuels, structural materials and other non-metals brought the value of Canada's mineral production in 1947 to $619,100,000, a gain of 23 p.c. over the corresponding total for 1946, and 9·2 p.c. over the former high figure established in 1942. Record output values were realized for the major base metals, although tonnages were, on the whole, considerably below those obtained in the war years. Also, the continuing demand for building materials and for asbestos, gypsum, barytes and other non-metallics enabled operators in these fields to reach new highs in tonnages as well as values.

In the past sixty years, Canada's mineral industries have recovered more than $12,000,000,000 of new products with approximately 42 p.c. of this coming in the past decade. Annual figures are shown in Table 2. In 1886, the Dominion's mineral output was only $10,200,000, but in 1900, four years after the discovery of gold in the Yukon, the value was up to $64,400,000. With the development of silver properties at Cobalt after 1903, and with increased production of nickel and copper at Sudbury, the total value of output advanced steadily to $106,800,000 in 1910. Then came the discovery of gold in the Porcupine district of Ontario, followed a few years later by those in Kirkland Lake, also a satisfactory method of treating the refractory ores of the great Sullivan mine in British Columbia, and these factors, along with higher prices because of the First World War, brought the value of mineral recoveries to $227,900,000 in 1920. Severe price declines reduced the output value to $184,300,000 in 1922, but in the following years there was steady improvement to $310,900,000 in 1929. The Noranda smelter which treats of copper-gold ores came into production in 1927, the Flin Flon zinc smelter began operations in 1930, and the increase in the price of gold in 1931 encouraged the search for and development of new gold properties. By 1939 mineral output was up to $474,600,000, and the all-out activities in the early years of the Second World War raised production in 1942 to $566,800,000, a value which was not surpassed until 1947.

The value of metals in 1947 at $389,500,000 was $99,100,000 greater than in 1946. This was not quite up to the record total of $395,300,000 in 1941, nor to the 1942 figure of $392,200,000. Values for copper, lead, zinc and nickel were at all-time peaks, but these gains were more than offset by the level of gold production which was only about one-half of the 1942 figure.

Output of structural materials was greater than in any previous year, the 1947 value of $72,700,000 being nearly 10 p.c. above the 1946 total. Shipments of cement, lime, brick and other clay products, stone and sand and gravel were, in each case, greater than ever before.

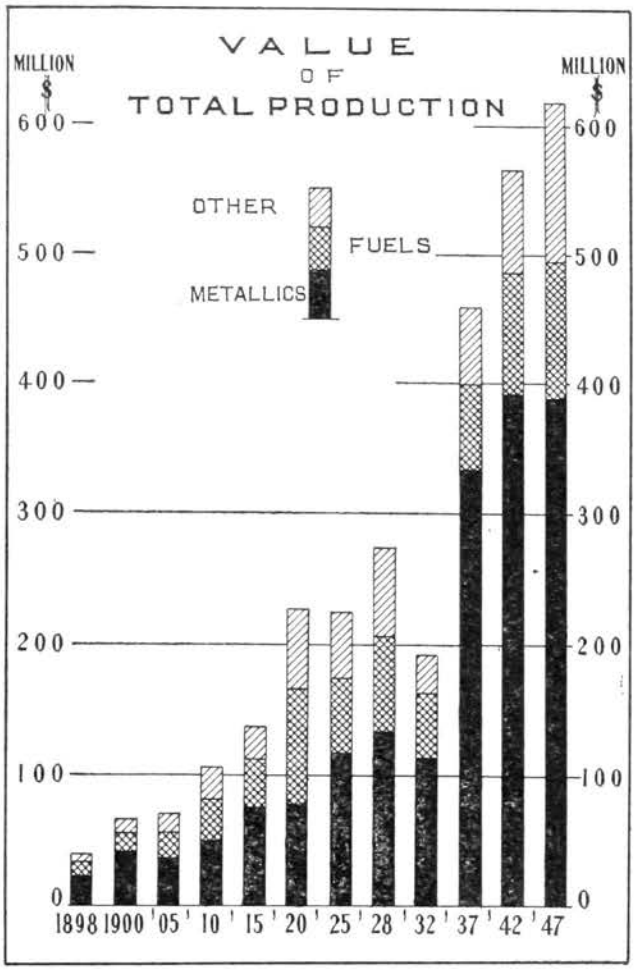
Value of fuels as a group, at $105,200,000, was $2,600,000 greater than in 1946. The tonnage of each was down, but the total value was increased substantially. The reverse was true for crude petroleum which was slightly higher in quantity but a bit lower in value.

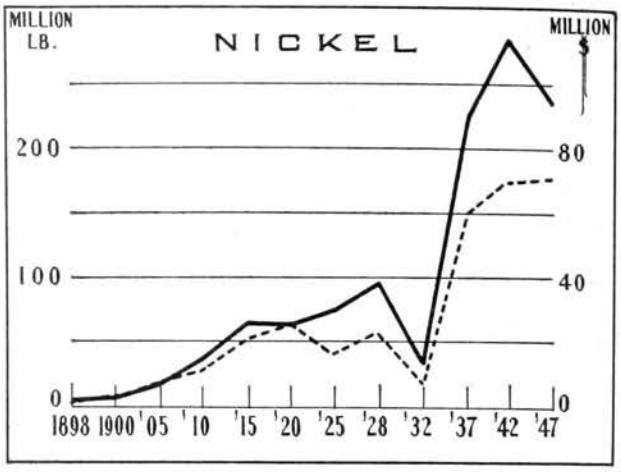
Other non-metallics showed a substantial advance to $51,700,000 from $43,700,000 in 1946, the chief gain being in asbestos which increased from $25,200,000 to $31,800,000. Gypsum also showed a substantial increase.

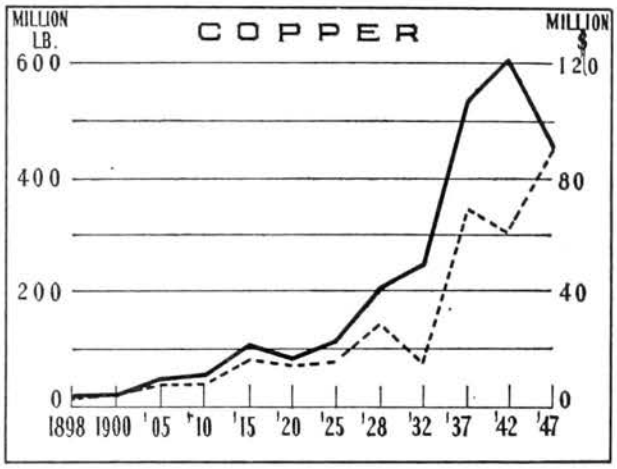
Ontario's mines accounted for 39 p.c. of the Dominion's mineral output in 1947; British Columbia accounted for 18·2 p.c., and Quebec for 17·9 p.c. Alberta, Nova Scotia, Saskatchewan, Manitoba, New Brunswick, the Northwest Territories and Yukon followed in the order named. Output in Ontario increased by 26 p.c. over the 1946 total to $241,700,000 in 1947; British Columbia gained 52 p.c. to $113,100,000, and Quebec advanced 19 p.c. to $110,600,000 in the same period.

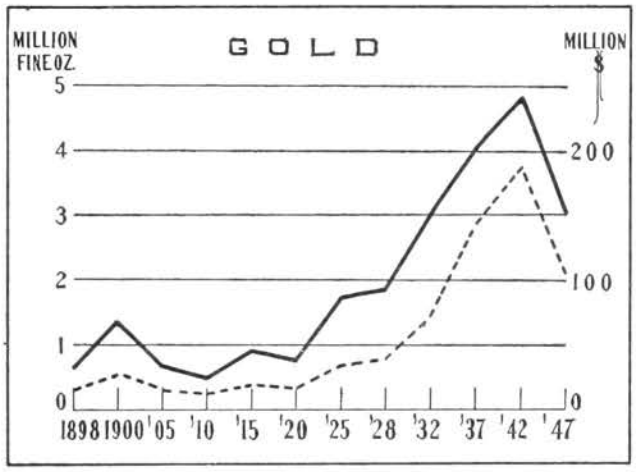
MINERAL PRODUCTION, 1898-1947

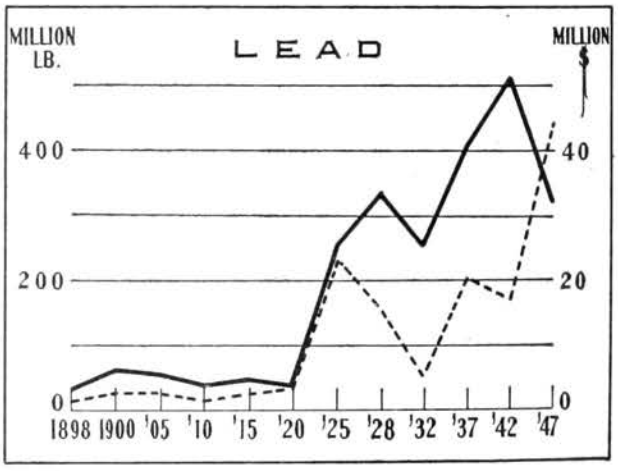
(QUANTITY AND VALUE OF LEADING METALLICS)

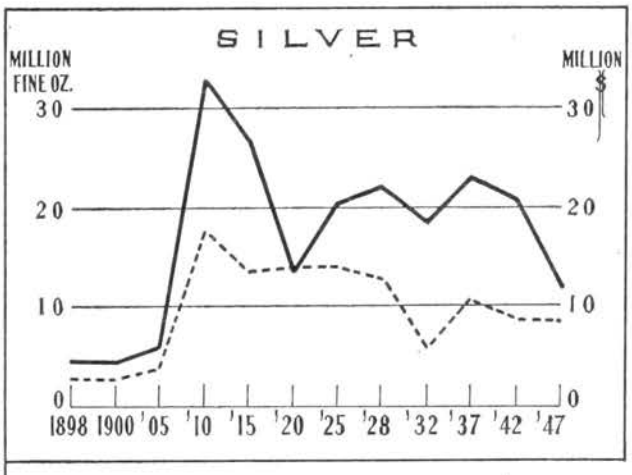


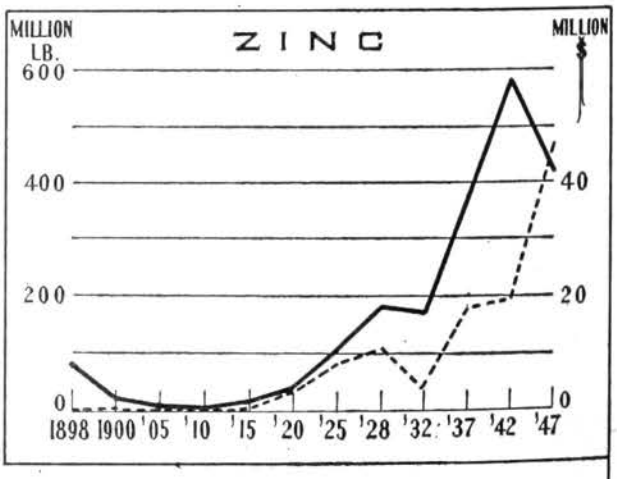












PRODUCTION ——— VALUE --------

In placing a value on Canada's mineral production, it has been customary to value the metals at average quotations (converted to Canadian funds) on the New York or the London markets, depending usually on the relative exports to these countries. In the war years, however, with the inauguration of price controls, it was necessary to depart from this practice, and during this period the average prices were supplied by the Canadian Metals Controller. In 1946, a weighted average was computed by applying the Canadian ceiling prices to the amounts sold for domestic use and the New York averages, in terms of Canadian dollars, to the quantities which were sold for export. A similar procedure was followed in 1947 during the period that price controls were in existence. The domestic ceiling prices on copper, lead and zinc were raised early in 1947 and ceilings were removed entirely about mid-year.

The steady rise in prices of the major base metals was the outstanding feature of the mining picture in the latter part of 1946 and throughout 1947. According to averages for Canada, on the basis indicated above, copper jumped from 12·7 cents per pound in 1946 to 20·3 cents in 1947, zinc from 7·8 cents to 11·2 cents per pound and lead from 6·7 cents to 13·7 cents per pound. Antimony rose from 15 cents per pound to 33·4 cents, bismuth from $1·40 per pound to $1·97, and cadmium from $1·22 to $1·72 per pound. In contrast, the price of gold to Canadian producers remained fixed throughout the year at $35 per fine ounce. The average for silver dropped from 83·65 cents in 1946 to 72 cents in 1947.

3.—Quantities and Values of Minerals Produced, 1944-46

Mineral	1944		1945		1946	
	Quantity	Value	Quantity	Value	Quantity	Value
Metallics		$		$		$
Antimony lb.	1,937,933	281,000	1,667,951	290,557	642,145	96,322
Arsenic (As_2O_3) "	2,627,022	180,866	2,045,730	130,909	745,885	38,264
Bismuth "	123,875	154,844	189,815	260,047	240,504	336,706
Cadmium "	526,970	579,667	646,064	639,603	802,648	979,230
Calcium "	Nil	–	22,720	19,312	53,548	68,720
Chromite ton	27,054	748,494	5,755	160,752	3,110	61,123
Cobalt lb.	36,283	34,106	109,123	90,026	73,900	70,215
Copper "	547,070,118	65,257,172	474,914,052	59,322,261	367,936,875	46,632,093
Gold fine oz.	2,922,911	112,532,073[1]	2,696,727	103,823,990[1]	2,832,554	104,096,359[1]
Iron ore ton	553,252	1,909,608	1,135,444	3,635,095	1,549,523	6,822,947
Lead lb.	304,582,198	13,706,199	346,994,472	17,349,723	353,973,776	23,893,230
Magnesium "	10,579,778	2,575,695	7,358,545	1,607,264	320,677	75,538
Mercury "	735,908	1,210,375	Nil	–	Nil	–
Molybdenite concentrates "	2,127,508	1,079,698	978,117	411,663	736,400	295,640
Nickel "	274,598,629	69,204,152	245,130,983	61,982,133	192,124,537	45,385,155
Palladium, rhodium, iridium, etc. fine oz.	42,929	1,960,085	458,674	18,671,074	117,566	5,162,801
Platinum "	157,523	6,064,635	208,234	8,017,010	121,771	7,672,791
Pitchblende products	[2]	[3]	[2]	[3]	[2]	[3]
Selenium lb.	298,592	537,466	379,187	728,039	521,867	949,798
Silver fine oz.	13,627,109	5,859,656	12,942,906	6,083,166	12,544,100	10,493,139
Tellurium lb.	10,661	18,657	484	929	15,848	24,405
Thallium "	128	1,690	Nil	–	Nil	–
Tin "	516,626	299,643	849,983	492,990	874,186	507,028
Titanium ore ton	33,973	165,195	14,147	67,575	1,406	7,735
Tungsten concentrates. lb.	886,745	245,780	1,153	1,045	Nil	–
Zinc "	550,823,353	23,685,405	517,213,604	33,308,556	470,620,360	36,755,450
Totals, Metallics	–	**308,292,161**	–	**317,093,719**	–	**290,424,689**

For footnotes, see end of table, p. 461.

3.—Quantities and Values of Minerals Produced, 1944-46—continued

Mineral		1944		1945		1946	
		Quantity	Value	Quantity	Value	Quantity	Value
Fuels			$		$		$
Coal	ton	17,026,499	70,433,169	16,506,713	67,588,402	17,806,450	75,361,481
Natural gas	M cu. ft.	45,067,158	11,422,541	48,411,585	12,309,564	47,900,484	12,165,050
Peat	ton	644	5,397	118	1,062	145	1,305
Petroleum, crude	bbl.	10,099,404	15,429,900	8,482,796	13,632,248	7,585,555	14,989,052
Totals, Fuels		–	**97,291,007**	–	**93,531,276**	–	**102,516,888**
Non-Metallics (Excluding Fuels)							
Asbestos	ton	419,265	20,619,516	466,897	22,805,157	558,181	25,240,562
Barite	"	118,719	1,023,696	139,589	1,211,403	120,419	1,006,473
Corundum	"	173	17,111	1,317	130,393	742	102,340
Diatomite	"	13	437	46	1,238	90	2,532
Feldspar	"	23,509	227,632	30,246	282,656	35,243	384,677
Fluorspar	"	6,924	217,701	7,369	233,708	8,042	237,491
Garnets (schist)	"	3	90	Nil	–	2	1,200
Graphite	"	1,582	171,166	1,910	179,001	1,975	180,405
Grindstones (including pulpstones)	"	225	12,000	225	10,870	295	17,450
Gypsum	"	596,164	1,511,978	839,731	1,783,290	1,810,937	3,671,503
Iron oxides (ochre)	"	8,599	150,250	10,314	172,053	12,695	152,268
Magnesitic dolomite		[2]	1,139,281 [4]	[2]	1,278,596 [4]	[2]	1,225,593 [4]
Mica	lb.	6,684,846	841,026	7,044,221	233,270	8,720,669	199,039
Mineral waters	imp. gal.	156,150	79,031	244,761	126,499	217,842	122,404
Nepheline syenite	ton	[2]	217,989	61,345	275,766	61,261	229,198
Peat moss	ton	80,446	1,869,553	83,963	2,011,139	96,839	2,395,649
Phosphate	"	482	6,716	299	4,356	57	869
Quartz	"	1,740,262	1,658,409	1,513,628	1,535,458	1,413,378	1,554,798
Salt	"	695,217	4,074,021	673,076	4,054,720	537,985	3,626,165
Silica brick	M	3,997	312,092	4,208	317,263	2,902	197,804
Soapstone [5]	ton	19,013	204,127	14,225	153,694	14,914	150,004
Sodium carbonate	"	44	484	286	3,146	Nil	–
Sodium sulphate	"	102,421	987,842	93,068	884,322	105,919	1,117,683
Sulphur [6]	"	248,088	1,755,739	250,114	1,881,321	234,771	1,784,666
Talc	"	13,584	153,122	12,863	141,194	14,439	153,680
Totals, Non-Metallics		–	**37,251,009**	–	**39,710,513**	–	**43,754,453**
Clay Products and Other Structural Materials							
CLAY PRODUCTS							
Brick—							
Soft Mud Process—							
Face	M	7,917	177,659	5,424	128,762	10,858	223,272
Common	M	14,182	214,336	21,516	378,884	17,013	347,937
Stiff Mud Process (wire cut)—							
Face	M	55,175	1,360,083	76,094	2,074,833	106,128	3,050,611
Common	M	44,451	742,437	51,413	940,266	65,406	1,262,178
Dry Press—							
Face	M	13,990	337,715	25,680	636,721	41,573	1,093,612
Common	M	18,809	317,893	19,993	400,091	31,239	645,252
Fancy or ornamental brick	M	28	866	81	5,806	1	82
Sewer brick	M	233	4,391	41	816	171	4,573
Paving brick	M	321	18,793	206	12,010	53	3,686
Firebrick	M	3,180	164,837	3,466	186,651	3,368	205,849
Fireclay and other clay	ton	26,855	136,793	22,954	65,107	35,794	75,586
Bentonite	"	[3]	163,848	[3]	170,799	[3]	211,825
Fireclay blocks and shapes		–	221,251	–	225,275	–	222,430
Hollow blocks	ton	87,820	811,558	94,244	998,210	129,694	1,453,549
Roofing tile	M	Nil	–	Nil	–	1	97
Floor tile (quarries)		–	43,817	–	46,365	–	50,699
Drain tile	M	13,684	425,725	13,393	495,875	18,051	677,564
Sewer pipe, copings, flue linings, etc		–	964,732	–	1,178,141	–	1,354,839
Pottery, glazed or unglazed		–	838,544	–	930,567	–	1,195,478
Other clay products		–	52,147	–	37,913	–	128,253
TOTALS, CLAY PRODUCTS		–	6,997,425	–	8,913,092	–	12,207,367

For footnotes, see end of table p. 461.

3.—Quantities and Values of Minerals Produced, 1944-46—concluded

Mineral	1944		1945		1946	
	Quantity	Value	Quantity	Value	Quantity	Value
		$		$		$
OTHER STRUCTURAL MATERIALS						
Cement ..... bbl.	7,190,851	11,621,372	8,471,679	14,246,480	11,560,483	20,122,503
Lime [7] ..... ton	885,142	6,926,844	832,253	6,525,038	840,799	7,074,940
Sand and gravel ..... "	28,399,986	10,280,119	29,750,703	10,568,363	39,949,994	15,529,700
Stone—						
Granite ..... "	269,964	1,303,790	221,630	1,284,748	319,354	2,006,297
Limestone [7] ..... "	5,565,286	5,528,459	5,677,192	6,284,379	7,217,600	8,178,513
Marble ..... "	11,829	85,374	13,388	113,337	21,796	201,817
Sandstone ..... "	146,766	223,453	291,430	466,397	495,777	778,213
Slate ..... "	1,147	18,101	1,915	17,839	1,733	20,871
TOTALS, OTHER STRUCTURAL MATERIALS	-	35,987,512	-	39,506,581	-	53,912,854
Totals, Clay Products and Other Structural Materials	-	**42,984,937**	-	**48,419,673**	-	**66,120,221**
Grand Totals (Canadian Funds)	-	**485,819,114**	-	**498,755,181**	-	**502,816,251**

[1] Value in Canadian funds. [2] Not available. [3] Not available for publication. [4] Including brucite. [5] Includes some talc. [6] Sulphur content of pyrites shipped and estimated sulphur contained in the sulphuric acid made from smelter gases. [7] Includes relatively large quantities used in the manufacture of chemicals.

Analysis of Current Value and Volume.—In order to interpret more clearly and simply the trends in mineral production in Canada over the past ten years, Table 4 gives the percentage of the total value contributed by each principal mineral in each year. Values upon which percentages in this table are based are the annual values of mineral production expressed in Canadian currency as published in Tables 2 and 3.

4.—Percentages of the Total Value of Mineral Production, by Principal Minerals, 1937-46

Mineral	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
METALLICS	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
Cobalt	0·2	0·2	0·2	0·2	0·1	0·2	[1]	[1]	[1]	[1]
Copper	15·1	12·8	12·8	12·4	11·5	10·7	12·7	13·4	11·9	9·3
Gold	31·3	37·6	38·8	38·6	36·7	32·9	26·5	23·2	20·8	20·7
Lead	4·6	3·1	2·6	3·0	2·8	3·0	3·1	2·8	3·5	4·8
Nickel	13·0	12·2	10·7	11·3	12·3	12·4	13·5	14·2	12·4	9·0
Pitchblende products	[2]	[2]	0·2	0·1	0·2	[3]	[3]	[3]	[3]	[3]
Platinum metals	2·2	2·0	2·0	1·5	1·5	3·4	2·6	1·7	5·4	2·6
Silver	2·3	2·2	2·0	1·7	1·5	1·5	1·5	1·2	1·2	2·1
Zinc	4·0	2·7	2·6	2·7	3·1	3·5	4·6	4·9	6·7	7·3
TOTALS, METALLICS [4]	73·1	73·1	72·4	72·2	70·6	69·2	67·3	63·5	63·6	57·8
FUELS										
Coal	10·7	10·0	10·2	10·3	10·4	11·1	11·9	14·5	13·5	15·0
Natural gas	2·5	2·6	2·6	2·5	2·2	2·4	2·5	2·3	2·5	2·4
Petroleum	1·2	2·1	2·1	2·1	2·6	2·8	3·1	3·2	2·7	3·0
TOTALS, FUELS	14·4	14·7	14·9	14·9	15·2	16·3	17·5	20·0	18·7	20·4

For footnotes, see end of table, p. 462.

4.—Percentages of the Total Value of Mineral Production, by Principal Minerals, 1937-46—concluded

Mineral	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
NON-METALLICS (EXCLUDING FUELS)										
Asbestos	3·2	2·9	3·3	2·9	3·8	4·0	4·4	4·2	4·6	5·0
Gypsum	0·3	0·3	0·4	0·4	0·4	0·2	0·3	0·3	0·4	0·7
Quartz	0·2	0·2	0·2	0·2	0·2	0·3	0·3	0·3	0·3	0·3
Salt	0·4	0·4	0·5	0·5	0·6	0·7	0·8	0·8	0·8	0·7
Sulphur	0·3	0·2	0·4	0·2	0·3	0·4	0·3	0·4	0·4	0·4
TOTALS, NON-METALLICS[4]	4·9	4·5	5·3	4·9	6·1	6·5	7·3	7·7	8·0	8·7
TOTALS, CLAY PRODUCTS	1·0	1·0	1·1	1·2	1·4	1·2	1·2	1·4	1·8	2·4
OTHER STRUCTURAL MATERIALS										
Cement	2·0	1·9	1·8	2·2	2·3	2·5	2·2	2·4	2·9	4·0
Lime	0·8	0·8	0·8	1·0	1·1	1·2	1·3	1·4	1·3	1·4
Sand and gravel	2·3	2·7	2·4	2·2	1·9	1·6	1·7	2·1	2·1	3·1
Stone	1·5	1·3	1·3	1·4	1·4	1·5	1·5	1·5	1·6	2·2
TOTALS, OTHER STRUCTURAL MATERIALS	6·6	6·7	6·3	6·8	6·7	6·8	6·7	7·4	7·9	10·7
Grand Totals	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

[1] Less than one-tenth of one per cent. [2] Not available. [3] Not available for publication.
[4] Includes minor items not specified.

Although the year 1926 was not a normal year in mineral production to the same extent as in some other productive fields, the rapid changes that have resulted from circumstances arising since then can be seen more clearly by using 1926 as a base year. Table 5 shows the indexes of volume of mineral production by principal minerals, for the years 1937-46. The very large increases in the production of petroleum and platinum metals are especially noteworthy.

5.—Indexes of Volume of Mineral Production, by Principal Minerals, 1937-46

(1926=100)

NOTE.—Indexes for 1927-36 will be found at p. 319 of the 1940 Year Book.

Mineral	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946
METALLICS										
Cobalt	76·3	69·1	110·2	119·5	39·6	12·6	26·5	5·5	16·4	11·1
Copper	398·2	429·2	457·4	492·6	483·4	453·6	432·2	411·0	356·8	276·4
Gold	233·5	269·4	290·4	302·8	304·7	276·0	208·1	166·6	153·7	161·5
Lead	145·2	147·6	136·9	166·3	162·1	180·5	156·5	107·3	122·3	124·7
Nickel	342·2	320·4	344·1	373·7	429·5	434·0	43·8	417·9	373·0	292·4
Platinum metals	1463·9	1694·4	1454·6	1023·3	1134·6	2598·1	1768·8	1025·6	3412·2	1224·5
Silver	102·7	99·3	103·5	106·5	97·2	92·5	77·5	60·9	57·9	56·1
Zinc	247·0	254·4	263·1	282·8	341·7	387·0	407·3	367·4	345·0	313·9
FUELS										
Coal	96·1	86·7	94·3	106·6	110·6	114·5	108·4	103·3	94·1	108·1
Natural gas	168·6	174·1	183·2	214·7	226·4	237·9	230·5	234·6	252·0	249·4
Petroleum	807·7	1911·4	2147·5	2357·3	2780·6	2844·0	2758·3	2771·2	2327·6	2081·4
NON-METALLICS (EXCLUDING FUELS)										
Asbestos	146·8	103·7	130·4	124·1	171·0	157·3	167·2	150·1	167·1	199·8
Gypsum	118·5	114·2	160·9	163·9	180·3	64·1	50·6	67·5	95·0	204·9
Quartz[1]	593·5	594·6	682·1	800·7	884·5	748·9	765·6	749·8	652·2	609·0
Salt	174·8	167·6	161·7	177·0	213·6	249·0	261·9	264·8	256·4	204·9
Sulphur[2]	339·2	291·3	547·5	442·2	673·8	787·0	667·3	642·9	648·1	608·4
STRUCTURAL MATERIALS[3]										
Cement	70·9	63·4	65·8	86·8	96·1	104·8	83·9	82·6	97·3	132·8
Lime	132·7	117·6	133·4	173·2	208·0	213·8	219·3	213·9	201·1	203·1
Sand and gravel	157·8	188·3	182·9	183·3	184·7	154·0	150·4	166·0	173·9	233·4
Stone	108·4	80·0	85·1	116·4	124·1	124·7	112·9	93·7	97·0	125·9

[1] Beginning with 1936, low-grade natural silica sand used as non-ferrous smelter flux is included.
[2] 1928=100, previous years not being comparable. [3] Excluding clay products.

Subsection 2.—Provincial Distribution of Mineral Production

Since 1907, Ontario has been the principal mineral-producing province of Canada. In 1940, Ontario accounted for 49·4 p.c. of Canada's total but its share has declined steadily to 39 p.c. in 1947. In the latter year, Ontario's principal metal, in point of value, was nickel which exceeded gold for the first time since 1920; copper was next, and these three leading metals accounted for 76 p.c. of total mineral production of the province. Higher prices for lead and zinc placed British Columbia above Quebec for the first time since 1937. A great part of Quebec's mineral production is made up of gold, copper and asbestos. Nova Scotia and Alberta are the most important coal-producing provinces. The discovery and development of the Flin Flon and Sherritt-Gordon ore bodies resulted in the Provinces of Manitoba and Saskatchewan becoming important producers of base metals, gold and silver. Alberta, besides being a big producer of coal, is the most important province for the production of petroleum and natural gas.

6.—Mineral Production, by Provinces, 1936-47

NOTE.—Figures for the years 1899–1910, inclusive, will be found at p. 345 of the 1933 Year Book; for 1911–28 at p. 323 of the 1939 edition; and for 1929–35 at p. 323 of the 1946 edition.

Year	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.
	$	$	$	$	$	$	$	$	$
1936..	26,672,278	2,587,891	49,736,919	184,532,892	11,315,527	6,970,397	23,305,726	54,407,036	2,390,706
1937..	30,314,188	2,763,643	65,160,215	230,042,517	15,751,645	10,271,463	25,597,117	73,555,798	3,902,506
1938..	26,253,645	3,802,565	68,965,594	219,801,994	17,173,002	7,782,847	28,966,272	64,549,130	4,528,188
1939..	30,746,200	3,949,433	77,335,998	232,519,948	17,137,930	8,794,090	30,691,617	65,216,745	8,210,098
1940..	33,318,587	3,435,916	86,313,491	261,483,349	17,828,522	11,505,858	35,092,337	74,134,485	6,712,490
1941..	32,569,867	3,690,375	99,651,044	267,435,727	16,689,867	15,020,555	41,364,385	78,841,180	6,978,290
1942..	32,783,165	3,609,158	104,300,010	259,114,946	14,345,046	20,578,749	47,359,831	77,247,932	7,429,835
1943..	29,979,837	3,676,834	101,610,678	232,948,959	13,412,266	26,735,984	48,941,210	68,442,386	4,305,812
1944..	33,981,977	4,133,902	90,182,553	210,706,307	13,830,406	22,291,848	51,066,662	57,246,071	2,379,388
1945..	32,220,659	4,182,100	91,518,120	216,541,856	14,429,423	22,336,074	51,753,237	64,063,842	1,709,870
1946..	35,350,271	4,813,166	92,785,148	191,544,429	16,403,549	24,480,900	60,082,513	74,622,846	2,733,429
1947[1]..	32,745,153	4,980,712	110,627,408	241,666,479	17,289,315	31,988,049	62,689,943	113,108,923	4,037,447

[1] Subject to revision.

Table 7 shows the mineral production of each province in Canada in 1946.

7.—Detailed Mineral Production, by Provinces, 1946

NOTE.—Quantities and values of minerals produced during 1946 in Yukon were—gold, 45,286 fine oz., $1,664,260; silver, 31,230 fine oz., $26,124; lead, 52,144 lb., $3,520; total $1,693,904: and in the Northwest Territories—gold, 23,420 fine oz., $860,685; silver, 6,112 fine oz., $5,113; natural gas, 1,500 M cu. ft., $335; petroleum 177,282 bbl., $173,392; total $1,039,525. Data for pitchblende products found in these areas are not available for publication. For the Dominion totals of individual minerals, see Table 3. Dashes in Table 7 indicate that no production was recorded. The ton referred to is the short ton of 2,000 lb.

Mineral	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Metallics								
Antimony.....lb.	–	–	–	–	–	–	–	642,145
$	–	–	–	–	–	–	–	96,322
Arsenic.....lb.	–	–	420,654	325,231	–	–	–	–
$	–	–	21,580	16,684	–	–	–	–
Bismuth.....lb.	–	–	6,484	–	–	–	–	234,020
$	–	–	9,078	–	–	–	–	327,628
Cadmium.....lb.	–	–	–	–	63,410	102,923	–	636,315
$	–	–	–	–	77,360	125,566	–	776,304

7.—Detailed Mineral Production, by Provinces, 1946—continued

Mineral	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Metallics—concluded								
Calcium.....lb.	–	–	–	53,548	–	–	–	–
$	–	–	–	68,720	–	–	–	–
Chromite.....ton	–	–	3,110	–	–	–	–	–
$	–	–	61,123	–	–	–	–	–
Cobalt.....lb.	–	–	–	73,900	–	–	–	–
$	–	–	–	70,215	–	–	–	–
Copper.....lb.	–	–	69,797,697	179,424,639	38,501,047	62,712,954	–	17,500,538
$	–	–	8,934,105	22,502,528	4,928,134	8,027,258	–	2,240,068
Gold[1].....fine oz.	4,321	–	618,339	1,813,333	79,402	112,101	110	136,242
$	158,797	–	22,723,958	66,639,988	2,918,024	4,119,712	4,042	5,006,893
Iron ore.....ton	–	–	–	1,549,523	–	–	–	–
$	–	–	–	6,822,947	–	–	–	–
Lead.....lb.	–	–	7,359,708	699,244	–	–	–	345,862,680
$	–	–	496,780	47,199	–	–	–	23,345,731
Magnesium.....lb.	–	–	–	320,677	–	–	–	–
$	–	–	–	75,538	–	–	–	–
Molybdenite.....lb.	–	–	736,400	–	–	–	–	–
$	–	–	295,640	–	–	–	–	–
Nickel.....lb.	–	–	–	192,124,537	–	–	–	–
$	–	–	–	45,385,155	–	–	–	–
Palladium, rhodium, etc.....fine oz.	–	–	–	117,566	–	–	–	–
$	–	–	–	5,162,801	–	–	–	–
Platinum.....fine oz.	–	–	–	121,771	–	–	–	–
$	–	–	–	7,672,791	–	–	–	–
Selenium.....lb.	–	–	110,768	270,606	46,118	94,375	–	–
$	–	–	201,598	492,503	83,935	171,762	–	–
Silver.....fine oz.	146	–	1,916,453	2,485,215	528,017	1,498,496	12	6,078,419
$	122	–	1,603,113	2,078,882	441,686	1,253,492	10	5,084,597
Tellurium.....lb.	–	–	–	14,200	349	1,299	–	–
$	–	–	–	21,868	537	2,000	–	–
Tin.....lb.	–	–	–	–	–	–	–	874,186
$	–	–	–	–	–	–	–	507,028
Titanium ore.....ton	–	–	1,406	–	–	–	–	–
$	–	–	7,735	–	–	–	–	–
Zinc.....lb.	–	–	89,650,129	42,628	35,580,537	71,077,110	–	274,269,956
$	–	–	7,001,675	3,329	2,778,840	5,551,122	–	21,420,484
Totals, Metallics. $	**158,919**	–	**41,356,385**	**157,061,148**	**11,228,516**	**19,250,912**	**4,052**	**58,805,055**
Fuels								
Coal.....ton	5,452,898	366,735	–	–	–	1,523,786	8,826,239	1,636,792
$	30,253,654	2,069,992	–	–	–	2,544,926	33,339,579	7,153,330
Natural gas..M cu. ft.	–	541,010	–	7,051,309	–	209,569	40,097,096	–
$	–	262,441	–	4,656,528	–	61,740	7,184,006	–
Peat.....ton	–	–	–	145	–	–	–	–
$	–	–	–	1,305	–	–	–	–
Petroleum, crude..... bbl.	–	28,584	–	123,082	–	116,686	7,137,921	–
$	–	40,018	–	291,719	–	135,990	14,347,933	–
Totals, Fuels.... $	**30,253,654**	**2,372,451**	–	**4,949,552**	–	**2,742,656**	**54,871,518**	**7,153,330**
Non-Metallics (Excluding Fuels)								
Asbestos.....ton	–	–	558,181	–	–	–	–	–
$	–	–	25,240,283	279	–	–	–	–
Barite.....ton	117,691	–	–	–	–	–	–	2,728
$	987,473	–	–	–	–	–	–	19,000
Corundum.....ton	–	–	–	742	–	–	–	–
$	–	–	–	102,340	–	–	–	–
Diatomite.....ton	49	–	–	–	–	–	–	41
$	1,505	–	–	–	–	–	–	1,027
Feldspar.....ton	–	–	29,758	5,485	–	–	–	–
$	–	–	330,981	53,696	–	–	–	–
Fluorspar.....ton	–	–	–	8,042	–	–	–	–
$	–	–	–	137,491	–	–	–	–

[1] Value in Canadian funds.

7.—Detailed Mineral Production, by Provinces, 1946—concluded

Mineral	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
Non-Metallics (Excluding Fuels) —concluded								
Garnets (schist)..ton	–	–	–	2	–	–	–	–
$	–	–	–	1,200	–	–	–	–
Graphite.....ton	–	–	–	1,975	–	–	–	–
$	–	–	–	180,405	–	–	–	–
Grindstones.....ton	–	295	–	–	–	–	–	–
$	–	17,450	–	–	–	–	–	–
Gypsum.....ton	1,538,738	38,839	–	122,524	63,187	–	–	47,649
$	1,812,815	550,972	–	492,179	428,133	–	–	387,404
Iron oxides.....ton	–	–	12,268	–	–	–	–	427
$	–	–	146,401	–	–	–	–	5,867
Magnesitic dolomite and brucite $	–	–	1,225,593	–	–	–	–	–
Mica.....lb.	–	–	2,397,788	4,707,381	–	–	–	1,615,500
$	–	–	108,667	66,952	–	–	–	23,420
Mineral waters...gal.	–	–	211,842	6,000	–	–	–	–
$	–	–	121,526	878	–	–	–	–
Nepheline syenite ton	–	–	–	61,261	–	–	–	–
$	–	–	–	229,198	–	–	–	–
Peat moss.....lb.	–	4,493,800	52,764,995	34,351,000	3,543,420	–	–	98,525,546
$	–	54,892	501,073	228,496	65,039	–	–	1,546,149
Phosphate.....ton	–	–	57	–	–	–	–	–
$	–	–	869	–	–	–	–	–
Quartz.....ton	7,525	–	214,076	1,052,644	–	130,105	–	9,028
$	15,550	–	612,128	852,713	–	47,542	–	26,865
Salt.....ton	38,371	–	–	441,679	26,166	–	31,769	–
$	329,579	–	–	2,408,279	446,472	–	441,835	–
Silica brick..... M	2,055	–	–	847	–	–	–	–
$	119,272	–	–	78,532	–	–	–	–
Soapstone[1].....ton	–	–	14,914	–	–	–	–	–
$	–	–	150,004	–	–	–	–	–
Sodium sulphate..ton	–	–	–	–	–	105,919	–	–
$	–	–	–	–	–	1,117,683	–	–
Sulphur.....ton	–	–	92,716	15,433	–	–	–	126,622
$	–	–	375,328	154,330	–	–	–	1,255,008
Talc.....ton	–	–	–	14,439	–	–	–	–
$	–	–	–	153,680	–	–	–	–
Totals, Non-Metallics..... $	**3,266,194**	**623,314**	**28,812,853**	**5,240,648**	**939,644**	**1,165,225**	**441,835**	**3,264,749**
Clay Products and Other Structural Materials								
Clay products, brick, tile, etc... $	671,466	336,971	3,457,168	4,288,780	372,920	411,446	1,808,971	859,645
Cement.....bbl.	–	–	5,046,166	3,677,695	1,254,946	–	809,721	771,955
$	–	–	7,910,548	6,025,503	2,811,264	–	1,635,222	1,739,966
Lime.....ton	–	21,915	296,493	412,171	37,360	–	23,785	49,075
$	–	286,401	2,304,826	3,316,231	392,304	–	204,926	570,252
Sand and gravel..ton	1,105,980	2,203,646	12,374,125	14,881,918	1,333,890	1,732,731	1,812,468	4,505,236
$	484,585	807,045	3,313,103	6,738,595	416,431	910,661	1,060,703	1,798,577
Stone.....ton	183,733	121,123	3,486,259	3,890,277	65,132	–	13,417	296,319
$	515,453	386,984	5,630,265	3,923,972	242,470	–	55,286	431,281
Totals, Clay Products and Other Structural Materials..... $	**1,671,504**	**1,817,401**	**22,615,910**	**24,293,081**	**4,235,389**	**1,322,107**	**4,765,108**	**5,399,721**
Grand Totals....$	**35,350,271**	**4,813,166**	**92,785,148**	**191,544,429**	**16,403,549**	**24,480,900**	**60,082,513**	**74,622,846**

[1] Includes some talc.

Subsection 3.—Production of Metallic Minerals

The metals of chief importance in Canada are copper, gold, iron, lead, nickel, those of the platinum group, silver and zinc. These metals are dealt with individually in the following paragraphs. In addition, there are a number of metals produced in minor quantities, principally as by-products in the treatment of metalliferous ores (see Tables 3 and 7).

Copper.—Canada is a leading producer and exporter of copper, producing 450,587,079 lb. in 1947, including refined copper, and the copper content of concentrates and matte exported. The earliest important copper-mining district in Canada was in the Eastern Townships of Quebec, but the most important copper-bearing ore deposits are now located in northwestern Quebec, the Sudbury district in Ontario, the Flin Flon area in Manitoba and Saskatchewan, and in British Columbia. Production from the Sudbury district became important about 1889 and from the mines of British Columbia about 1896. From 1899 to 1929, British Columbia was the leading copper-producing province, production coming from the Rossland and Boundary districts, the Copper Mountain mine, and the Britannia and Hidden Creek mines along the coast. Shortly after the First World War, large development programs were carried out in connection with the Noranda, Waite-Amulet and other copper-producing properties in western Quebec, the Flin Flon and Sherritt-Gordon properties in western Manitoba, and a very large expansion program at the nickel-copper properties in the Sudbury area in Ontario. In 1947, the mines in Ontario accounted for 50·6 p.c. of the Dominion's copper production; Quebec was credited with 18·8 p.c.; Saskatchewan, 15·2 p.c.; Manitoba, 6·6 p.c. and British Columbia, 8·8 p.c.

A refinery at Montreal East, Que., treats anodes from the smelter at Noranda, Que., and also the blister copper recovered from Flin Flon ores at the smelter at Flin Flon, Man. The refinery at Copper Cliff, Ont., treats the blister copper from the smelter of the International Nickel Company of Canada, Limited, at Copper Cliff and also the blister from Sherritt-Gordon ores recovered at the Flin Flon reduction works. The Falconbridge Mines Limited, Falconbridge, Ont., regained possession of its refinery at Kristiansand, Norway, in May, 1945, and resumed shipments of matte to that point for treatment. The concentrates from mines in British Columbia are shipped to a United States smelter at Tacoma, U.S.A.

8.—Copper Produced, by Provinces, with Total Values, 1936-47

NOTE.—Figures for the years 1886-1910, inclusive, will be found at p. 272 of the 1916-17 Year Book; for the years 1911-28 at p. 335 of the 1939 edition; and for 1929-35 at p. 331 of the 1946 edition.

Year	Quebec	Ontario	Manitoba	Saskatchewan	British Columbia	Totals	
						Quantity	Value
	lb.	lb.	lb.	lb.	lb.	lb.	$
1936.....	66,340,175	287,914,078	29,853,220	14,971,609	21,169,343	421,027,732[1]	39,514,101[1]
1937.....	94,653,132	322,039,208	44,920,835	22,436,843	45,797,988	530,028,615[1]	68,917,219[1]
1938.....	112,645,797	309,030,106	65,582,772	18,156,157	65,759,265	571,249,664[1]	56,554,034[1]
1939.....	117,238,897	328,429,665	70,458,890	18,133,149	73,253,408	608,825,570[1]	60,934,859[1]
1940.....	134,166,955	347,931,013	75,267,937	20,484,954	77,742,582	655,593,441	65,773,061
1941.....	143,783,978	333,829,767	67,018,563	32,324,512	66,327,166	643,316,713[1]	64,407,497[1]
1942.....	140,911,876	308,282,414	47,595,586	56,781,466	50,015,521	603,661,826[1]	60,417,372[1]
1943.....	131,163,776	277,840,560	38,014,872	85,948,719	42,222,205	575,190,132	67,170,601
1944.....	108,055,172	285,307,278	43,878,639	73,514,499	36,302,628	547,070,118[1]	65,257,172[1]
1945.....	102,685,069	239,450,875	41,126,155	65,900,701	25,751,252	474,914,052	59,322,261
1946.....	69,797,697	179,424,639	38,501,047	62,712,954	17,500,538	367,936,875	46,632,093
1947[2].....	84,700,000	228,099,130	29,600,000	68,400,000	39,787,949	450,587,079	91,317,157

[1] Includes 779,307 lb. valued at $73,855 produced in Nova Scotia in 1936, 180,609 lb. at $23,620 in 1937; 75,567 lb. valued at $7,535 produced in N.W.T. in 1938; 1,269,179 lb. valued at $128,086 produced in Nova Scotia and 42,382 lb. valued at $4,277 produced in N.W.T. in 1939; 32,727 lb. valued at $3,301 produced in N.W.T. in 1941; 74,963 lb. valued at $7,561 in 1942, and 11,902 lb. valued at $1,428 in 1944. [2] Subject to revision.

As copper occurs in association with precious metals and with other base metals which are normally in heavy demand, it is likely that copper production will continue at a fairly uniform rate.

Gold.—Canada has been a gold-producing country for over seventy-five years. In the latter half of the nineteenth century production was chiefly from placer operations in British Columbia and Yukon; during the present century there has been a rapid growth of production from lode mining both of auriferous quartz and of gold in association with other metals. Gold production in Canada attained its earlier maximum at 1,350,057 fine oz., in 1900, when the Yukon production reached its highest point. The quantities and values of gold produced in Canada are given by provinces for 1936 and subsequent years in Tables **9** and **10**.

Gold is produced in Nova Scotia, at points across the Canadian Shield from Quebec to the Northwest Territories, and in the Cordilleran Region of British Columbia and Yukon. Except for comparatively small amounts obtained from alluvial workings in Yukon, British Columbia, Saskatchewan and Alberta, gold production is derived from lode mining either of auriferous quartz or of other metallic ores such as copper, nickel and zinc that carry varying amounts of gold. The principal producing districts are: western Quebec; the adjacent districts of Porcupine and Kirkland Lake in Ontario, with other smaller camps scattered across northern Ontario to the western boundary; the Rice Lake and Gods Lake areas in eastern Manitoba and the Flin Flon district on the Manitoba-Saskatchewan boundary; the Bridge River district and the Zeballos camp in British Columbia. Developments in the Yellowknife district in the Northwest Territories have resulted in several producing mines. In 1947 the three leading gold producers in Canada were the Hollinger Mine, the McIntyre and the Dome mines, all in the Porcupine district. About 85 p.c. of the total production came from auriferous quartz mines; about 13 p.c. from mines in which gold was associated with ores of copper, nickel, zinc, etc.; and about 2 p.c. from alluvial operations. The auriferous quartz mining industry suffered severely from the shortage of labour and of essential supplies in the later war years; the number of producing mines decreased from 232 in 1939 to 88 in 1946 and their employees dropped from 29,001 to 17,889 during the same period.

9.—Quantities of Gold Produced, by Provinces, 1936-47

NOTE.—Figures for the years 1862-1910, inclusive, will be found at pp. 268-269 of the 1916-17 Year Book; for the years 1911-28 at p. 336 of the 1939 edition; and for 1929-35 at p. 332 of the 1946 edition.

Year	Nova Scotia	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Total
	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine
1936..	11,960	666,905	2,378,503	139,273	48,981	109	451,938	50,359[1]	3,748,028[1]
1937..	19,918	711,480	2,587,095	157,949	65,886	46	505,857	47,982	4,096,213
1938..	26,560	881,263	2,896,477	185,706	50,021	305	605,617	79,168[1]	4,725,117[1]
1939..	29,943	953,377	3,086,076	180,875	77,120	359	626,970	139,659[1]	5,094,379[1]
1940..	22,219	1,019,175	3,261,688	152,295	102,925	215	617,011	135,617[1]	5,311,145[1]
1941..	19,170	1,089,339	3,194,308	150,553	138,015	215	608,203	145,376[1]	5,345,179[1]
1942..	12,989	1,092,388	2,763,819	136,226	178,871	34	474,339	182,640[1]	4,841,306[1]
1943..	4,129	922,533	2,117,215	91,775	174,090	21	241,346	100,192[1]	3,651,301[1]
1944..	5,840	746,784	1,731,836	74,168	122,782	51	196,857	44,593[1]	2,922,911[1]
1945..	3,291	661,608	1,625,368	70,655	108,568	7	186,854	40,376[1]	2,696,727[1]
1946..	4,321	618,339	1,813,333	79,402	112,101	110	136,242	68,706[1]	2,832,554[1]
1947[2]..	1,257	596,251	1,913,533	71,861	97,000	52	247,220	107,987[1]	3,035,161[1]

[1] Includes production of the Northwest Territories amounting to 1 oz. fine in 1936; 6,800 oz. fine in 1938; 51,914 oz. fine in 1939; 55,159 oz. fine in 1940; 77,354 oz. fine in 1941; 99,394 oz. fine in 1942; 59,032 oz. fine in 1943; 20,775 oz. fine in 1944; 8,655 oz. fine in 1945; 23,420 oz. fine in 1946 and 60,346 oz. fine in 1947. [2] Subject to revision.

10.—Values of Gold Produced, by Provinces, 1936-47

NOTE.—Values are calculated at world prices in Canadian funds. Figures for the years 1862-1910, inclusive, will be found at p. 270 of the 1916-17 Year Book; for the years 1911-28 at p. 337 of the 1939 edition; and for 1929-35 at p. 332 of the 1946 edition.

Year	Nova Scotia	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Total
	$	$	$	$	$	$	$	$	$
1936..	418,959	23,361,683	83,318,960	4,878,733	1,715,804	3,818	15,831,388	1,764,076[1]	131,293,421[1]
1937..	696,931	24,894,685	90,522,454	5,526,636	2,305,351	1,610	17,699,936	1,678,890	143,326,493
1938..	934,248	30,998,426	101,883,578	6,532,209	1,759,489	10,728	21,302,578	2,784,734[1]	166,205,990[1]
1939..	1,082,170	34,455,998	111,533,873	6,537,003	2,787,194	12,974	22,659,323	5,047,416[1]	184,115,951[1]
1940..	855,432	39,238,238	125,574,988	5,863,357	3,962,613	8,277	23,754,924	5,221,254[1]	204,479,083[1]
1941..	738,045	41,939,552	122,980,858	5,796,290	5,313,578	8,277	23,415,816	5,596,976[1]	205,789,392[1]
1942..	500,076	42,056,938	106,407,032	5,244,701	6,886,533	1,309	18,262,052	7,031,640[1]	186,390,281[1]
1943..	158,967	35,517,521	81,512,777	3,533,337	6,702,465	808	9,291,821	3,857,392[1]	140,575,088[1]
1944..	224,840	28,751,184	66,675,686	2,855,468	4,727,107	1,963	7,578,994	1,716,831[1]	112,532,073[1]
1945..	126,704	25,471,908	62,576,668	2,720,218	4,179,868	269	7,193,879	1,554,476[1]	103,823,990[1]
1946..	158,797	22,723,958	66,639,988	2,918,024	4,119,712	4,042	5,006,893	2,524,945[1]	104,096,359[1]
1947[2]..	43,995	20,868,785	66,973,655	2,515,135	3,395,000	1,820	8,652,700	3,779,545[1]	106,230,635[1]

[1] Includes value of production of the Northwest Territories amounting to $35 in 1936; $239,190 in 1938; $1,876,224 in 1939; $2,123,621 in 1940; $2,977,359 in 1941; $3,826,669 in 1942; $2,272,732 in 1943; $799,838 in 1944; $333,218 in 1945; $860,685 in 1946 and $2,112,110 in 1947. [2] Subject to revision.

Iron.—Bog iron ore was first mined and smelted in the Province of Quebec early in the eighteenth century and from that time until 1883 the industry was carried on almost exclusively at Three Rivers. Other furnaces, using local ore, were operated at Radnor Forges and Drummondville, the last to shut down being the Drummondville furnace in 1911.

Deposits of iron ore in Canada are many and widespread, but because of the availability of low-cost, higher-grade ores in the Lake Superior ranges of the United States and the Wabana deposit in Newfoundland, no iron ore from domestic sources was produced in Canada from 1924 to 1939, inclusive.

In 1937 development work began at the New Helen mine of the Algoma Ore Properties Limited, in the Michipicoten area of Ontario and the first sinter was produced in July, 1939. The high-grade deposits being worked by the Steep Rock Iron Mines Limited, 135 miles west of Port Arthur, Ont., and the more recent discoveries of large deposits of iron ore in the Quebec-Labrador Boundary region have greatly raised the potentialities of Canada as a producer of iron ore. In 1947 there were 2,022,638 tons of iron ore produced, all of which came from Ontario.

11.—Iron-Ore Shipments and Production of Pig-Iron, Ferro-Alloys and Steel Ingots and Castings, 1936-47

NOTE.—Figures for the years 1886-1910, inclusive, will be found at p. 373 of the 1936 Year Book; for the years 1911-28 at p. 340 of the 1939 edition; and for 1929-35 at p. 333 of the 1946 edition.

Year	Iron-ore Shipments from Canadian Mines	Production of Pig-Iron			Production of Ferro-Alloys	Production of Steel Ingots and Castings
		Nova Scotia	Ontario	Canada		
	short tons	short tons	short tons	short tons	short tons	short tons
1936	Nil	288,006	471,613	759,619	85,438	1,249,672
1937	"	358,756	647,961	1,006,717	91,921	1,571,227
1938	"	270,879	519,199	790,078	62,637	1,293,812
1939	123,598	290,232	556,186	846,418	85,540	1,551,054
1940	414,603	441,741	867,358	1,309,099	149,394	2,253,769
1941	516,037	421,296	1,106,757	1,528,053	204,354	2,712,151
1942	545,119	467,951	1,507,063	1,975,014	209,017	2,109,851
1943	641,294	345,722	1,412,547	1,758,269	197,094	3,004,124
1944	553,252	395,802	1,456,826	1,852,628	182,428	3,024,410
1945	1,135,444	374,302	1,403,647	1,777,949	178,214	2,877,927
1946	1,549,523	317,180	1,089,072	1,406,252	137,822	2,327,283
1947[1]	2,022,638	354,789	1,613,270	1,969,847[2]	149,832	2,945,166

[1] Subject to revision. [2] Includes production of 1,788 short tons in British Columbia.

Lead.—Lead has been produced in Canada since 1887, and is obtained largely from the ores of British Columbia. Bounties were paid on lead produced in Canada from 1899 to 1918 but the highest production of this period was 63,169,821 lb. in 1900. However, the successful solving by the Consolidated Mining and Smelting Company of the metallurgical problems connected with the separation and reduction of these lead-zinc ores accounts to a considerable extent for the rapid growth in lead production after 1920.

In the East and West Kootenay districts of British Columbia there are many important mines, the principal of which is the Sullivan lead-zinc mine near Kimberley which accounts for about 90 p.c. of the total Canadian output. One of the world's largest smelters treats these ores at Trail, B.C. The lead-zinc mines in western Quebec account for most of the remainder of Canada's production, the concentrates from these properties being exported for treatment, chiefly to the United States. There was a small production in 1946 from the silver-lead-zinc ores in the Mayo district of Yukon and from northwestern Ontario. Production by provinces in 1946 is shown in Table 7, p. 464. Table 12 gives the total quantities and values of lead produced in Canada from 1936 to 1947.

12.—Quantities and Values of Lead Produced from Canadian Ores, 1936-47

NOTE.—Figures for the years 1887-1910, inclusive, will be found at p. 367 of the 1929 Year Book; for 1911-28 at p. 341 of the 1939 edition; and for 1929-35 at p. 333 of the 1946 edition.

Year	Quantity	Value	Year	Quantity	Value
	lb.	$		lb.	$
1936	383,180,909	14,993,869	1942	512,142,562	17,218,233
1937	411,999,484	21,053,173	1943	444,060,769	16,670,041
1938	418,927,660	14,008,941	1944	304,582,198	13,706,199
1939	388,569,550	12,313,768	1945	346,994,472	17,349,723
1940	471,850,256	15,863,605	1946	353,973,776	23,893,230
1941	460,167,005	15,470,815	1947[1]	323,999,656	44,290,752

[1] Subject to revision.

Nickel.—The greater part of the world's output of nickel is produced in Canada and the source of all but a small percentage of the 235,561,113 lb. produced in 1947 came from the nickel-copper ores of the Sudbury district. Some nickel is also obtained as a by-product from the treatment of cobalt-silver ores. The nickel-copper industry includes the mining, smelting and, to a certain extent, the refining of nickel-copper ores. The ore is mined principally for the nickel-copper content, but silver, gold, selenium, tellurium and metals of the platinum group are profitably recovered in the metallurgical processes, although they are present in relatively small quantities. Smelting and copper refining operations are carried on by the International Nickel Company of Canada, Limited, at Copper Cliff, Ont., in close proximity to the mines, and refined nickel is produced at Port Colborne, Ont. The Falconbridge Mines Limited, has a smelter at Falconbridge, Ont., but the matte from this plant is shipped to Norway for refining. During the Second World War, Falconbridge matte was treated by the International Nickel Company at Copper Cliff, Ont. Recent discoveries of nickel-bearing ores in the Lynn Lake area in northern Manitoba appear to be quite promising.

13.—Quantities and Values of Nickel Produced, 1936-47

NOTE.—Figures for the years 1889-1910, inclusive, will be found at p. 368 of the 1929 Year Book; for 1911-28 at p. 342 of the 1939 edition; and for 1929-35 at p. 333 of the 1946 edition.

Year	Quantity	Value	Year	Quantity	Value
	lb.	$		lb.	$
1936	169,739,393	43,876,525	1942	285,211,803	69,998,427
1937	224,905,046	59,507,176	1943	288,018,615	71,675,322
1938	210,572,738	53,914,494	1944	274,598,629	69,204,152
1939	226,105,865	50,920,305	1945	245,130,983	61,982,133
1940	245,557,871	59,822,591	1946	192,124,537	45,385,155
1941	282,258,235	68,656,795	1947[1]	235,561,113	70,312,610

[1] Subject to revision.

Metals of the Platinum Group.—This group of metals includes palladium, rhodium, ruthenium, osmium and iridium, with platinum and iridium as the most important. These metals occur in the nickel-copper ore of the Sudbury district and are recovered in the tank residues from the nickel refinery at Port Colborne, Ont.; the crude residues are sent to the refinery at Acton, England, for refining. The great increase in the output of nickel-copper ores has made Canada the leading producer of platinum since 1934, when it displaced Russia. The industrial uses of the platinum metals have expanded considerably in recent years, particularly in electrical and chemical equipment, jewellery and in medical and dental appliances. Canada produced 198,314 ounces of platinum metals for a total value of $9,855,594, in 1947.

14.—Quantities and Values of Platinum and Palladium Produced, 1936-47

NOTE.—Records of the platinum production in Canada go back to 1887 but, prior to 1921, the amounts were comparatively small and the basis of calculation was not comparable with that now used. Figures for the years 1921-35 will be found at p. 340 of the 1940 Year Book.

Year	Platinum		Palladium[1]		Year	Platinum		Palladium[1]	
	oz. fine	$	oz. fine	$		oz. fine	$	oz. fine	$
1936	131,571	5,320,731	103,671	2,483,075	1942	285,228	10,898,561	222,573	8,279,221
1937	139,377	6,752,816	119,829	3,179,782	1943	219,713	8,458,951	126,004	5,233,068
1938	161,326	5,196,794	130,893	3,677,342	1944	157,523	6,064,635	42,929	1,960,085
1939	148,902	5,222,589	135,402	4,199,622	1945	208,234	8,017,010	458,674	18,671,074
1940	108,486	4,240,362	91,522	3,520,746	1946	121,771	7,672,791	117,566	5,162,801
1941	124,317	4,750,153	97,432	3,396,304	1947[2]	94,540	5,580,696	103,774	4,274,898

[1] Includes also rhodium, ruthenium, osmium and iridium. [2] Subject to revision.

Silver.—Silver mining is not a distinct industry in Canada as the silver-bearing minerals occur in association with other metals of economic value. Most of the metal is obtained from the treatment of base-metal ores although substantial amounts are recovered from gold-quartz ores and from alluvial gold deposits. For many years the famous camp at Cobalt, Ont., supplied the bulk of Canada's silver, but output from this area has been quite small in recent years. In 1947, 50·2 p.c. of Canada's silver came from British Columbia, 19·1 p.c. from Ontario, 17·9 p.c. from Quebec, 3·0 p.c. from Manitoba, 9·6 p.c. from Saskatchewan and 0·2 p.c. from Yukon and the Northwest Territories. Consumption of silver in Canada decreased substantially in 1947 and now amounts to about 4,500,000 fine oz. annually.

15.—Quantities and Values of Silver Produced, 1936-47

NOTE.—Figures for the years 1887-1910, inclusive, will be found at p. 361 of the 1933 Year Book; for the years 1911-28 at p. 344 of the 1939 edition; for 1929-35 at p. 334 of the 1946 edition.

Year	Quantity	Value	Year	Quantity	Value
	oz. fine	$		oz. fine	$
1936	18,334,487	8,273,804	1942	20,695,101	8,726,296
1937	22,977,751	10,312,644	1943	17,344,569	7,849,111
1938	22,219,195	9,660,239	1944	13,627,109	5,859,656
1939	23,163,629	9,378,490	1945	12,942,906	6,083,166
1940	23,833,752	9,116,172	1946	12,544,100	10,493,139
1941	21,754,408	8,323,454	1947[1]	11,773,619	8,477,006

[1] Subject to revision.

16.—Quantities of Silver Produced, by Provinces, 1936-47

NOTE.—Figures for the years 1887-1910, inclusive, will be found at p. 271 of the 1916-17 Year Book; for the years 1911-28 at p. 345 of the 1939 edition; for 1929-35 at p. 334 of the 1946 edition. The relatively small quantities of silver produced in Alberta are not shown in this table.

Year	Average Price per fine oz. (Canadian funds)	Nova Scotia	Quebec	Ontario	Manitoba	Saskatchewan	British Columbia	Yukon	North-west Territories
	cts.	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine	oz. fine
1936	45·13	107,642	724,339	5,219,366	791,489	642,497	9,748,715	783,416	317,014
1937	44·88	26,990	908,590	4,693,047	905,179	821,818	11,530,177	3,956,504	135,442
1938	43·48	988	1,189,495	4,318,837	1,198,315	898,413	11,186,563	2,844,659	581,902
1939	40·49	173,877	1,167,444	4,689,422	1,028,485	1,141,600	10,648,031	3,830,864	483,874
1940	38·25	725	1,340,450	5,563,101	1,033,512	1,691,540	11,885,556	2,259,343	59,505
1941	38·26	673	1,657,082	4,977,476	966,105	2,047,164	11,233,788	856,772	15,327
1942	42·17	446	1,655,042	4,452,787	821,824	2,664,132	10,596,204	482,133	22,531
1943	45·84	144	2,212,115	2,671,320	587,279	2,812,624	8,995,488	52,348	13,250
1944	43·00	188	2,500,681	3,143,275	569,873	1,735,773	5,631,572	32,066	13,677
1945	47·00	112	2,149,570	3,185,369	533,883	1,426,457	5,620,323	25,158	2,033
1946	83·65	146	1,916,453	2,485,215	528,017	1,498,496	6,078,419	31,230	6,112
1947[1]	72·00	43	2,108,815	2,248,824	358,473	1,120,000	5,912,093	9,165	16,192

[1] Subject to revision.

Zinc.—Zinc production in Canada in 1947 showed a decrease of 11·9 p.c. from 1946. In the later year, British Columbia accounted for 60·7 p.c. of the total, Manitoba and Saskatchewan for 22·4 p.c. and Quebec for about 16·9 p.c.

The principal zinc-mining regions of British Columbia are situated in the Kootenay district, where there are large deposits of silver-lead-zinc ore. The chief producing mine is the Sullivan near Kimberley, while other mines are located in the Ainsworth and Slocan divisions of the West Kootenay district. The Britannia mine on Howe Sound, while primarily a copper-gold property, produces zinc concentrates when the market is favourable.

In northwestern Manitoba, the Flin Flon and Sherritt-Gordon mines have ores in which zinc is closely associated with copper and gold, and refined zinc has been made at the Hudson Bay Mining and Smelting Company's smelter from Flin Flon ores since the autumn of 1930. During 1947, zinc concentrates were shipped by the Waite-Amulet Mines, the Normetal Mining Corporation and the Golden Manitou Mines in the Rouyn district in Quebec, by the New Calumet mines, on Calumet Island, Que., near Renfrew, Ont., and by a number of mines in British Columbia. Production by provinces in 1946 is given in Table 7, p. 464.

Domestic requirements now take about 51,000 tons of refined zinc compared with 20,000 tons in pre-war years.

17.—Quantities and Values of Zinc Produced, 1936-47

NOTE.—Figures for the years 1911-28 are given at p. 347 of the 1939 Year Book; for 1929-35 at p. 335 of the 1946 edition.

Year	Quantity[1]	Value	Average Price per lb.	Year	Quantity[1]	Value	Average Price per lb.
	lb.	$	cts.		lb.	$	cts.
1936.....	333,182,736	11,045,007	3·315	1942.....	580,257,373	19,792,579	3·411
1937.....	370,337,589	18,153,949	4·902	1943.....	610,754,354	24,430,174	4·000
1938.....	381,506,588	11,723,698	3·073	1944.....	550,823,353	23,685,405	4·300
1939.....	394,533,860	12,108,244	3·069	1945.....	517,213,604	33,308,556	6·440
1940.....	424,028,862	14,463,624	3·411	1946.....	470,620,360	36,755,450	7·810
1941.....	512,381,636	17,477,337	3·411	1947[2].....	414,779,823	46,579,774	11·230

[1] Estimated foreign smelter recoveries and refined zinc made in Canada. [2] Subject to revision.

Subsection 4.—Production of Fuels

Coal Production.—The fuel situation in Canada is somewhat anomalous as, in spite of the enormous resources of coal and oil, output is relatively small in comparison with domestic requirements.

The Canadian coal areas are situated in the eastern and western provinces, while the areas of densest population and greatest industrial development, those of Ontario and Quebec, are more easily and economically supplied with coal from the nearer United States coalfields of Pennsylvania and Ohio. The coal produced in Nova Scotia, New Brunswick and British Columbia is all classed as bituminous, while Alberta produces semi-anthracite, bituminous, sub-bituminous and lignite, and Saskatchewan and Manitoba lignite only.

18.—Coal Production, by Provinces, 1936-47

NOTE.—Figures for the years 1874-1910, inclusive, will be found at p. 419 of the 1911 Year Book; for the years 1911-28 at p. 348 of the 1939 edition; and for 1929-35 at p. 347 of the 1946 edition.

Year	Nova Scotia	New Brunswick	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon	Totals	
								Quantity	Value
	short tons	short tons	short tons	short tons	short tons	short tons	short tons	short tons	$
1936....	6,649,102	368,618	4,029	1,020,792	5,696,960	1,489,171	510	15,229,182	45,791,934
1937....	7,256,954	364,714	3,172	1,049,348	5,562,839	1,598,843	84	15,835,954	48,752,048
1938....	6,236,417	342,238	2,016	1,022,166	5,251,233	1,440,287	361	14,294,718	43,982,171
1939....	7,051,176	468,421	1,138	960,000	5,519,208	1,692,755	Nil	15,692,698	48,676,990
1940....	7,848,921	547,064	1,697	1,097,517	6,203,839	1,867,846	"	17,566,884	54,675,844
1941....	7,387,762	523,344	1,246	1,322,763	6,969,962	2,020,844	"	18,225,921	58,059,630
1942....	7,204,852	435,203	1,265	1,301,116	7,754,053	2,168,541	"	18,865,030	62,897,581
1943....	6,103,085	372,873	999	1,665,972	7,676,726	2,039,402	"	17,859,057	62,877,549
1944....	5,745,671	345,123	Nil	1,372,766	7,428,708	2,134,231	"	17,026,499	70,433,169
1945....	5,112,615	361,184	"	1,532,995	7,800,151	1,699,768	"	16,506,713	67,588,402
1946....	5,452,898	366,735	"	1,523,786	8,826,239	1,636,792	"	17,806,450	75,361,481
1947[1]....	4,118,196	345,194	"	1,570,620	8,067,201	1,761,568	"	15,862,779	77,979,195

[1] Subject to revision.

Coal Consumption.—The sources of coal consumed in Canada in the calendar years 1936-47 are shown in Table 21 and detailed figures of coal made available for consumption in 1947 are given in Table 22; the difference between the totals of the two tables in the same year is accounted for by the fact that coal received may be held in bond at Canadian ports and not "cleared for consumption" until required, while coal received in previous years may be taken out of bond (cleared for consumption) in a later year. Normally, the coal made available for consumption is greater than the apparent domestic consumption, since coal is landed at Canadian ports and re-exported or ex-warehoused for ships' stores without being taken out of bond but, while remaining in bond at the port, it is available for domestic consumption if required.

19.—Imports of Anthracite, Bituminous and Lignite Coal into Canada, 1936-47

NOTE.—Anthracite dust is included under anthracite coal. Figures for the years 1868-1910, inclusive, will be found at p. 420 of the 1911 Year Book; for the years 1911-28 at p. 349 of the 1939 edition; and for 1929-35 at p. 348 of the 1946 edition.

Year	Anthracite		Bituminous[1]		Lignite		Totals[1]	
	short tons	$	short tons	$	short tons	$	short tons	$
1936	3,418,556	17,897,635	9,700,002	17,039,408	4,873	18,347	13,123,431	34,955,390
1937	3,488,278	17,317,449	11,180,827	20,835,587	1,494	5,582	14,670,599	38,158,618
1938	3,475,801	18,079,657	9,533,729	17,734,567	2,961	11,690	13,012,491	35,825,914
1939	4,288,461	21,938,333	10,706,786	19,628,410	3,398	11,942	14,998,645	41,578,685
1940	3,944,255	23,123,417	13,479,986	26,499,046	2,493	7,669	17,426,734	49,630,132
1941	3,853,013	24,026,095	16,534,449	37,558,900	934	3,046	20,388,393	61,588,041
1942	4,911,625	31,506,629	20,025,483	50,343,442	239	1,148	24,937,347	81,851,219
1943	4,480,285	30,918,555	23,628,300	70,325,413	337	1,487	28,108,922	101,245,455
1944	4,452,991	33,417,990	24,270,692	79,718,988	171	1,038	28,723,854	113,138,016
1945	3,412,739	27,568,369	21,648,350	74,861,376	467	2,229	25,061,556[2]	102,431,974[2]
1946	4,631,387	41,987,460	21,475,040	78,366,184	172	776	26,106,599[2]	120,354,420[2]
1947[3]	4,281,682	41,012,759	24,610,045	97,935,771	203	1,255	28,891,930[2]	138,949,785[2]

[1] Includes coal ex-warehoused for ships' stores. [2] Canada also imported 142,435 short tons of briquettes of coal or coke valued at $1,114,617 in 1945, 182,231 short tons valued at $1,449,221 in 1946, and 245,678 short tons valued at $2,233,654 in 1947. [3] Subject to revision.

20.—Exports of Coal Produced in Canada, 1936-47

NOTE.—Figures for the years 1868-1910, inclusive, will be found at p. 421 of the 1911 Year Book; for the years 1911-28 at p. 349 of the 1939 edition; and for 1929-35 at p. 348 of the 1946 edition.

Year	Quantity	Value	Year	Quantity	Value
	short tons	$		short tons	$
1936	411,574	1,792,584	1942	815,585	4,278,345
1937	355,268	1,441,879	1943	1,110,101	5,428,362
1938	353,181	1,540,990	1944	1,010,240	5,984,827
1939	376,203	1,666,934	1945	840,708	5,303,543
1940	504,898	2,361,551	1946	862,489	5,946,224
1941	531,449	2,596,626	1947[1]	714,549	5,440,788

[1] Subject to revision.

21.—Consumption of Canadian and Imported Coal in Canada, by Quantities and Percentages, 1936-47

NOTE.—Figures for the years 1886-1910, inclusive, will be found at p. 354 of the 1921 Year Book; for the years 1911-28 at p. 350 of the 1939 edition; and for 1929-35 at p. 349 of the 1946 edition.

Year	Canadian Coal[1]		Imported Coal "Entered for Consumption"				Grand Total	Per Capita[3]
			From U.S.A.	From United Kingdom	Total[2]			
	short tons	p.c.	short tons	short tons	short tons	p.c.	short tons	short tons
1936	14,508,652	53·3	10,801,643	1,498,656	12,719,515	46·7	27,228,167	2·487
1937	15,172,729	51·5	12,574,574	1,211,052	14,268,585	48·5	29,441,314	2·666
1938	13,800,094	53·5	10,754,747	1,257,887	12,012,634	46·5	25,812,728	2·315
1939	14,902,915	50·6	12,923,708	1,099,419	14,564,679	49·4	29,467,594	2·615
1940	16,666,234	49·5	15,509,779	1,514,458	17,036,090	50·5	33,702,324	2·961
1941	17,227,151	46·2	19,332,479	693,902	20,026,082	53·8	37,253,233	3·237
1942	17,725,761	42·0	24,140,841	388,948	24,529,361	58·0	42,255,122	3·626
1943	16,321,006	37·1	27,303,776	391,475	27,695,098	62·9	44,016,104	3·727
1944	15,660,808	35·7	27,948,008	218,511	28,166,201	64·3	43,827,009	3·650
1945	15,227,819	38·3	24,505,241	28,388	24,521,528	61·7	39,749,347	3·279
1946	16,502,508	39·0	25,639,541	101,580	25,740,704	61·0	42,243,212	3·432
1947[4]	14,666,276	34·0	28,410,149	52,777	28,462,242	66·0	43,128,518	3·428

[1] The sum of Canadian coal mines' sales, colliery consumption, coal supplied to employees and coal used in making coke, etc., less the tonnage of coal exported. [2] Includes small tonnages from countries other than the United Kingdom and the United States. Deductions have been made from this column to take account of foreign coal re-exported from Canada and bituminous coal ex-warehoused for ships' stores. [3] Figures based on estimates of population given at p. 139. [4] Subject to revision.

22.—Coal Output, Exports, Imports, and Coal Made Available for Consumption in Canada, 1947

NOTE.—For details by provinces, see the Annual Report on Coal Statistics for Canada.

Grade	Canadian Coal		Imported Coal[1]	Coal Made Available for Consumption
	Output	Exported		
	short tons	short tons	short tons	short tons
Anthracite	Nil	Nil	4,464,007	4,464,007
Bituminous	11,060,486	706,408	25,841,440	36,195,518
Sub-bituminous	3,231,673	Nil	Nil	3,231,673
Lignite	1,570,620	8,141	203	1,562,682
Totals	**15,862,779**	**714,549**	**30,305,650**	**45,453,880**

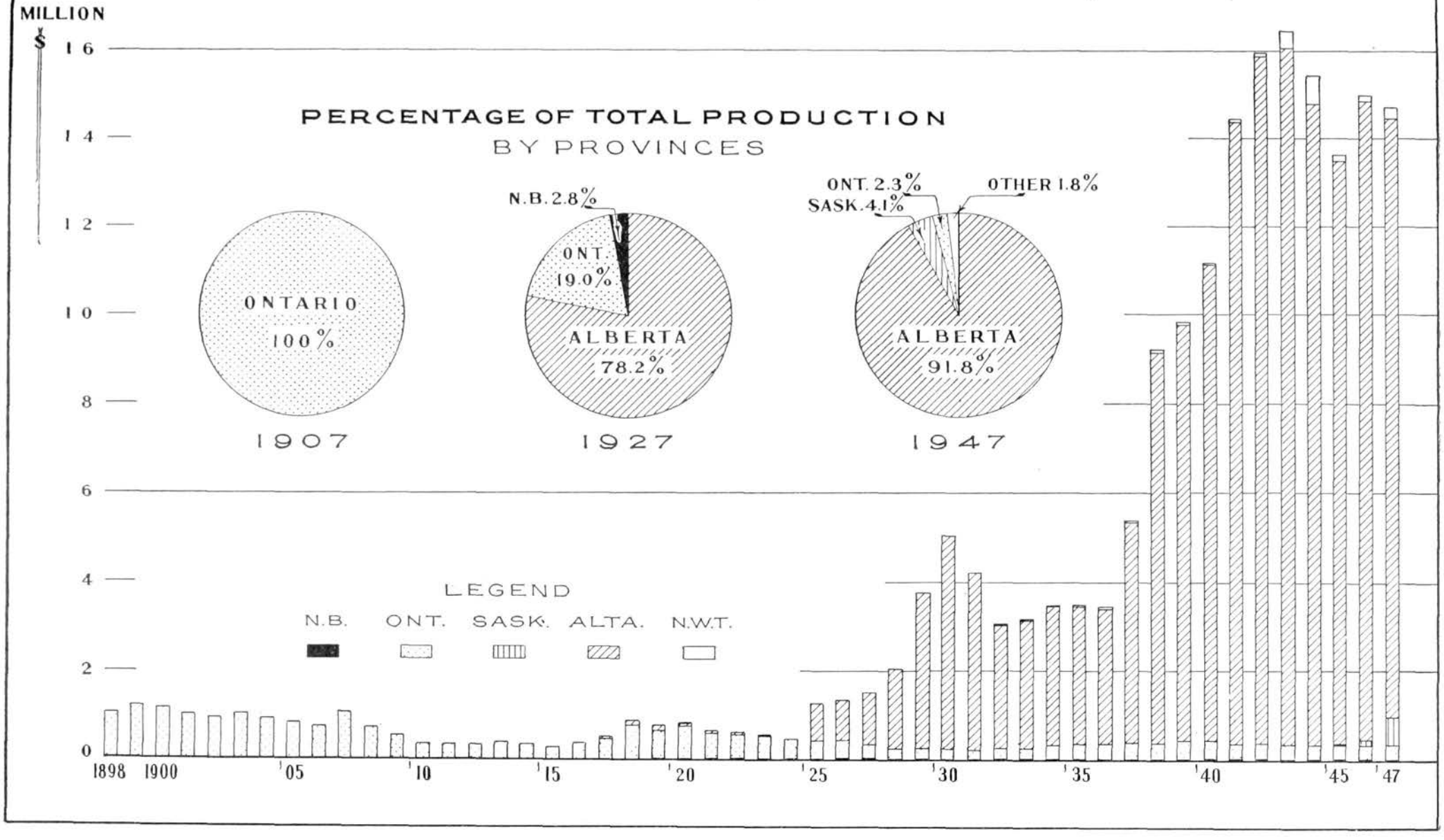
[1] Coal reaching Canadian ports whether or not it is cleared from customs.

Petroleum.—A brief account of the development of the petroleum industry in Canada is given at pp. 266-267 of the 1941 Year Book. The development of oil production in the Northwest Territories is covered in the 1943-44 edition, pp. 316-317.

Demands for home production of oil in Canada in 1946, exceeded 60,000,000 bbl. and of this amount Canada produced over 7,000,000 bbl. Over 94 p.c. of this production was supplied by wells in the Province of Alberta, the remainder from the Provinces of Ontario, Saskatchewan and New Brunswick.

The remaining source of supply so far discovered in Canada is in the Northwest Territories where, during the War, 45 wells were pouring oil from that area through a 500-mile pipeline to Whitehorse from Norman Wells. This was an emergency venture and, with the end of hostilities, was abandoned as entirely uneconomic.

VALUES OF CRUDE PETROLEUM, BY PROVINCES, 1898-1947



The world problem of supply and demand in oil has become a major one. New fields are becoming harder to find and the steady production of the past years is declining. In view of these facts the encouraging developments on newly proven acreages of oil production in Alberta during the past few years have been of great importance and, for Canada, an incentive to greater possible production.

The quantity of crude petroleum produced in 1947 was slightly less than in the previous year.

23.—Quantities and Values of Crude Petroleum Produced, by Provinces, 1936-47

Year	New Brunswick		Ontario		Alberta		Northwest Territories		Canada	
	bbl.	$	bbl.	$	bbl.	$	bbl.	$	bbl.	$
1936.....	17,112	24,075	165,495	350,767	1,312,368	3,019,930	5,399	26,995	1,500,374	3,421,767
1937.....	18,089	25,496	165,205	356,000	2,749,085	4,961,002	11,371	56,855	2,943,750	5,399,353
1938.....	19,276	27,246	172,641	359,268	6,751,312	8,775,094	22,855	68,565	6,966,084	9,230,173
1939.....	22,799	32,082	206,379	401,430	7,576,932	9,362,363	20,191	50,477	7,826,301	9,846,352
1940.....	22,167	31,220	187,644	397,078	8,362,203	10,694,394	18,633	37,265	8,590,978[2]	11,160,213[2]
1941.....	31,359	44,102	160,238	337,760	9,918,577	13,985,906	23,664	47,328	10,133,838	14,415,096
1942.....	28,089	39,467	143,845	306,242	10,117,073	15,514,665	75,789	108,477	10,364,796	15,968,851
1943.....	24,530	34,342	132,492	311,356	9,601,530	15,724,518	293,750	400,201	10,052,302	16,470,417
1944.....	23,296	32,832	125,067	296,420	8,727,366	14,468,061	1,223,675	632,587	10,099,404	15,429,900
1945.....	30,140	42,413	113,325	268,478	7,979,786	13,169,692	345,171	136,303	8,482,796[2]	13,632,248[2]
1946.....	28,584	40,018	123,082	291,719	7,137,921	14,347,933	177,282	173,392	7,585,555[2]	14,989,052[2]
1947[3].....	22,848	31,987	124,954	337,375	6,711,276[1]	13,489,665	244,194	239,310	7,632,204[2]	14,701,319[2]

[1] These figures are compiled on a somewhat different basis from the figure of the Alberta Government given on p. 477. [2] Includes 331 bbl. at $256 produced in Saskatchewan in 1940; 14,374 bbl. at $15,362 in 1945; 118,686 bbl. at $135,990 in 1946 and 528,932 bbl. at $602,982 in 1947. [3] Subject to revision.

*The Alberta Oil Fields.**—The principal source of oil production in Alberta is in the Turner Valley. This field, although now 33 years old, accounted for 97,134,674 bbl. of oil from 1914 to Dec. 31, 1947, or over 90 p.c. of the total oil production of the Province. Production in this field has shown a steady decline, however, since 1942 although, due to newly discovered fields, the over-all Alberta production figures are again increasing.

There are at present 278 producing wells in this area and total production in 1947 amounted to 5,449,575 bbl.

Fields outside Turner Valley have continued to show noticeable increases. The Conrad and Taber fields were among the major producers during 1946 with production of 212,645 and 206,925 bbl. The Lloydminster field, however, became the centre of interest during the latter part of the year and, next to Leduc (see p. 477), is the most interesting area under development. This field, lying partly in Alberta and partly in Saskatchewan, showed the encouraging increase of from 23 wells producing 76,187 bbl. in 1946 to 46 wells with a production of 304,236 bbl. in 1947, from the Alberta side.

Early in 1947, when a shortage of oil supplies became generally noticeable, a new major producing field was discovered about 10 miles from the town of Leduc or about 20 miles south-west of Edmonton, Alta. This area, known as the Leduc field, came into production on Feb. 13, 1947, and No. 1 well was pronounced the largest producer of any field except Turner Valley.

* Statements taken from "1948 Alberta Oil Review" by A. C. Ballantine, Supervisor of Technical Publications, Government of Alberta.

Toward the close of the year, 30 wells in this area were producing daily 3,500 bbl. of oil of excellent quality, free of sulphur and with lubricant content. The oil is being carried from the field by pipeline to railhead at Nisku, about 8 miles east of the field. The Leduc field is developing in a most promising way and offers to be the greatest Canadian oil discovery since Turner Valley.

The following table gives production by fields, in 1947.

24.—Production of Alberta Oil Fields, 1947

NOTE.—Figures for total production of petroleum for the years 1922-46, are given at p. 473 of the 1947 Year Book.

Field	Quantity	Field	Quantity
	bbl.		bbl.
Turner Valley	5,449,575	Wainwright	18,325
Leduc	372,427	Del Bonita	4,312
Lloydminster (Alberta side)	304,236	Dina	4,159
Taber	205,236	Jumping Pound	2,619
Conrad	202,929	Provost	115
Vermilion	138,401	Bantry	30
Princess	106,920		
		Total	**6,809,284**

The Tar Sands and Bituminous Developments.—Alberta, in its bituminous sands deposit at McMurray, has the greatest known oil reserve on the face of the earth. Estimates vary between that of Canadian geologists at 100,000,000,000 tons and that of the United States Bureau of Mines at 250,000,000,000 tons. The yield at present is about one barrel of oil per ton of sands.

At Bitumount, 50 miles north of McMurray on the Athabaska River, an Oil Sands, Limited, plant has been erected and experimentation regarding processing of the sand in that area is being carried out. Overburden covering the outcrop is very light at Bitumount and the product, being soft, lends itself more readily to separation than the harder outcrop in other parts of the reserve.

Another feature of the Bitumount area is the question of usage of the separated sand for glass manufacture. The sand analysed for such purpose has been favourably reported on, and quantities have been transported to points of manufacture.

A rich deposit of 'liquid bitumen' has been uncovered by Federal Government geologists on the west side of the Mildred-Ruth Lakes area, opposite the mouth of Steepbank River, 20 miles north of Fort McMurray in northeastern Alberta. The estimate of bitumen content per acre ranges as high as 350,000 bbl. The deposit is located within 20 miles of the north terminus of the Northern Alberta Railway at Waterways, and is about 250 miles north and east of Edmonton.

Within the area of best-grade material in the deposit, the 18 holes assayed thus far give a good indication of the quality and size of the deposit and, while they are quite insufficient for any precise estimates, the presence of a deposit large enough to warrant consideration of commercial development is indicated.

Natural Gas.—The producing natural gas wells in Eastern Canada are in southwestern Ontario, and near Moncton, N.B. In Western Canada the principal producing fields are in Alberta and include the Turner Valley (about 35 miles southwest of Calgary), Medicine Hat, Viking (about 80 miles southeast of Edmonton), Redcliff, Foremost, Bow Island and Wetaskiwin. Wainwright, Alta., is supplied

with gas from the Maple Leaf Well in the Fabyan field. In 1947, Alberta was credited with 57 p.c. of total value and 85 p.c. of the total quantity of natural gas. Ontario produced over 41 p.c. of the value and over 14 p.c. of the total quantity.

25.—Quantities and Values of Natural Gas Produced, by Provinces, 1936-47

NOTE.—For the years 1892-1919, see the Annual Report on the Mineral Production of Canada, 1928, p. 188; for the years 1920-28 see p. 347 of the 1940 Canada Year Book; and for 1929-35, p. 350 of the 1946 edition.

Year	New Brunswick		Ontario		Alberta		Canada[1]	
	M cu. ft.	$	M cu. ft.	$	M cu. ft.	$	M cu. ft.	$
1936.....	606,246	298,819	10,006,743	6,052,294	17,407,820	4,376,720	28,113,348	10,762,243
1937.....	576,671	283,922	10,746,334	6,588,798	20,955,506	4,766,437	32,380,991	11,674,802
1938.....	577,492	284,689	10,952,806	6,460,764	21,822,108	4,807,346	33,444,791	11,587,450
1939.....	606,382	292,403	11,966,581	7,261,928	22,513,660	4,915,821	35,185,146	12,507,307
1940.....	616,041	300,543	13,053,403	7,745,834	27,459,808	4,923,469	41,232,125	13,000,593
1941.....	653,542	317,437	11,828,703	7,140,130	30,905,440	5,175,364	43,495,353	12,665,116
1942.....	619,380	299,688	10,476,770	6,809,901	34,482,585	6,146,146	45,697,359	13,301,655
1943.....	675,029	327,787	7,914,408	6,543,913	35,569,078	6,241,815	44,276,216	13,159,418
1944.....	702,464	341,636	7,082,508	4,694,097	37,161,570	6,339,817	45,067,158	11,422,541
1945.....	653,230	317,568	7,199,970	4,837,586	40,393,061	7,095,910	48,411,585	12,309,564
1946.....	541,010	262,441	7,051,309	4,656,528	40,097,096	7,184,006	47,900,484	12,165,050
1947[2].....	465,259	223,324	7,581,715	5,928,115	45,089,861	8,116,175	53,310,382	14,317,843

[1] Totals for Canada include small amounts produced in Saskatchewan and the Northwest Territories.
[2] Subject to revision.

Subsection 5.—Production of Non-Metallic Minerals (Excluding Fuels)

The most important minerals in this group are asbestos, gypsum and salt, but it also includes numerous other items such as feldspar, graphite, iron oxide, magnesitic dolomite, mica, nepheline syenite, peat moss, sulphur, silica brick, sodium sulphate, soapstone and talc.

Asbestos.—The asbestos produced in Canada is practically all of the chrysotile variety and comes entirely from the serpentized rock in the Eastern Townships of Quebec. The value of the annual production of asbestos increased from less than $24,700 in 1880 to $25,240,562 in 1946 and $31,847,135 in 1947. The Canadian deposits are the largest known in the world. The producing centres are Thetford mines, which has been producing since 1878, Black Lake, East Broughton, Vimy Ridge, Asbestos, and St. Remi de Tingwick in Quebec. The veins of chrysotile asbestos vary in width from one-quarter inch to one-half inch and occasionally fibre has been obtained several inches in length. The fibre is of good quality and well adapted to spinning.

The world's largest market is in the United States and Canada's proximity to this market is very advantageous to the asbestos industry in this country.

26.—Quantities and Values of Asbestos Produced, 1936-47

NOTE.—Figures for the years 1896-1910, inclusive, will be found at p. 424 of the 1911 Year Book; for the years 1911-28 at p. 354 of the 1939 edition; and for 1929-35 at p. 353 of the 1946 edition.

Year	Quantity	Value	Year	Quantity	Value
	short tons	$		short tons	$
1936.....	301,287	9,958,183	1942.....	439,459	22,663,283
1937.....	410,026	14,505,791	1943.....	467,196	23,169,505
1938.....	289,793	12,890,195	1944.....	419,265	20,619,516
1939.....	364,472	15,859,212	1945.....	466,897	22,805,157
1940.....	346,805	15,619,865	1946.....	558,181	25,240,562
1941.....	477,846	21,468,840	1947[1].....	662,533	31,847,135

[1] Subject to revision.

Gypsum.—The use of gypsum in the building trades has increased rapidly and Canada has extensive deposits of gypsum favourably situated for commercial developments. They are chiefly located in Hants, Inverness and Victoria counties, N.S.; Hillsborough, N.B.; Hagersville and Caledonia, Ont.; Gypsumville and Amaranth, Man.; and Falkland, B.C. The Hillsborough deposit of gypsum in New Brunswick is of very high grade. Gypsum is exported from Canada in crude form mainly to the United States for the manufacture of gypsum products. Canadian production of gypsum amounted to 2,390,157 tons in 1947.

27.—Gypsum Produced, by Provinces, 1936-47

NOTE.—Figures for the years 1926-35 are given at p. 321 of the 1943-44 Year Book.

Year	Nova Scotia		New Brunswick	Ontario	Manitoba	British Columbia	Canada	
	Quantity	Value	Quantity	Quantity	Quantity	Quantity	Quantity	Value
	tons	$	tons	tons	tons	tons	tons	$
1936	729,019	808,294	38,470	40,191	12,064	14,078	833,822	1,278,971
1937	926,796	978,288	36,906	53,780	13,941	15,764	1,047,187	1,540,483
1938	870,856	908,383	48,418	57,503	14,571	17,451	1,008,799	1,502,265
1939	1,298,618	1,340,830	29,765	59,440	15,961	18,150	1,421,934	1,935,127
1940	1,278,204	1,302,347	52,218	75,271	23,108	19,987	1,448,788	2,065,933
1941	1,395,172	1,517,297	56,172	90,599	27,601	23,862	1,593,406	2,248,428
1942	394,216	512,762	36,623	82,796	29,218	23,313	566,166	1,254,182
1943	255,736	368,639	36,263	92,448	37,989	24,412	446,848	1,381,468
1944	401,284	489,932	42,040	90,288	38,330	24,222	596,164	1,511,978
1945	634,960	790,273	46,755	92,174	42,275	23,617	839,781	1,783,290
1946	1,538,738	1,812,815	38,839	122,524	63,187	47,649	1,810,937	3,671,503
1947[1]	2,053,145	2,520,690	61,616	155,002	67,471	52,923	2,390,157	4,388,745

[1] Subject to revision.

Salt.—Salt is obtained from brine wells in the Provinces of Ontario, Manitoba and Alberta, while at Malagash, N.S., it is recovered by mining rock salt and by evaporation from brine. The centres of production in Ontario of the salt industry are in Amherstburg, Goderich, Sandwich and Windsor.

In Nova Scotia a new recovery plant near Amherst began operations in 1947; previously all the output in this Province was from the mine at Malagash. A new plant near Unity, Sask., will be in production early in 1948. The market for salt in Canada is steadily increasing. Domestic production is sold principally to the dairy, meat-curing and -canning industry, to fisheries, to highways and transport departments, to agriculturists for use as a soil sweetener, to the chemical industries, and as table salt. In 1947, Ontario produced 632,544 tons of salt, 86 p.c. of the Canadian total. About one-half of the Dominion's output is used in making caustic soda, soda ash and related chemicals.

28.—Salt Produced, by Provinces, 1936-47

NOTE.—Figures for the years 1926-35 are given at p. 354 of the 1946 Year Book.

Year	Nova Scotia	Ontario	Manitoba	Alberta	Canada	
	tons	tons	tons	tons	tons	$
1936	38,774	350,044	2,498	Nil	391,316	1,773,144
1937	47,865	407,701	3,391	"	458,957	1,799,465
1938	44,950	388,130	2,920	4,045	440,045	1,912,913
1939	47,885	370,843	2,453	3,319	424,500	2,486,632
1940	42,495	412,401	3,076	6,742	464,714	2,823,269
1941	54,007	477,170	13,051	16,617	560,845	3,196,165
1942	50,199	558,407	22,706	22,360	653,672	3,844,187
1943	47,775	594,889	27,523	17,499	687,686	4,379,378
1944	38,809	603,806	27,267	25,335	695,217	4,074,021
1945	37,825	578,697	27,133	29,421	673,076	4,054,720
1946	38,371	441,679	26,166	31,769	537,985	3,626,165
1947[1]	44,395	632,544	25,686	28,890	731,515	3,693,769

[1] Subject to revision.

Sulphur.—Sulphur production statistics given in Table 29 represent the quantity and value of sulphur contained in iron pyrites shipped plus the quantity and value of sulphur reclaimed for acid manufacture, etc., from smelter fumes. As thus defined, the commercial output of sulphur in Canada during 1947 totalled 196,780 short tons, valued at $1,601,372 compared with 234,771 tons worth $1,784,666 in 1946. Production in 1947 comprised 58,222 tons of sulphur in iron pyrites and 138,558 tons recovered from smelter gases. Output by provinces was: Quebec 48,722 tons valued at $182,542; Ontario 15,958 tons at $159,580; and British Columbia 132,100 tons valued at $1,259,250.

Sulphur is used in Canada chiefly in the production of sulphite pulp, sulphuric acid and rayon. It is used also in the manufacture of explosives, rubber goods, insecticides, matches and in petroleum refining.

29.—Quantities and Values of Sulphur Produced, 1936-47

NOTE.—Figures for the years 1926-35 are given at p. 355 of the 1946 Year Book.

Year	Quantity	Value	Year	Quantity	Value
	tons	$		tons	$
1936	122,132	1,033,055	1942	303,714	1,994,891
1937	130,913	1,154,992	1943	257,515	1,753,425
1938	112,395	1,044,817	1944	248,088	1,755,739
1939	211,278	1,668,025	1945	250,114	1,881,321
1940	170,630	1,298,018	1946	234,771	1,784,666
1941	260,023	1,702,786	1947[1]	196,780	1,601,372

[1] Subject to revision.

Subsection 6.—Production of Clay Products and Other Structural Materials

Clay Products and Other Structural Materials.—Production of clay products and structural materials is dependent upon the activity of the construction industry in Canada; output in 1947 reached a record value of $72,716,159. This group includes cement, clay, and clay products (brick, drain tile, sewer pipe, etc.), lime, sand, gravel and stone. The cement industry in Canada began with the manufacture of hydraulic or natural rock cement. Production was probably first obtained at Hull, Que., between 1830 and 1840. The manufacture of Portland cement began about 1889 and the largest production is now in Quebec and Ontario, although there are active plants in Manitoba, Alberta, and British Columbia. Common clays, suitable for the production of building bricks and tile are found in all the provinces of Canada, although production is greatest in Ontario and Quebec which are the chief areas of population.

Stoneware clays are largely produced from the Eastend and Willows area in Saskatchewan and shipped to Medicine Hat, Alta., where, owing to the availability of cheap gas fuel, they are used extensively in the manufacture of stoneware, sewer pipe, pottery, tableware, etc. Stoneware clay also occurs near Shubenacadie and Musquodoboit in Nova Scotia, some of the Musquodoboit clay is used for pottery, but it has not been developed extensively for ceramic use. Two large plants and a few small plants manufacture fireclay refractories from domestic clay in British Columbia, Saskatchewan and Nova Scotia.

Important deposits of high-grade, plastic, white burning clays occur in northern Ontario, and clay deposits which yield a high-grade of china clay have been found

along the Fraser River in British Columbia, but china clay has been produced commercially only from the vicinity of St. Remi D'Amherst, Papineau County, Que., where mining operations were carried on prior to 1923.

Ball clays of high bond strength occur in the "White Mud" beds of southern Saskatchewan, but these have not been developed to any extent.

30.—Values of Clay Products and Other Structural Materials Produced, by Provinces, 1936-47

NOTE.—Figures for the years 1926-35 are given at p. 355 of the 1946 Year Book.

Year	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
	$	$	$	$	$	$	$	$	$
1936	1,763,516	931,827	7,503,022	10,326,967	1,666,789	380,115	1,245,549	1,925,293	25,770,741[1]
1937	2,293,325	1,128,931	10,350,583	15,121,178	1,673,124	585,673	1,303,533	2,413,352	34,869,699
1938	1,611,111	2,188,889	11,619,514	11,997,177	1,805,875	781,224	1,627,462	2,247,414	33,878,666
1939	1,829,207	1,911,041	12,319,773	12,856,694	1,646,797	556,973	1,947,453	2,314,821	35,382,759
1940[2]	1,855,771	936,161	15,001,749	16,636,844	2,600,304	906,181	2,971,550	2,795,389	43,703,949
1941[2]	1,330,888	1,145,412	16,631,657	18,652,999	2,197,095	631,732	2,626,277	3,416,996	46,633,056
1942[2]	1,980,912	1,305,343	17,723,293	16,557,804	2,317,933	707,123	2,836,160	3,564,405	46,992,973
1943	1,597,791	911,121	15,430,999	15,020,990	2,288,339	932,412	2,661,834	3,166,768	42,010,254
1944	1,081,805	1,637,409	14,597,540	15,716,361	2,546,722	864,082	3,044,236	3,496,782	42,984,937
1945	1,310,214	1,489,210	17,051,353	17,437,552	3,212,917	834,564	3,305,941	3,777,922	48,419,673
1946	1,671,504	1,817,401	22,615,910	24,293,081	4,235,389	1,322,107	4,765,108	5,399,721	66,120,221
1947[3]	1,852,704	1,954,209	26,374,065	26,492,943	4,588,414	970,554	4,691,637	5,791,633	72,716,159

[1] Includes $27,663 for sand and gravel in Prince Edward Island. [2] Includes value of cement containers. [3] Subject to revision.

31.—Values (Total Sales) of Clay Products Produced, by Provinces, 1936-47

NOTE.—Figures for the years 1926-35 are given at p. 356 of the 1946 Year Book.

Year	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Canada
	$	$	$	$	$	$	$	$	$
1936	355,254	102,256	691,765	1,573,936	55,564	95,584	315,777	280,891	3,471,027
1937	406,846	123,876	1,053,153	2,033,845	95,531	115,330	338,638	349,640	4,516,859
1938	340,253	123,625	1,022,194	2,083,496	105,334	118,713	377,337	365,132	4,536,084
1939	339,952	129,985	1,274,776	2,346,638	78,892	148,774	461,079	371,140	5,151,236
1940	490,543	171,745	1,546,246	2,508,540	102,906	164,828	838,856	520,883	6,344,547
1941	529,435	193,643	1,944,358	3,087,616	84,817	224,897	952,144	558,426	7,575,336
1942	618,441	246,041	1,741,297	2,549,486	80,890	271,325	1,013,497	560,746	7,081,723
1943	478,571	216,446	1,504,428	2,453,829	132,382	348,725	978,649	495,163	6,608,193
1944	402,694	207,051	1,881,791	2,347,396	197,383	330,907	1,143,577	486,626	6,997,425
1945	433,455	232,783	2,534,630	3,107,189	269,917	271,288	1,401,875	661,955	8,913,092
1946	671,466	336,971	3,457,168	4,288,780	372,920	411,446	1,808,971	859,645	12,207,367
1947[1]	707,000	326,270	4,192,563	4,737,417	388,973	360,380	1,853,509	1,136,584	13,702,696

[1] Subject to revision.

32.—Quantities and Values of Production (Sales), Imports and Exports and Apparent Consumption of Portland Cement, 1936-46

NOTE.—Figures for the years 1910-28 are given at p. 356 of the 1939 Year Book; and for 1929-35 at p. 356 of the 1946 edition.

Year	Production[1]		Imports		Exports		Apparent Consumption	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	bbl.[2]	$	bbl.[2]	$	bbl.[2]	$	bbl.[2]	$
1936	4,508,718	6,908,192	39,867	107,180	68,929	56,909	4,479,656	6,958,463
1937	6,168,971	9,095,867	61,082	134,113	72,568	82,978	6,157,485	9,147,002
1938	5,519,102	8,241,350	48,497	105,326	89,419	101,059	5,478,180	8,245,617
1939	5,731,264	8,511,211	16,622	58,316	156,556	159,579	5,591,330	8,409,948
1940	7,559,648	11,775,345	13,213	69,821	299,975	414,442	7,272,886	11,430,724
1941	8,368,711	13,063,588	11,986	59,162	310,873	517,762	8,069,824	12,604,988
1942	9,126,041	14,365,237	26,320	116,126	273,880	476,284	8,878,481	14,005,079
1943	7,302,289	11,599,033	18,577	111,698	172,601	344,004	7,148,265	11,366,727
1944	7,190,851	11,621,372	14,004	97,966	210,449	377,434	6,994,406	11,341,904
1945	8,471,679	14,246,480	32,653	141,539	281,944	535,012	8,222,388	13,853,007
1946	11,560,483	20,122,503	350,057	1,098,532	114,370	236,276	11,796,170	20,984,759

[1] 'Production' as used here means quantity and value of sales. [2] The barrel of cement equals 350 lb. or 3½ cwt.

Sand and Gravel.—Deposits of sand and gravel are numerous throughout eastern Canada, with the exception of Prince Edward Island where gravels are scarce. The local needs for these materials are usually supplied from the nearest deposits, as their cost to the consumer is governed largely by the length of the haul. This accounts for the large number of small pits and the small number of large plants. Every province, except New Brunswick and Prince Edward Island, produces natural bonded sand. By far the greatest part of production comes from the Niagara Peninsula, Ont.

Some grades of sand particularly suitable for certain industries demand a much higher price than ordinary sand. Commercial production of sand and gravel is greatest in Quebec and Ontario; these two provinces contributed 74 p.c. of the total quantity in 1947.

The greater part of the output of gravel and sand is used in road improvement, concrete works and railway ballast, and most of the commercial plants are equipped for producing crushed gravel, a product that can compete with crushed stone.

Stone.—The stone industry in Canada has two main divisions, stone quarrying and the stone products industry. The kind of stone quarried in Canada includes granite, limestone, marble, sandstone and slate. The products of these quarries yield high-grade structural and decorative materials and also supply requirements for chemical and other allied industries. The gross value of stone of all varieties produced in Canada, in 1947, totalled $12,263,534 as compared with $11,185,711 in 1946.

33.—Quantities and Values of Sand, Sand and Gravel, and Stone Produced, 1944-46

Material and Purpose	1944		1945		1946	
	Quantity	Gross Value	Quantity	Gross Value	Quantity	Gross Value
	tons	$	tons	$	tons	$
Sand—						
Moulding sand	31,947	65,168	31,611	57,842	32,375	61,419
For building, concrete, roads, etc.	1,605,514	743,191	2,247,887	918,739	3,421,830	1,681,572
Other	50,513	18,761	191,510	68,468	61,801	19,117
Sand and Gravel—						
For railway ballast	4,428,721	900,610	4,625,513	1,116,297	3,968,123	867,616
For concrete, roads, etc.	16,648,511	6,898,582	17,582,686	6,573,527	26,640,116	10,530,718
For mine filling	3,007,422	397,578	1,974,885	376,935	2,024,029	426,063
Crushed gravel	2,627,358	1,256,229	3,096,611	1,456,555	3,801,720	1,943,195
Totals, Sand, Sand-and Gravel	**28,399,986**	**10,280,119**	**29,750,703**	**10,568,363**	**39,949,994**	**15,529,700**
Stone—						
Building	23,142	396,202	56,711	751,401	70,928	1,411,298
Monumental and ornamental	15,942	737,564	16,229	786,403	22,233	1,129,046
Limestone for agriculture	316,945	601,042	419,579	891,802	480,639	1,044,651
Chemical Uses—						
Flux	626,052	523,554	538,798	489,055	415,389	370,074
Pulp and paper	208,665	374,137	212,051	413,055	247,388	478,074
Other	274,645	272,681	300,665	313,059	208,371	215,917
Rubble and riprap	201,601	187,823	241,780	237,018	326,265	286,142
Crushed	4,219,635	3,641,959	4,282,286	3,742,506	6,073,451	5,340,831
Totals, Stone[1]	**5,994,992**	**7,159,177**	**6,205,555**	**8,166,700**	**8,056,260**	**11,185,711**

[1] Totals include minor items not specified.

Section 3.—Industrial Statistics of Mines and Minerals—Capital, Labour, Wages, etc.

The scope of the annual statistics on mineral production published by the Dominion Bureau of Statistics includes a general review of the principal mineral industries, such as the copper-gold, silver-lead-zinc, and nickel-copper industries, as well as a section on metallurgical works. Additional data published at irregular intervals, include such features as capital employed, numbers of employees, wages and salaries paid and net value of sales.

The figures for "net income from sales" of industries given in Tables **34** and **35** are those reported by the operators and are, in each case, the settlements received for shipments by producers and the additional values obtained when the smelting of ores is completed in Canada. The totals indicate more nearly the actual returns to the different industries than do the values for the minerals in Table **3** of this Chapter where, in the case of copper, lead, zinc and silver, the values are computed by applying the average prices for the year in the principal metal markets to the total production from mines and smelters with no reduction for fuel, electricity and other supplies consumed in the production process. Some imported ores and concentrates are treated in Canadian non-ferrous smelting and refining works, especially in the production of aluminum where imported ore only is used and of cobalt which now comes mainly from African ores. The net sales of these plants include, therefore, the net value of the metals recovered from these imported ores and, to this extent, the net sales shown in Tables **34** and **35** include products of other than Canadian origin.

34.—Principal Statistics of the Mineral Industries, by Groups, 1942-46, and by Provinces, 1946

NOTE.—Figures for the years 1936-41 are given at pp. 453-454 of the 1947 Year Book.

Group, Year and Province	Plants or Mines	Capital Employed	Employees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies[1]	Net Income from Sales
	No.	$	No.	$	$	$
METALLICS						
1942	483	768,245,462	64,185	126,886,402	400,152,674	374,526,623
1943	359	800,060,147	64,324	128,483,302	467,165,380	336,544,720
1944	418	[2]	58,486	116,427,696	409,904,049	312,982,733
1945	871	[2]	49,684	102,669,882	319,549,277	267,798,653
1946	855	[2]	49,991	108,112,139	292,270,193	253,174,086
FUELS						
1942	6,238	246,242,581	30,117	48,566,913	12,277,793	76,393,437
1943	6,168	254,888,821	30,754	55,351,328	12,653,594	75,686,828
1944	6,279	[2]	29,953	63,720,867	14,156,767	78,491,468
1945	6,343	[2]	29,159	56,323,718	12,716,321	76,513,440
1946	6,504	[2]	28,705	57,095,907	13,909,648	83,647,800
NON-METALLICS (EXCLUDING FUELS)						
1942	290	41,734,421	8,117	10,793,259	7,822,375	27,855,522
1943	257	41,654,689	7,989	11,055,861	8,410,143	30,833,183
1944	248	[2]	8,233	12,164,400	8,104,871	29,632,077
1945	203	[2]	8,318	12,712,321	8,961,846	31,379,055
1946	192	[2]	9,108	14,307,623	10,011,510	33,404,218

For footnotes, see end of table, p. 484.

34.—Principal Statistics of the Mineral Industries, by Groups, 1942-46, and by Provinces, 1946—concluded

Group, Year and Province	Plants or Mines	Capital Employed	Employees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies[1]	Net Income from Sales
	No.	$	No.	$	$	$
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS						
1942	5,886	89,123,449	9,624	12,303,686	11,658,604	35,334,369
1943	5,665	86,838,770	9,073	12,685,464	10,656,440	32,464,633
1944	6,007	[2]	8,206	12,495,351	11,219,057	32,916,190
1945	5,598	[2]	9,089	13,574,005	11,916,882	37,885,652
1946	5,906	[2]	11,392	17,233,022	16,120,768	51,848,199
Grand Totals						
1942	**12,897**	**1,145,345,913**	**112,043**	**198,550,260**	**431,911,446**	**514,109,951**
1943	**12,449**	**1,183,442,427**	**112,140**	**207,575,955**	**498,885,557**	**475,529,364**
1944	**12,952**	[2]	**104,878**	**204,808,314**	**443,384,744**	**454,022,468**
1945	**13,015**	[2]	**96,250**	**185,279,926**	**353,144,326**	**413,576,800**
1946	**13,457**	[2]	**99,196**	**196,748,691**	**332,312,119**	**422,074,303**
1946 PROVINCE						
Nova Scotia	660	[2]	14,560	27,572,966	7,912,532	26,425,106
New Brunswick	433	[2]	1,600	2,363,247	602,186	4,236,861
Quebec	3,492	[2]	22,799	41,793,277	103,398,023	97,020,447
Ontario	6,488	[2]	31,244	63,895,634	120,018,172	147,605,421
Manitoba	178	[2]	2,242	4,446,790	11,719,343	12,480,188
Saskatchewan	241	[2]	2,957	5,672,652	23,062,280	22,743,522
Alberta	1,022	[2]	11,476	23,641,650	5,880,366	50,981,943
British Columbia	836	[2]	11,562	25,109,066	59,197,865	58,629,880
Yukon	3	[2]	246	906,691	105,896	1,368,335
Northwest Territories	104	[2]	510	1,346,718	415,456	582,600

[1] Includes freight and smelter charges and cost of ores treated. [2] Not available.

A summary of the industrial statistics of the principal mineral industries operating in Canada in 1944, 1945 and 1946 is presented in Table 35. The difficulties imposed by the War in the way of labour shortages, lack of new equipment and essential supplies necessary for the mines, resulted in a steady drop in the gross value of production for the entire auriferous quartz mining industry. The gross value of recoverable metals, gold, silver, etc., in the quartz mining industry, which was $179,000,000 in 1941 fell steadily to $88,000,000 in 1946.

35.—Principal Statistics of the Mineral Industries, 1944-46

Industry and Year	Plants or Mines	Employees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies[1]	Net Income from Sales
	No.	No.	$	$	$
Metallics					
Alluvial gold 1944	47	211	598,556	84,104	1,197,021
1945	38	234	692,683	80,748	1,546,005
1946	39	340	1,112,984	155,943	1,693,568
Auriferous quartz 1944	262	17,226	37,023,505	19,029,032	75,234,384
1945	716	18,388	37,690,177	18,242,253	67,577,062
1946	686	21,973	47,211,062	22,080,531	66,342,152
Copper-gold-silver 1944	26	5,175	10,710,071	24,191,776	38,198,039
1945	41	4,658	9,663,612	21,134,603	38,165,269
1946	43	4,958	10,243,487	16,870,567	37,433,982

[1] Includes freight and smelter charges and cost of ores treated.

35.—Principal Statistics of the Mineral Industries, 1944-46—continued

Industry and Year	Plants or Mines	Employees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies[1]	Net Income from Sales
Metallics—concluded	No.	No.	$	$	$
Silver-cobalt....1944	11	165	260,575	99,600	323,260
1945	8	166	247,203	69,967	82,508
1946	11	247	404,012	118,363	207,483
Silver-lead-zinc....1944	20	2,769	5,810,290	4,489,198	16,802,759
1945	20	2,485	5,473,582	3,934,261	23,167,203
1946	31	2,451	5,987,111	9,079,895	39,262,606
Nickel-copper....1944	9	7,628	14,678,695	9,048,726	54,621,089
1945	8	5,997	13,008,156	7,790,226	45,605,169
1946	9	4,439	10,166,680	5,332,956	34,960,264
Miscellaneous metals....1944	27	1,385	2,809,013	2,057,850	3,303,143
1945	23	985	2,041,349	2,519,571	1,756,559
1946	21	1,037	2,338,442	3,479,336	3,708,109
Smelting and refining....1944	16	23,927	44,536,991	350,903,763	123,303,038
1945	17	16,771	33,853,120	265,777,648	89,898,878
1946	15	14,546	30,648,361	235,152,602	69,565,922
Totals, Metallics....1944	**418**	**58,486**	**116,427,696**	**409,904,049**	**312,982,733**
1945	**871**	**49,684**	**102,669,882**	**319,549,277**	**267,798,653**
1946	**855**	**49,991**	**108,112,139**	**292,270,193**	**253,174,086**
Fuels					
Coal....1944	394	25,596	55,020,537	12,712,820	54,344,700
1945	373	25,301	49,431,965	11,604,450	52,642,796
1946	365	25,487	51,343,975	12,637,105	59,607,029
Natural gas....1944	3,621	1,810	2,885,654	201,152	9,571,205
1945	3,748	1,890	2,993,091	245,812	10,614,782
1946	3,825	1,655	2,491,361	248,437	10,339,738
Petroleum....1944	2,264	2,547	5,814,676	1,242,795	14,575,563
1945	2,222	1,968	3,898,662	866,059	13,255,862
1946	2,314	1,563	3,260,571	1,024,106	13,701,033
Totals, Fuels....1944	**6,279**	**29,953**	**63,720,867**	**14,156,767**	**78,491,468**
1945	**6,343**	**29,159**	**56,323,718**	**12,716,321**	**76,513,440**
1946	**6,504**	**28,705**	**57,095,907**	**13,909,648**	**83,647,800**
Non-Metallics (Excluding Fuels)					
Asbestos....1944	10	4,050	6,401,185	4,016,059	17,820,317
1945	12	4,237	6,679,885	4,235,725	19,857,074
1946	12	4,547	7,771,921	4,975,892	20,269,687
Feldspar, quartz and nepheline syenite. 1944	42	529	772,385	467,937	1,636,093
1945	31	483	767,517	467,290	1,626,590
1946	36	517	876,034	440,701	1,727,972
Gypsum....1944	14	328	490,872	387,941	1,124,037
1945	13	434	647,287	575,645	1,207,645
1946	14	753	1,246,673	806,571	2,890,156
Iron oxides....1944	6	55	49,876	37,485	112,765
1945	5	51	58,011	35,401	136,652
1946	5	60	77,727	36,017	116,251
Mica....1944	70	400	359,797	56,624	784,402
1945	40	174	190,138	50,492	182,778
1946	27	129	153,616	38,086	160,953
Peat (moss and fuel)....1944	39	1,183	1,154,009	383,376	1,780,000
1945	37	1,233	1,304,249	516,104	1,874,202
1946	41	1,391	1,562,689	671,161	2,249,651

[1] Includes freight and smelter charges and cost of ores treated.

35.—Principal Statistics of the Mineral Industries, 1944-46—concluded

Industry and Year	Plants or Mines	Employees	Salaries and Wages	Purchased Fuel, Electricity and Process Supplies[1]	Net Income from Sales
	No.	No.	$	$	$
Non-Metallics (Excluding Fuels)—concluded					
Salt....1944	9	710	1,302,143	1,498,424	3,287,660
1945	9	724	1,329,384	1,623,241	3,241,456
1946	9	713	918,566	1,590,416	2,890,423
Talc and soapstone....1944	6	113	133,883	68,165	289,084
1945	5	103	134,782	79,582	215,306
1946	5	87	117,551	63,568	240,116
Miscellaneous[2]....1944	52	865	1,500,250	1,188,860	2,797,719
1945	51	879	1,601,068	1,378,366	3,037,352
1946	43	911	1,582,846	1,389,098	2,859,009
Totals, Non-Metallics....1944	**248**	**8,233**	**12,164,400**	**8,104,871**	**29,632,077**
1945	**203**	**8,318**	**12,712,321**	**8,961,846**	**31,379,055**
1946	**192**	**9,108**	**14,307,623**	**10,011,510**	**33,404,218**
Clay Products, etc.					
CLAY PRODUCTS					
Brick, tile and sewer pipe....1944	102	1,889	2,819,912	1,451,686	4,711,125
1945	98	2,254	3,348,351	1,892,051	6,093,719
1946	111	2,879	4,496,283	2,553,369	8,461,331
Stoneware and pottery....1944	8	358	356,892	66,816	767,798
1945	8	434	479,855	82,632	844,690
1946	8	558	619,679	90,308	1,102,359
TOTALS, CLAY PRODUCTS....1944	110	2,247	3,176,804	1,518,502	5,478,923
1945	106	2,688	3,828,206	1,974,683	6,938,409
1946	119	3,437	5,115,962	2,643,677	9,563,690
OTHER STRUCTURAL MATERIALS					
Cement....1944	8	1,207	2,254,775	5,764,387	6,882,354
1945	8	1,317	2,398,117	6,005,605	9,416,426
1946	8	1,524	2,929,020	8,793,963	12,930,058
Lime....1944	42	815	1,414,426	2,046,550	5,005,235
1945	44	856	1,473,829	2,068,489	4,663,859
1946	41	918	1,616,839	2,412,041	4,910,127
Sand and gravel....1944	5,381	1,773	2,494,657	391,738	9,888,381
1945	5,011	2,074	2,759,206	416,390	10,151,973
1946	5,252	2,793	3,600,797	579,489	14,950,211
Stone....1944	466	2,164	3,154,689	1,497,880	5,661,297
1945	429	2,154	3,114,647	1,451,715	6,714,985
1946	486	2,720	3,970,404	1,691,598	9,494,113
TOTALS, OTHER STRUCTURAL MATERIALS....1944	5,897	5,959	9,318,547	9,700,555	27,437,267
1945	5,492	6,401	9,745,799	9,942,199	30,947,243
1946	5,787	7,955	12,117,060	13,477,091	42,284,509
Totals, Clay Products, etc....1944	**6,007**	**8,206**	**12,495,351**	**11,219,057**	**32,916,190**
1945	**5,598**	**9,089**	**13,574,005**	**11,916,882**	**37,885,652**
1946	**5,906**	**11,392**	**17,233,022**	**16,120,768**	**51,848,199**
Grand Totals....1944	**12,952**	**104,878**	**204,808,314**	**443,384,744**	**454,022,468**
1945	**13,015**	**96,250**	**185,279,926**	**353,144,326**	**413,576,800**
1946	**13,457**	**99,196**	**196,748,691**	**332,312,119**	**422,074,303**

[1] Includes freight and smelter charges and cost of ores treated. [2] Includes natural abrasives.

Section 4.—World Production of Metallic Minerals and Fuels

World production figures are available only for gold, silver, and certain fuels. Tables 36 and 37 give historical figures of world production of gold and silver. These figures are the official returns from foreign countries or in cases where complete data were lacking, estimates are included only for the countries shown in Table 38.

36.—Quantities and Values of World Production of Gold[1], 1934-45

(From the Annual Report of the Director of the United States Mint)

NOTE.—Figures for intervening years from 1900-25 are given at p. 335 of the 1946 Year Book and 1926-33 at p. 463 of the 1947 edition.

Year	Quantity	Value	Year	Quantity	Value
	oz. fine	$		oz. fine	$
1934	27,372,374	958,033,090	1940	33,678,608	1,178,751,070
1935	29,999,245	1,049,973,575	1941	33,685,199	1,178,981,965
1936	32,930,554	1,152,569,390	1942	29,858,342	1,045,041,970
1937	35,118,298	1,229,140,430	1943	20,903,289	731,615,115
1938	37,703,334	1,319,616,690	1944	20,903,289	731,615,115
1939[2]	31,122,723	1,089,295,305	1945	20,205,964	707,208,740

[1] Valued at $35 per oz. fine. [2] Estimates for those countries not reported were included prior to 1939 but for 1939 and subsequent years they are not contained in the totals.

37.—Quantities and Values of World Production of Silver, with Annual Average Prices, 1931-45

(From the Annual Report of the Director of the United States Mint)

NOTE.—Figures for the years 1860-99, inclusive, will be found at p. 346 of the 1939 Year Book; for the intervening years from 1900-25 at p. 337 of the 1946 edition and 1926-31 at p. 464 of the 1947 edition.

Year	Quantity	Value	Average Price per fine oz.	Year	Quantity	Value	Average Price per fine oz.
	'000 oz. fine	$'000	$		'000 oz. fine	$'000	$
1931	195,920	56,842	0·290	1939[1]	220,883	87,028	0·394
1932	164,893	46,506	0·282	1940	228,693	80,271	0·351
1933	169,159	59,201	0·350	1941	228,505	80,205	0·351
1934	190,398	91,930	0·483	1942	218,721	84,426	0·386
1935	220,704	142,535	0·646	1943	193,231	87,147	0·451
1936	253,696	115,175	0·454	1944	169,466	76,429	0·451
1937	274,574	124,077	0·452	1945	142,730	74,505	0·522
1938	267,765	116,577	0·435				

[1] Estimates not included for countries not reported in 1939 and subsequent years.

About 60 p.c. of the total gold production represented in Table 38 in 1945, was accounted for by the Union of South Africa; 13 p.c. by Canada; 5 p.c. by United States; and 3 p.c. by both Australia and Southern Rhodesia.

Silver production showed 43 p.c. of the total for Mexico, 21 p.c. United States, 9 p.c. Peru and between 8 and 9 p.c. for Canada in 1944 and 1945.

38.—Quantities and Values of the World Production of Gold and Silver, by Principal Countries, 1944 and 1945

NOTE.—Abridged from the Annual Report of the Director of the United States Mint.

Country	1944				1945			
	Gold		Silver		Gold		Silver	
	Quantity	Value ($35·00 per oz.)	Quantity	Value ($0·45062 per oz.)[1]	Quantity	Value ($35·00 per oz.)	Quantity	Value ($0·52240 per oz.)[1]
	oz. fine	$	oz. fine	$	oz. fine	$	oz. fine	$
North America—								
United States	1,022,238	35,778,330	35,651,049	16,065,076	915,403	32,039,105	29,046,047	15,173,655
Canada	2,922,911	102,301,885	13,627,109	6,140,648	2,696,727	94,385,445	12,942,906	6,761,374
Mexico	508,882	17,810,870	73,502,802	33,121,833	524,017	18,340,595	61,097,779	31,917,480
Newfoundland	12,645	442,575	558,787	251,801	11,633	407,155	664,781	347,282
Central America and West Indies	253,126	8,859,410	3,570,386	1,608,887	231,334	8,096,690	3,282,801	1,714,935
South America—								
Bolivia	6,265	219,275	6,797,213	3,062,960	12,860	450,100	6,683,560	3,491,492
Brazil	166,381	5,823,335	28,723	12,943	162,401	5,684,035	28,385	14,828
Chile	203,749	7,131,215	1,000,000	450,620	179,549	6,284,215	1,000,000	522,400
Colombia	553,530	19,373,550	197,318	88,916	506,639	17,732,365	118,587	61,950
Ecuador	84,399	2,953,965	441,345	–	[2]	–	–	–
Peru	175,180	6,131,300	15,832,440	7,134,414	162,963	5,703,705	12,886,661	6,731,992
Venezuela	64,608	2,261,280	–	–	64,069	2,242,415	–	–
Europe—								
Finland	6,251	218,785	46,896	21,132	5,782	202,370	29,471	15,396
Hungary	28,215	987,525	614,300	276,816	193	6,755	3,200	1,672
Italy	12,860	450,100	643,010	289,753	12,860	450,100	643,010	335,909
Norway	–	–	170,399	76,785	–	–	131,818	68,862
Roumania	71,342	2,496,970	71,310	32,134	91,308	3,195,780	189,689	99,094
Sweden	124,327	4,351,445	1,036,669	467,144	69,092	2,418,220	746,090	389,757
United Kingdom	–	–	33,742	15,205	–	–	26,968	14,088
Asia—								
Formosa	24,963	873,705	130,004	58,582	592	20,720	3,156	1,649
India (British)	187,191	6,551,685	–	–	168,407	5,894,245	–	–
Korea	118,957	4,163,495	2,847,222	1,283,015	96,452	3,375,820	[2]	–
Philippines	–	–	–	–	13,490	472,150	17,208	8,989
Saudi Arabia	8,683	303,905	7,290	3,285	37,972	1,329,020	28,255	14,760
Africa—								
Bechuanaland	11,575	405,125	1,319	594	11,299	395,465	1,236	646
Belgian Congo and Ruanda-Urundi	363,000	12,705,000	2,625,000	1,182,938	347,000	12,145,000	4,138,000	2,161,691
British East Africa—								
Kenya	42,259	1,479,065	11,498	5,181	38,517	1,348,095	16,659	8,703
Tanganyika	55,148	1,930,180	17,119	7,714	49,303	1,725,605	21,749	11,362
Cameroons, French	18,378	643,230	–	–	14,668	513,380	–	–
Ethiopia	63,720	2,230,200	–	–	50,000	1,750,000	–	–
Liberia	30,772	1,077,020	–	–	9,016	315,560	–	–
Portuguese East Africa	7,577	265,195	–	–	7,953	278,355	–	–
Rhodesia, Southern	592,729	20,745,515	103,776	46,764	568,241	19,888,435	95,974	50,137
Union of South Africa	12,279,629	429,787,015	1,213,051	546,625	12,224,629	427,862,015	1,243,435	649,570
Oceania—								
Australia	656,867	22,990,345	8,340,887	3,758,570	656,936	22,992,760	7,368,999	3,849,565
Fiji	40,443	1,415,505	9,619	4,335	94,964	3,323,740	29,398	15,358
New Zealand	142,287	4,980,045	328,281	147,930	128,364	4,492,740	244,544	127,750
Totals[3]	**20,903,289**	–	**169,466,339**	–	**20,205,964**	–	**142,730,529**	–

[1] Average price per fine ounce at New York. [2] Not available. [3] Totals include all countries reporting.

Coal.—The total estimated coal production of the world in 1938, the latest year for which complete figures are available, amounted to about 1,420,000,000 long tons, a decrease of 6 p.c. from the previous year.

Petroleum.*—Oil production for the world, in 1946, reached a total of 2,750,705,000 bbl., including the Union of Soviet Socialist Republics which was responsible for 164,000,000 bbl. in this period. The countries contributing the major part of this total were: United States, 1,733,939,000 bbl.; Venezuela, 388,486,000 bbl.; Near and Middle East, 256,164,000 bbl.; Mexico, 49,235,000 bbl.; and Roumania 31,206,000 bbl. The production of each of these areas, with the exception of Roumania, showed an increase over 1945.

The British Empire produces only about 2 p.c. of world production of petroleum. Table 39 shows Empire production for the years 1943 to 1946.

39.—Petroleum Production in the British Empire, 1943-46

Country	1943	1944	1945	1946	P.C. of Total 1946
	bbl.	bbl.	bbl.	bbl.	
Bahrein Island	6,570,000	6,800,000	7,304,000	8,010,000	0·29
Borneo, British Sarawak and Brunei	Nil	15,000,000	12,000,000	2,100,000	0·08
Burma	913,000	750,000	750,000	700,000	0·03
Canada	10,123,205	10,099,404	8,567,947	7,668,000	0·28
Great Britain	Nil	670,000	500,000	412,000	0·02
India	2,555,000	3,000,000	3,000,000	2,193,000	0·07
Trinidad	25,000,000	22,000,000	21,500,000	20,233,000	0·74
Totals, British Empire	**45,161,205**	**58,319,404**	**53,621,947**	**41,316,000**	–
P.C. British Empire of World	1·95	2·27	2·15	1·50	–

A general estimate of world oil production for 1947, with presently procurable figures, gives an average daily production of 8,231,299 bbl. or a grand total of 3,004,424,000 bbl. The United States, responsible for 61·78 p.c. of world production stood first in quantity of production. Venezuela held second place with 14·47 p.c. of the world total, followed by the Middle East with 10·11 p.c. and the Union of Soviet Socialist Republics which produced 5·73 p.c. of the world figure.

* Preliminary data supplied by J. L. Irwin, Supervisor of Publications, Government of Alberta.

CHAPTER XV.—POWER GENERATION AND UTILIZATION*

CONSPECTUS

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Section 1.—Water Power

Canada, a country of many lakes and rivers, has been abundantly endowed by nature with great water-power resources which are well distributed from the Atlantic to Pacific Coasts. In most sections of the Dominion, adequate precipitation and favourable topography result in numerous rivers on which falls and rapids frequently occur and offer excellent opportunities for the development of hydraulic power; with the exception of the Prairies of the middle west, water power resources of importance are found in virtually every part of the country. In British Columbia, where precipitation is high, the rivers flowing down the Pacific slope of the Rocky Mountains offer many fine power sites. Alberta, although a Prairie Province, also has mountain streams from the Rockies as well as great reserves of undeveloped power on its large northern rivers. The great Canadian Shield of Precambrian rock, which forms an arc around Hudson Bay, covers part of the Northwest Territories and northern Saskatchewan as well as a large part of Manitoba, Ontario and Quebec; it is a rough, forest-covered, well-watered area characterized by innumerable lakes and fast-flowing rivers with many falls and rapids. The potential power of the Great Lakes–St. Lawrence River System forms part of the great resources of Ontario and Quebec upon which their status as the principal manufacturing provinces of Canada is built and which compensates in large part for the lack of indigenous coal. In the Maritimes, the precipitation is moderately heavy and the rivers, while not large, afford numerous possibilities for power developments of moderate size.

The development from year to year of the great water-power resources of the Dominion is a good index of the country's industrial growth and of the change in its economic life since the beginning of the present century. In 1900, prior to the inception of long-distance transmission of electricity, Canada's economy was based largely on agriculture and the total of hydraulic installations, mostly small mills, was only 173,000 h.p. With the successful solution of the problems of transmission of electrical energy for use in distant communities, the development of

* In this Chapter of the Year Book all information respecting power generation and utilization in Canada is co-ordinated; some sections, however, cannot be regarded as complete owing to the insufficiency of available data. Section 1 has been revised under the direction of W. B. Timm, C.B.E., Director, Mines, Forests and Scientific Services, Department of Mines and Resources, by V. Meek, Controller, Dominion Water and Power Bureau, and Sections 2, 3 and 4 (except as otherwise stated) by G. S. Wrong, Director, Transportation and Public Utilities Division, Dominion Bureau of Statistics.

large hydraulic projects became practicable and by 1910, the total installation had risen to 977,000 h.p. In ensuing decades, the growth in installed capacity, partly speeded by war demands, proceeded at an accelerated rate so that by 1920, the total was 2,515,000 h.p.; by 1930, 6,125,000 h.p.; by 1940, 8,584,000 h.p.; and by the end of 1947, installed capacity had reached 10,491,000 h.p. Among countries of the world, Canada is second only to the United States in total hydro-electric installed capacity.

The availability of large amounts of hydro-electric energy from the Dominion's water-power developments has so fostered the economic utilization of the natural products from land, mine and forest, that Canada has become highly industrialized and is now one of the more important manufacturing countries. Low-cost power from Canada's rivers is fundamental in meeting the enormous demands of its largest industry, pulp and paper manufacturing, which ranks as one of the world's great industrial enterprises; it also allows the economic mining, milling and refining of base and precious metals and facilitates their fabrication into a multitude of manufactured articles. The great hydro-electric undertakings, built to meet the domestic and industrial requirements of the country, were of incalculable value to Canada's participation in two world wars, particularly in the Second World War. Between 1939 and 1945, approximately 2,000,000 h.p. was added to the Dominion's water-power capacity, all of which was used for war production; great quantities of power were also diverted from normal to war purposes; this allowed Canada to produce materials and munitions of war on a very large scale proportionate to population.

From hydro-electric developments, ranging in size from a few hundred to more than one million horse-power, networks of transmission lines carry power not only to most urban centres of Canada but also in increasing degree to the rural areas of the country. The wide distribution of power facilitates the dispersion of industry so that manufacturing processes covering foods, textiles, forest products and many others are important consumers of hydro-electric energy.

This wide distribution of hydro-electric power has also benefited the residents of small towns and villages by making available the same conveniences of household electric appliances as those enjoyed in the large towns and cities; these services are being rapidly extended to rural communities.

On the commonly accepted basis of one horse-power being the equivalent in energy to the work of ten men, Canada's present hydro-electric installation furnishes energy equal to that of more than 100,000,000 workers constantly employed.

Subsection 1.—Development and Growth of Water Power

Although extensive utilization at present is being made of Canada's water-power resources, there are large reserves still available for development. The greater part of this undeveloped power lies in the more remote parts of the Dominion but many sites within economic transmission distance of existing centres of population, have not been exploited as yet and existing power reserves not too distant should be sufficient to meet the prospective demand for some years to come.

Table 1 presents a summary of the water-power resources of Canada according to the records of the Dominion Water and Power Bureau as of Dec. 31, 1947. In the case of developed power, the figures for 1946 are listed for comparative purposes.

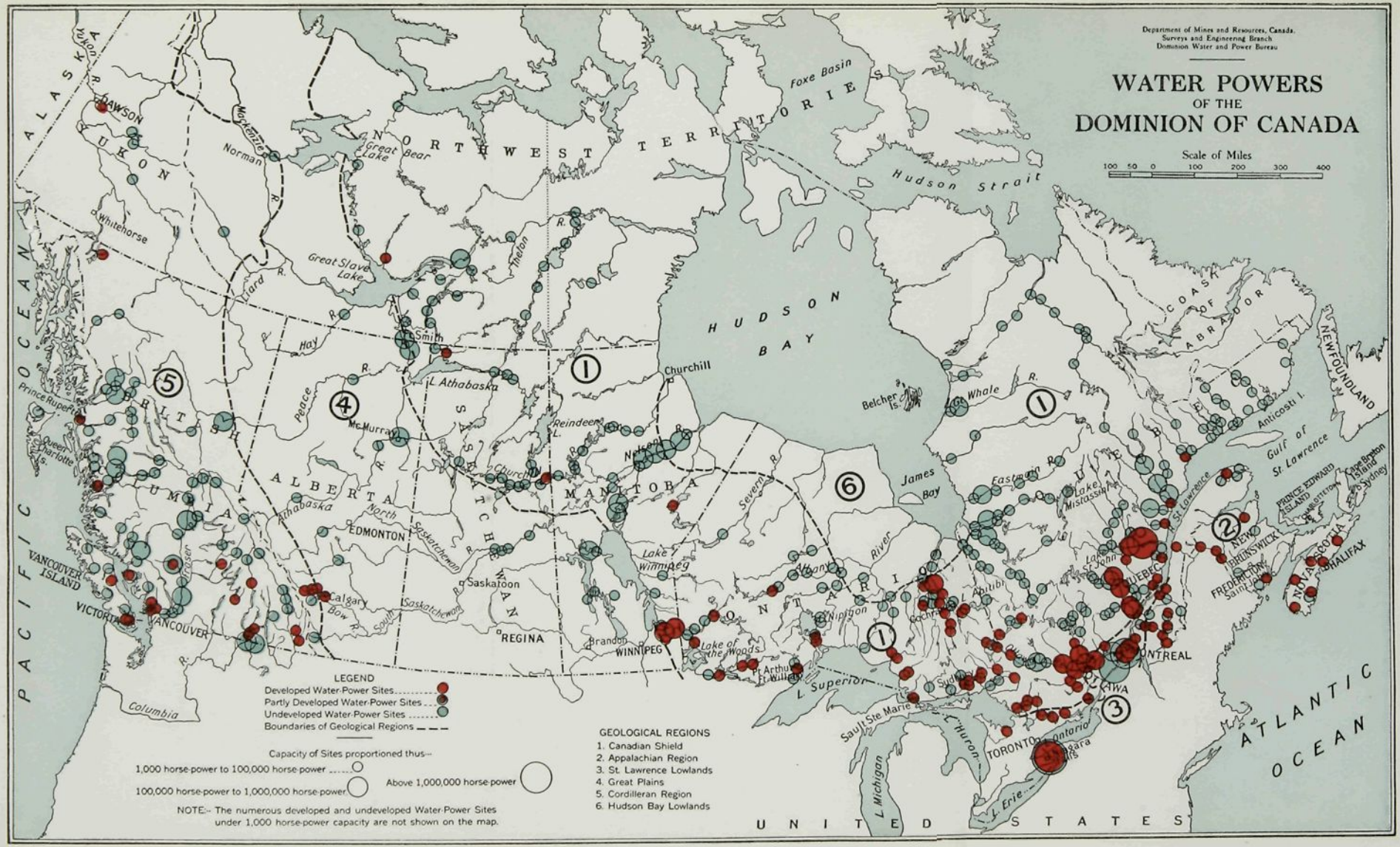
1.—Available and Developed Water Power by Provinces, 1946 and 1947

Province or Territory	Available 24-Hour Power at 80 p.c. Efficiency December, 1947		Turbine Installation	
	At Ordinary Minimum Flow	At Ordinary Six-Month Flow	Dec. 31, 1946	Dec. 31, 1947
	h.p.	h.p.	h.p.	h.p.
Prince Edward Island	3,000	5,300	2,617	2,617
Nova Scotia	20,800	128,300	133,384	133,384
New Brunswick	68,600	169,100	133,347	133,347
Quebec	8,459,000	13,064,000	5,848,572	5,878,872
Ontario	5,407,200	7,261,400	2,679,740	2,749,740
Manitoba	3,309,000	5,344,500	446,825	458,825
Saskatchewan	542,000	1,082,000	90,835	90,835
Alberta	507,800	1,258,000	93,060	106,560
British Columbia	7,023,000	10,998,000	864,024	917,024
Yukon and Northwest Territories	382,500	813,500	19,719	19,719
Canada	**25,722,900**	**40,124,100**	**10,312,123**	**10,490,923**

The figures listed in the first and second columns of Table 1 represent 24-hour power and are based upon rapids, falls and power sites of which the actual drop, or the head possible of concentration, has been measured or at least carefully estimated. Many unrecorded rapids and falls of undetermined power capacity exist on rivers and streams from coast to coast (particularly in the less-explored northern districts); these will become available for tabulation only as more detailed survey work is completed. Also, unless definite studies have been carried out and the results made matters of record, no consideration has been given to the power concentrations that are feasible on rivers and streams of gradual gradient, where economic heads possibly may be created by the construction of power dams.

The third and fourth columns give the total capacity of the water wheels actually installed throughout the Dominion; these figures should not be placed in direct comparison with those in the first and second columns to deduce the percentage of the available water-power resources developed. At developed sites, the water-wheel installation throughout the Dominion averages 30 p.c. greater than the corresponding calculated maximum available power figures included in the second column and covering the same sites. The above figures, therefore, indicate that the *at present recorded water-power resources* of the Dominion will permit of a turbine installation of more than 52,000,000 h.p.; also, the turbine installation at Dec. 31, 1947, represents roughly only 20 p.c. of recorded water-power resources and the figures in the first and second columns, therefore, represent the *minimum water-power possibilities* of the Dominion.

The growth of installed turbine capacity from 1900 to 1947 is shown by the figures given in Table 2, covering decades to 1940 and years 1941 to 1947.


Department of Mines and Resources, Canada.
Surveys and Engineering Branch
Dominion Water and Power Bureau
WATER POWERS
OF THE
DOMINION OF CANADA
Scale of Miles
100 50 0 100 200 300 400
LEGEND
Developed Water-Power Sites
Partly Developed Water-Power Sites
Undeveloped Water-Power Sites
Boundaries of Geological Regions
Capacity of Sites proportioned thus—
1,000 horse-power to 100,000 horse-power
100,000 horse-power to 1,000,000 horse-power
Above 1,000,000 horse-power
NOTE:— The numerous developed and undeveloped Water-Power Sites under 1,000 horse-power capacity are not shown on the map.
GEOLOGICAL REGIONS
1. Canadian Shield
2. Appalachian Region
3. St. Lawrence Lowlands
4. Great Plains
5. Cordilleran Region
6. Hudson Bay Lowlands
PACIFIC OCEAN
ATLANTIC OCEAN
ALASKA
YUKON
DAWSON
Whitehorse
NORTHWEST TERRITORIES
Foxe Basin
Hudson Strait
HUDSON BAY
Great Bear Lake
Great Slave Lake
Mackenzie R.
Norman
Liard R.
Hay R.
Peace R.
Athabaska R.
Smith
L. Athabaska
Churchill
Reindeer L.
Nelson R.
Severn R.
James Bay
Belcher Is.
Whale R.
COAST OF LABRADOR
NEWFOUNDLAND
Anticosti I.
Gulf of St. Lawrence
BRITISH COLUMBIA
Prince Rupert
Queen Charlotte Is.
ALBERTA
EDMONTON
McMurray
North Saskatchewan R.
SASKATCHEWAN
Saskatoon
REGINA
Calgary
Bow R.
South Saskatchewan R.
MANITOBA
Brandon
WINNIPEG
Lake Winnipeg
Lake of the Woods
Pr. Arthur
Ft. William
ONTARIO
Albany River
Nipigon
Cochrane
Abitibi
Lake Mistassini
Eastmain R.
QUEBEC
Lake St. John
St. Lawrence R.
PRINCE EDWARD ISLAND
Charlottetown
Cape Breton Island
Sydney
NEW BRUNSWICK
Fredericton
Saint John
NOVA SCOTIA
HALIFAX
VANCOUVER ISLAND
VICTORIA
VANCOUVER
Fraser R.
Columbia R.
L. Superior
Sault Ste Marie
L. Huron
L. Michigan
L. Erie
TORONTO
Ontario
Niagara Falls
OTTAWA
MONTREAL
Quebec
UNITED STATES

2.—Hydraulic Turbine Horse-Power Installed by Provinces, as at Dec. 31, Decennially 1900-40 and Annually 1941-47

NOTE.—Statistics for intervening years 1900-30 are given on p. 361 of the 1939 Year Book; for 1931-40 at p. 362 of the 1946 edition.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada[1]
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1900...	1,521	19,810	4,601	82,864	53,876	1,000	-	280	9,366	173,323
1910...	1,760	31,476	11,197	334,763	490,821	38,800	30	655	64,474	977,171
1920...	2,233	37,623	21,976	955,090	1,057,422	85,325	35	33,122	309,534	2,515,559
1930...	2,439	114,224	133,681	2,718,130	2,088,055	311,925	42,035	70,532	630,792	6,125,012
1940...	2,617	139,217	133,347	4,320,943	2,597,595	420,925	90,835	71,997	788,763	8,584,438
1941...	2,617	139,217	133,347	4,556,943	2,617,495	420,925	90,835	71,997	788,763	8,845,038
1942...	2,617	143,717	133,347	4,839,543	2,684,395	420,925	90,835	94,997	792,563	9,225,838
1943...	2,617	133,384	133,347	5,847,322	2,673,443	422,825	90,835	94,997	796,024	10,214,513
1944...	2,617	133,384	133,347	5,848,572	2,673,443	422,825	90,835	94,997	864,024	10,283,763
1945...	2,617	133,384	133,347	5,848,572	2,673,290	422,825	90,835	94,997	864,024	10,283,610
1946...	2,617	133,384	133,347	5,848,572	2,679,740	446,825	90,835	93,060	864,024	10,312,123
1947...	2,617	133,384	133,347	5,878,872	2,749,740	458,825	90,835	106,560	917,024	10,490,923

[1] Includes Yukon and the Northwest Territories. Turbine horse-power installed in Yukon for the decades 1900 to 1940 was, 5 h.p. in 1900, 3,195 h.p. in 1910, 13,199 h.p. in 1920 and 1930, and 18,199 h.p. in 1940; the removal of a 3,180-h.p. plant reduced the installation for 1943-47 to 15,019 h.p. In 1941, a 4,700-h.p. plant came into operation in the Northwest Territories.

Table 2 shows clearly the consistent growth in capacity since the beginning of the century; also the heavy increase in installation during the war years 1942 and 1943. The 1947 increase was moderate, but new installations at present under construction have a capacity in excess of 500,000 h.p.

Table 3 has been prepared to show under three classifications the purposes for which the developed water power is primarily utilized.

3.—Developed Water Power by Provinces and Industries, as at Dec. 31, 1947

Province or Territory	Turbine Installation			Total[4]
	In Central Electric Stations[1]	In Pulp and Paper Mills[2]	In Other Industries[3]	
	h.p.	h.p.	h.p.	h.p.
Prince Edward Island	579	-	2,038	2,617
Nova Scotia	107,539	11,884	13,961	133,384
New Brunswick	104,710	20,694	7,943	133,347
Quebec	5,466,787	271,521	140,564	5,878,872
Ontario	2,441,697	223,692	84,351	2,749,740
Manitoba	456,925	-	1,900	458,825
Saskatchewan	87,500	-	3,335	90,835
Alberta	104,500	-	2,060	106,560
British Columbia	731,167	130,950	54,907	917,024
Yukon and Northwest Territories	2,000	-	17,719	19,719
Canada	**9,503,404**	**658,741**	**328,778**	**10,490,923**
Percentages of total installation	90·6	6·3	3·1	100·0

[1] Includes only hydro-electric stations that develop power for sale. [2] Includes only water power *actually developed* by pulp and paper companies. [3] Includes only water power *actually developed* by industries other than central electric stations and the pulp and paper industries. [4] All water wheels and hydraulic turbines installed in Canada.

It may be noted that central electric station classification totalling 9,503,404 h.p. represents more than 90 p.c. of the total developed water power as of Dec. 31, 1947. In 1900 the corresponding percentage was 33·5, thus showing the tremendous growth in the central electric station industry since the inception of successful long-distance transmission of electricity. Central electric stations produce 98 p.c. of all electricity sold in or exported from Canada.

The pulp and paper turbine installation total of 658,741 h.p. shown in Table 3 includes only water power *actually developed* and directly used by pulp and paper companies. In addition, this industry is the greatest purchaser of central station power, buying about 50 p.c. of all power sold for industrial purposes. Part of the purchased power is classed as secondary, being used for steam generation by electric boilers which have a capacity of more than 1,930,000 h.p. The motor installations for the use of primary purchased power aggregate approximately 1,480,000 h.p.

The "other industries" group of Table 3, column 3, develops a total of 328,778 h.p. solely for their own use. These diversified industries also provide a broad market for the power sold by the central electric stations.

The figure of total hydraulic installation in Canada, 10,490,923 h.p., is the cumulative total of installation for all water wheels and hydraulic turbines. It has been adjusted to Dec. 31, 1947, by the addition of any installations made during the year even though this equipment may not be in use; adjustments are also made covering turbines or water wheels that have been removed. Somewhat similar figures are reported by the annual Census of Industry: they differ slightly since they are compiled on a different basis and represent only the sum of the installations in the plants actually in operation during the year being reported by the Census, not total installation.

Additional information regarding Canada's water-power resources is included in the 1940 Canada Year Book, pp. 353-364. Comparison is made with the resources of other countries and an extensive review is given of problems connected with the development, distribution and merchandising of power in Canada.

Subsection 2.—Current Programs of Provincial Water-Power Developments*

During 1947, additions to the generating capacity of the country totalled 178,800 h.p., this was slightly more than one-half the normal rate of increase. Due to large additions made during war years, material and labour shortages, and to an anticipated drop in power consumption in the early post-war period, little construction was undertaken during 1945 and 1946. The great demand for electricity during 1946-47 caused marked activity by power-producing agencies and resulted in a huge program of hydro-electric construction and late in 1947, shortages of power, particularly in southern Ontario, required the imposition of restrictions on power use. Early in 1948, plants were under construction which will have a capacity of over 1,000,000 h.p. of which probably 500,000 h.p. will come into operation later in the year.

Maritime Provinces.† — In the Maritime Provinces, while no additions to hydro-electric capacity were made during 1947, two new developments were under active construction and scheduled for completion in 1948. The Nova Scotia Power Commission is making favourable progress on the Dickie Brook development

* Figures given in this subsection represent horse-power on turbine shaft; turbine capacity in electric horse-power is used in Subsection 2, pp. 502-514.

† In addition to the water-power developments described, the Canada Electric Company is adding 15,000-kw. capacity to its steam plant at Maccan, N.S. The New Brunswick Power Company completed the addition of 10,000-kw. capacity in its steam plant at Saint John in 1947 and the New Brunswick Electric Power Commission is building a new steam plant of 12,500-kw. at Chatham.

which will operate initially at 3,700 h.p. but ultimately will have three units of 1,600 h.p. each; the Commission is also building a new steam plant at Pictou, with a capacity of 10,000 kw. The Nova Scotia Light and Power Company is proceeding with a development of one unit of 4,600 h.p. on Methals Brook.

Quebec.—In Quebec, the Gatineau Power Company, in the spring of 1947, completed the installation of the fifth and final unit of 24,000 h.p. in its Farmers Rapids plant on the Gatineau River; the Lower St. Lawrence Power Company also completed the construction of its 6,000-h.p. plant on the lower Metis River and it was placed in operation in October. The Shawinigan Water and Power Company made favourable progress on the construction of its new development of 195,000 h.p. at Shawinigan Falls, St. Maurice River, and it is scheduled for operation in 1948; the Company is also planning a development of 350,000 h.p. at La Trenche Rapids on the St. Maurice. The Quebec Hydro-Electric Commission is adding a fourteenth unit of 50,000 h.p. in its Beauharnois plant No. 1 on the St. Lawrence River and is planning the construction of No. 2 power-house with a capacity of four units of 50,000 h.p. each; the Commission is also installing a fourth unit of 16,000 h.p. in the Ottawa River Rapid VII plant in conjunction with a storage dam on Lake Dozois. Successful stream flow control was achieved by the Quebec Streams Commission on the rivers it regulates by the operation of its extensive system of storage dams.

Ontario.—The Hydro-Electric Power Commission of Ontario during 1947, completed the installation of a new unit of 70,000 h.p. in the DeCew Falls plant near St. Catharines. By the end of that year, the Commission also had two major and one smaller project under active construction with completion scheduled for 1948: the Stewartville development on the Madawaska River with a capacity of 81,000 h.p. in three units and the Aguasabon development, on the north shore of Lake Superior near Schreiber, rated at 53,500 h.p., were scheduled for operation in the autumn of 1948: a fourth unit of 7,500 h.p. was being added to the Ear Falls plant, English River, and was expected to be completed by May, 1949. On the Ottawa River, preliminary construction activities were well advanced on the Des Joachims development, initial plans calling for an installation of six units of 60,000 h.p. each, the first two to come into operation in 1950; the Chenaux Rapids site, which will have an ultimate capacity of 160,000 h.p., was in the earlier preliminary stages of construction in 1948 with initial operation also scheduled for 1950. In Northern Ontario, a beginning was made on two new major projects: Pine Portage site on the Nipigon River will have an initial capacity of 80,000 h.p. in two units and ultimately four units; the Tunnel site on the Mississagi River, about 19 miles from Thessalon, will have two units of 29,000 h.p. each.

*The Prairie Provinces.**—In Manitoba, the city of Winnipeg brought into operation the seventh unit of 12,000 h.p. in its Slave Falls power-house, Winnipeg River during 1947; the eighth and final unit under installation in 1948 is now

* In addition to the water-power developments described the Saskatchewan Power Commission in January, 1947, brought into operation a new steam turbo-generator of 15,000-kw. at Saskatoon.

in operation. The Winnipeg Electric Company has work in progress in regard to raising the head at its Seven Sisters plant, Winnipeg River, to the final limit of 66 ft. and the installation of a fourth unit of 37,500 h.p.; the present plant has three units rated at 20,000 h.p. under partial head but the ultimate capacity is six units of 37,500 h.p. each.

In Alberta, the Calgary Power Limited, completed its Barrier Development on the Kananaskis River and brought into operation its 13,500-h.p. single unit. In northern Saskatchewan, the Churchill River Power Company is proceeding with the installation of a sixth unit of 21,000 h.p. in the Island Falls plant, Churchill River.

British Columbia.—In 1947, British Columbia added 53,000 h.p. to the total hydraulic installation of the Province. The British Columbia Power Commission brought into operation the first unit of 28,000 h.p. in its new plant on the Campbell River, Vancouver Island, and construction is proceeding on a second similar unit. The Powell River Company completed the raising of the Scanlon Dam on the Lois River and installed a second generating unit of 25,000 h.p. in its Stillwater powerhouse. The British Columbia Electric Railway Company made good progress on its Bridge River plant, the first unit of 62,000 h.p. being expected to come into operation in the autumn of 1948. The city of Nelson is installing an additional unit of 6,750 h.p. in its plant on the Kootenay River.

The Northwest Territories.—In the Northwest Territories, favourable progress was made during 1947 on the construction of an 8,000-h.p. development on the Snare River about 90 miles northwest of the town of Yellowknife. This project has been undertaken as a Federal Government enterprise by the Department of Mines and Resources to assist and encourage development in the Yellowknife mining district, power to be supplied at cost to mines and other consumers in the area.

Section 2.—The Central Electric Station Industry

An article dealing with Government control of power in wartime is given at pp. 336-337 of the 1945 Canada Year Book.

Summary of Energy Generated by Type of Station, 1945 and 1946.—Central electric stations are companies, municipalities or individuals selling or distributing electric energy, whether generated by themselves or purchased for resale. Stations are divided into two classes according to ownership, viz., (1) commercial—those privately owned and operated by companies or individuals, and (2) municipal—those owned and operated by municipalities or Provincial Governments. These are subdivided according to the kind of power used into (a) hydraulic, (b) fuel, and (c) non-generating. This last sub-class purchases practically all the power it resells; a few of these stations have generating equipment that is held for emergencies. The hydraulic stations contain water turbines and wheels with approximately 88 p.c. of the total capacity of hydraulic installations in all industries in Canada and the generators driven by this hydraulic equipment generate 98 p.c. of the total output of all central electric stations.

4.—Electric Energy Generated, by Type of Station, 1930-44, and by Provinces, 1945 and 1946

Year and Province	Generated by—		Total	Year and Province	Generated by—		Total
	Water Power	Thermal Engines			Water Power	Thermal Engines	
	'000 kwh.	'000 kwh.	'000 kwh.		'000 kwh.	'000 kwh.	'000 kwh.
1930.....	17,748,820	344,982	18,093,802	1938.....	25,690,785	463,375	26,154,160
1931.....	16,025,334	305,533	16,330,867	1939.....	27,836,691	501,339	28,338,030
1932.....	15,723,838	328,219	16,052,057	1940.....	29,537,459	571,824	30,109,283
1933.....	17,006,069	332,921	17,338,990	1941.....	32,628,930	688,733	33,317,663
1934.....	20,817,309	379,815	21,197,124	1942.....	36,582,953	772,226	37,355,179
1935.....	22,883,735	399,298	23,283,033	1943.....	39,660,312	819,281	40,479,593
1936.....	24,932,705	469,577	25,402,282	1944.....	39,553,352	1,045,427	40,598,779
1937.....	27,175,722	511,923	27,687,645				
1945				**1946**			
P.E.I.....	470	16,283	16,753	P.E.I.....	513	16,189	16,702
N.S.....	357,290	243,139	600,429	N.S.....	340,941	249,551	590,492
N.B.....	472,790	125,909	598,699	N.B.....	444,793	148,130	592,923
Que.....	22,219,679	7,333	22,227,012	Que.....	23,589,563	7,758	23,597,321
Ont.....	10,733,989	2,753	10,736,742	Ont.....	10,771,742	6,393	10,778,135
Man.....	2,280,969	2,820	2,283,789	Man.....	2,386,339	3,036	2,389,375
Sask.....	Nil	249,518	249,518	Sask.....	Nil	270,691	270,691
Alta.....	305,047	261,698	566,745	Alta.....	357,056	244,992	602,048
B.C.[1].....	2,760,786	89,581	2,850,367	B.C.[1].....	2,801,448	97,852	2,899,300
Totals, 1945.	**39,131,020**	**999,034**	**40,130,054**	**Totals, 1946.**	**40,692,395**	**1,044,592**	**41,736,987**

[1] Includes Yukon.

Subsection 1.—Statistics of Central Electric Stations

The growth of the central electric stations industry has been almost continuous since 1919, when statistics of kilowatt hours generated were first made available. The depression that occurred in the early 1930's resulted in decreased output of power for several years but output soon recovered. During the war years 1939-44 the equipment was used to the practical maximum capacity, the output increasing by 42 p.c. from 1938 to 1944. The output declined slightly in 1945 but rebounded in 1946 to 102 p.c. of the 1944 figure. During 1947 a new record was established.

The central electric stations industry is one that is particularly suited to large-scale operations because of the huge outlays of capital necessary. Capital invested and total horse-power installed increased almost continuously even during the depression years, mainly because large power projects, planned before the depression, were in process of construction. Off-peak and surplus power, used mainly in electric boilers of pulp and paper plants, grew steadily to a peak of 7,803,000,000 kwh. in 1937 but, owing to war requirements for firm power, it was reduced during 1940-45, but rebounded to a new high of 8,067,489,000 kwh. in 1946.

5.—Summary Statistics of Central Electric Stations, 1931-46

NOTE.—Figures for the years 1917-30 will be found at p. 369 of the 1940 Year Book.

Year	Stations	Capital Invested	Revenue from Sale of Power[1]	Power Equipment Capacity[2]	Kilowatt Hours Generated	Customers	Persons Employed	Salaries and Wages
	No.	$	$	h.p.	'000	No.	No.	$
1931.....	559	1,229,988,951	122,310,730	5,706,757	16,330,867	1,632,792	17,014	26,306,956
1932.....	572	1,335,886,987	121,212,679	6,343,654	16,052,057	1,657,454	15,395	23,261,166
1933.....	575	1,386,532,055	117,532,081	6,616,006	17,338,990	1,666,882	14,717	21,431,877
1934.....	573	1,430,852,166	124,463,613	6,854,161	21,197,124	1,660,079	14,974	21,829,491
1935.....	566	1,459,821,168	127,177,954	7,104,142	23,283,033	1,694,703	15,342	22,519,993
1936.....	561	1,483,116,649	135,865,173	7,119,272	25,402,282	1,740,793	16,087	23,367,091
1937.....	568	1,497,330,231	143,546,643	7,342,085	27,687,645	1,805,995	17,018	25,623,767
1938.....	589	1,545,416,592	144,331,627	7,476,976	26,154,160	1,873,621	17,929	27,148,688
1939.....	611	1,564,603,211	151,880,969	7,607,122	28,338,030	1,941,663	18,848	28,223,376
1940.....	602	1,615,438,140	166,228,773	7,935,867	30,109,283	2,006,508	19,054	28,895,595
1941.....	607	1,641,460,451	186,080,354	8,157,585	33,317,663	2,081,270	19,880	31,647,952
1942.....	616	1,747,891,798	203,914,608	8,613,696	37,355,179	2,125,558	19,764	34,285,870
1943.....	622	1,778,224,640	204,801,508	9,602,794	40,479,593	2,169,148	19,120	35,785,932
1944.....	626	[3]	215,246,391	9,713,791	40,598,779	2,238,023	19,770	36,945,296
1945.....	600	[3]	215,105,473	9,666,947	40,130,054	2,333,230	21,283	39,521,365
1946.....	600	[3]	226,096,273	9,825,459	41,736,987	2,476,830	24,577	46,422,998

[1] Excluding duplications. [2] Not including auxiliary-plant equipment. [3] Not collected.

Although the amount of power used by domestic customers or for residential purposes is now only 9·3 p.c. of the total production of central electric stations, this service is exceedingly important. Details of the number of domestic customers served, the kilowatt hours delivered and the costs to the customers, exclusive of direct Federal, provincial and municipal taxes on such service, are shown in Table 6. The average consumption per customer and average cost per kilowatt hour vary considerably as between municipalities and also as between provinces; there are smaller differences between the average bills.

6.—Summary Statistics of Domestic Consumption of Electricity, 1931-46

Year	Customers	Consumption	Average Consumption per Customer	Average Charge per Annum	Average per kwh.
	No.	'000 kwh.	kwh.	$	cts.
1931	1,336,721	1,563,704	1,170	26·38	2·25
1932	1,357,462	1,639,498	1,208	26·83	2·22
1933	1,371,806	1,650,395	1,203	26·21	2·18
1934	1,379,153	1,717,090	1,245	26·47	2·13
1935	1,401,983	1,769,848	1,262	26·23	2·08
1936	1,443,059	1,887,116	1,308	26·61	2·03
1937	1,500,128	2,007,433	1,338	26·17	1·96
1938	1,559,394	2,172,500	1,393	26·49	1·90
1939	1,623,672	2,310,891	1,423	26·97	1·90
1940	1,694,388	2,436,572	1,438	27·41	1·91
1941	1,755,917	2,582,405	1,471	27·73	1·89
1942	1,803,708	2,716,895	1,506	28·11	1·80
1943	1,852,367	2,843,612	1,535	27·70	1·87
1944	1,906,452	3,046,980	1,598	27·96	1·75
1945	1,987,360	3,365,497	1,693	28·05	1·66
1946	2,104,549	3,881,677	1,844	29·85	1·62

Equipment of Central Electric Stations.—Auxiliary equipment includes only thermal engines and generators operated by them in hydraulic stations and in non-generating plants and does not include spare equipment in thermal stations or

spare hydraulic equipment in hydraulic stations. Such equipment is classed as main-plant equipment. The capacities of the equipment are the manufacturers' ratings and, for water wheels and turbines the kilowatt hour capacities vary with the supply of water. The majority of the hydraulic stations are large, serving wide areas over transmission lines, whereas most of the plants with thermal engines are small, serving the needs of the local municipality.

7.—Main-Plant Equipment of Central Electric Stations, by Provinces, and Total Auxiliary Equipment, 1945

NOTE.—Kva. means kilo-volt-amperes.

Type of Equipment and Province	Power Plants	Water Wheels and Turbines			Thermal Engines			Generators		
		No.	Capacity	Average Capacity	No.	Capacity	Average Capacity	No.	Capacity	Average Capacity
	No.		h.p.	h.p.		h.p.	h.p.		kva.	kva.
MAIN-PLANT EQUIPMENT										
P.E.I.	9	6	363	61	16	8,852	553	20	6,945	347
N.S.	47	57	108,065	1,896	34	96,375	2,834	91	169,222	1,860
N.B.	14	17	107,010	6,295	18	42,752	2,375	34	128,362	3,775
Que.	99	293	5,397,832	18,423	11	3,015	274	302	4,573,472	15,144
Ont.	120	321	2,289,057	7,131	15	1,503	100	335	1,840,929	5,495
Man.	19	43	508,300	11,821	31	3,514	113	74	410,636	5,547
Sask.	141	Nil	–	–	277	169,253	611	275	142,919	520
Alta.	78	9	91,000	10,111	156	112,837	723	152	169,659	1,116
B.C. and Yukon	73	85	714,937	8,411	57	12,282	216	147	593,623	4,038
Totals	**600**	**831**	**9,216,564**	**11,091**	**615**	**450,383**	**732**	**1,430**	**8,035,767**	**5,619**
AUXILIARY-PLANT EQUIPMENT	Nil	Nil	–	–	111	173,312	1,561	101	146,556	1,451
Grand Totals	**600**	**831**	**9,216,564**	**11,091**	**726**	**623,695**	**859**	**1,531**	**8,182,323**	**5,344**

8.—Electric Energy Generated in Central Electric Stations, by Provinces, 1941-46

Province or Territory	1941	1942	1943	1944	1945	1946
	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.	'000 kwh.
Prince Edward Island	11,869	13,096	14,616	15,968	16,753	16,702
Nova Scotia	480,177	516,828	579,470	582,589	600,429	590,492
New Brunswick	533,074	489,469	506,134	521,951	598,700	592,923
Quebec	17,741,218	20,803,715	23,477,824	23,277,515	22,227,012	23,597,321
Ontario	9,635,697	10,181,711	10,308,673	10,538,574	10,736,742	10,778,135
Manitoba	1,926,696	2,080,810	2,223,725	2,232,855	2,283,789	2,389,375
Saskatchewan	196,341	211,557	232,195	243,884	249,517	270,691
Alberta	319,743	418,704	512,985	555,034	566,745	602,048
British Columbia and Yukon	2,472,848	2,639,289	2,623,971	2,630,409	2,850,367	2,899,300
Totals	**33,317,663**	**37,355,179**	**40,479,593**	**40,598,779**	**40,130,054**	**41,736,987**

Farm Service Furnished by Central Electric Stations.—Table 9 shows the number of farm customers, the average annual consumption, average annual revenue exclusive of the 8 p.c. Federal tax, and the average revenue per kilowatt hour sold to these customers in each province for 1946.

Effective Jan. 1, 1944, the Ontario Hydro-Electric Power Commission reclassified its rural customers, including under "farm customers" only farm contracts whereby one or more dwellings occupied by families engaged in the operation of the farm would be counted as one customer. This classification excluded other rural dwellings, stores, garages, repair shops, etc., also small properties of five acres or less except under special conditions. This change in classification explains the apparent decrease in farms served as shown in previous years. The Ontario Government pays for part of the cost of installing services to farm customers, which accounts in part for the lower average revenue per kilowatt hour in Ontario as compared with the other provinces.

9.—Farm Service Furnished by Central Electric Stations, 1946

Province or Territory	Customers	Kilowatt Hours Delivered		Revenue Received		
		Total	Average per Customer	Total	Average per Customer	Average per kwh.
	No.	No.	No.	$	$	cts.
Prince Edward Island	2,341	1,488,552	636	95,543	40·81	6·4
Nova Scotia	9,767	5,842,970	598	271,449	27·79	4·6
New Brunswick	8,858	2,709,262	306	207,927	23·47	7·7
Quebec	44,680	28,678,547	642	1,046,962	23·43	3·7
Ontario	75,011	180,883,529	2,411	3,150,560	42·00	1·7
Manitoba	2,311	2,488,630	1,077	105,466	45·64	4·2
Saskatchewan	486	456,671	940	38,743	79·72	8·5
Alberta	1,391	2,437,475	1,752	142,552	102·48	5·8
British Columbia and Yukon	3,427	6,012,294	1,754	162,399	47·39	2·7
Totals	**148,272**	**230,997,930**	**1,558**	**5,221,601**	**35·22**	**2·3**

Export and Import of Electric Power.—Electric energy is exported from Canada only under licence and an export tax of 0·03 cents per kilowatt hour is levied with some exceptions. The export duties for the fiscal years ended Mar. 31, 1944 to 1947 were $641,253, $639,320, $694,518 and $598,751, respectively.

Exports for the years 1944-47 are shown in Table **10**. There are also large interprovincial movements of electric energy from Quebec to Ontario, and smaller movements from Quebec to New Brunswick and British Columbia to Alberta.

The water allowed to be diverted at Niagara Falls for power purposes was increased by 5,000 cu. ft. per second to the Canadian side in November, 1940, owing to a diversion of water from Long Lake and the Ogoki River from the James Bay watershed to the Great Lakes watershed. In 1941 a further increase of 9,000 c.f.s. to the Canadian plants and 12,500 c.f.s. to the United States plants was permitted, and in 1943 an additional 4,000 c.f.s. to Canadian plants bringing the totals up to 54,000 c.f.s. for Canada, and 32,500 c.f.s. for the United States. This increased water with greater development of plants on the St. Lawrence River made possible the increased export of both firm and secondary power to the United States (5,000 c.f.s. will produce around 150,000 h.p. at the Queenston, Ont., plant). During 1947, increased demands from consumers and low water reduced the surplus energy available for export.

10.—Electric Energy Exported from Canada, by Companies, and Imported from the United States, 1944-47

Company	1944	1945	1946	1947
	kwh.	kwh.	kwh.	kwh.
Hydro-Electric Power Commission of Ontario	395,280,000	394,245,000	394,200,000	391,102,400
Hydro-Electric Power Commission of Ontario (surplus)	1,108,216,985	1,120,730,061	978,819,549	553,054,300
Canadian Niagara Power Company	312,033,481	322,722,441	324,484,986	321,725,500
Canadian Niagara Power Company (surplus)	64,931,100	99,409,843	93,806,074	71,269,622
Ontario and Minnesota Power Co	38,094,000	38,365,000	32,073,000	48,429,000
Maine and New Brunswick Electric Power Co.	29,195,321	40,384,249	32,185,886	31,747,662
Maine and N.B. Electric Power Co. (surplus)	Nil	Nil	1,690,473	3,191,284
British Columbia Electric Railway Co	248,520	273,050	323,260	408,630
Southern Canada Power Co	2,261,256	2,462,695	2,703,079	4,289,825
Quebec Hydro-Electric Commission[1]	627,047,466	618,842,478	614,992,847	634,475,609
Canadian Cottons, Ltd., Milltown, N.B.	1,164,000	2,708,400	2,868,000	422,400
Fraser Companies, Ltd	5,293,000	4,574,000	1,288,000	4,169,000
Northport Power and Light Co	16,444	15,206	20,619	33,210
Northern B.C. Power Co	17,290	12,170	33,120	35,410
Detroit and Windsor Subway Co	292,200	291,800	328,100	323,400
Manitoba Power Commission	1,220,133	1,398,840	1,813,740	1,809,600
Totals	**2,585,311,196**	**2,646,435,233**	**2,481,630,733**	**2,066,486,852**
Imports from United States[2]	14,097,000	15,916,000	8,651,000	51,979,000[3]

[1] Transferred from the Montreal Light, Heat and Power Co., April, 1944. [2] Mainly to B.C. Electric. [3] Preliminary.

Subsection 2.—Public Ownership of Central Electric Stations*

Water power is developed in Canada by provincial commissions, by municipalities and by private companies—hydro-electric plants. The first such provincial commission was formed in Ontario in 1906 to act as trustee for a group of municipalities to develop and distribute electricity. The Hydro-Electric Power Commission of Ontario now generates and purchases power, transmits it to rural and urban municipalities and serves large power customers. Similar commissions have been formed in each of the other provinces.

* The information included under the provincial headings of this Subsection has been revised by the various provincial commissions or authorities concerned.

11.—Summary Statistics of Publicly Owned Central Electric Stations, 1930-46

Year	Power Plants	Customers	Electric Energy Generated	Power Equipment	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
1930	166	862,158	5,156,788	1,454,014	1,658,087
1931	163	874,507	4,139,707	1,505,599	1,719,495
1932	170	881,054	3,713,841	1,610,024	1,824,010
1933	172	890,301	3,673,016	1,742,024	1,966,889
1934	171	899,617	5,136,241	1,743,074	1,963,979
1935	169	915,303	5,515,084	1,815,164	2,036,799
1936	171	938,117	6,887,057	1,944,189	2,173,030
1937	179	972,284	7,372,018	1,975,989	2,202,624
1938	183	1,014,115	6,665,837	2,013,169	2,176,793
1939	184	1,052,245	7,047,100	2,014,500	2,221,490
1940	181	1,088,415	7,822,013	2,022,285	2,227,203
1941	183	1,126,364	8,523,915	2,031,250	2,240,425
1942	188	1,140,499	9,177,792	2,134,845	2,344,310
1943	197	1,159,545	9,397,354	2,135,395	2,362,858
1944	202	1,484,784	14,910,198	3,092,295	3,340,268
1945	208	1,566,676	14,599,195	3,118,324	3,372,826
1946	203	1,650,739	14,739,271	3,274,484	3,523,463

A large portion of the power development in Quebec is connected with pulp and paper plants and with the aluminum industry. Such power plants are operated as separate organizations and deliver power to the parent companies at relatively low rates. Also, substantial blocks of power are produced in Quebec for export to Ontario.

Table 12 shows statistics of municipally or publicly owned central electric stations, by provinces, for 1946. Table 22 at p. 515 shows comparable statistics for commercial stations.

12.—Publicly Owned Central Electric Stations, by Provinces, 1946

Province or Territory	Power Plants	Customers	Electric Energy Generated	Power Equipment	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
Prince Edward Island	1	1,527	3,493	Nil	1,785
Nova Scotia	27	35,507	248,079	80,780	88,555
New Brunswick	7	46,906	135,047	12,860	40,292
Quebec	24	355,966	4,639,456	1,032,160	1,034,845
Ontario	70	939,921	8,573,187	1,950,735	1,951,835
Manitoba	6	89,930	718,768	179,000	180,002
Saskatchewan	36	60,638	179,287	Nil	110,519
Alberta	8	77,828	194,878	"	93,008
British Columbia and Yukon	24	42,516	47,076	18,949	22,622
Totals	**203**	**1,650,739**	**14,739,271**	**3,274,484**	**3,523,463**

Because of the absence of free market determination of prices and regulation of services in an industry that is semi-monopolistic, regulation of electrical utilities has been attempted in most provinces. The governing bodies of the provincial electric power commissions, their functions and activities are summarized by provinces below.

Nova Scotia.—In 1909 legislation was first enacted in Nova Scotia relating to the use of water power in "An Act for the Further Assisting of the Gold Mining Industry". This was the most advanced legislation until the development of water power within the Province of Nova Scotia was initiated under the Acts of 1914 and carried on in an investigatory manner in co-operation with the Federal Government until 1919, when the Nova Scotia Power Commission was created under the Power Commission Act. Certain investigatory work is still carried on in Nova Scotia by the Federal Government through the Dominion Water and Power Bureau with which the Nova Scotia Power Commission is closely associated. The control of the water resources of the Province is vested in the Crown and administered under the provisions of the Nova Scotia Water Act of 1919. The Commission pays the regular fees for water rights.

The function and policy of the Commission is the supply of electric power and energy by the most economical means available. The Rural Electrification Act of 1937 greatly increased the possibilities for retail service. It provides for financial assistance to equalize cost and revenue of extensions, the construction of which have been approved by the Governor in Council as qualifying under the Act. In 1941, an amendment to the Power Commission Act authorized the Commission, subject to the approval of the Governor in Council, to regulate and control the generation, transformation, transmission, distribution, supply and use of power in the Province.

Financially, the Commission is self-supporting, repaying borrowings from revenue. The balance sheet at Nov. 30, 1947, showed total fixed assets of $20,483,549, including work in progress amounting to $717,695. Current assets amounted to $220,493. Liabilities are shown as follows: fixed $14,599,533; current $1,971,621; contingency and renewal reserves $2,327,258; sinking fund reserves $3,164,698, and general and special reserves of $1,579,656.

The initial development of the Commission was an 800-h.p. installation on the Mushamush River, which went into operation in 1921 and delivered 192,000 kwh. in the first complete year of operation. This and later developments are shown in Table 13.

13.—Present Developments with Initial Capacities of Undertakings of the Nova Scotia Power Commission

System	First Year of Operation	Installed Capacity		Annual Output Generation	
		Initial	1947	Initial	1947
		h.p.	h.p.	kwh.	kwh.
Mushamush Hydro	1921	800	1,030	208,752	1,183,500
St. Margaret Hydro	1922	10,700	15,700	19,538,000	32,596,200
Sheet Harbour—					
Malay Falls Hydro	1924	5,550	5,550	6,536,860	36,373,238
Ruth Falls Hydro	1925	6,290	10,590		
Mersey Hydro—					
Original Hydro	1928	29,400	29,400	85,863,390	161,114,800
Cowie Falls Hydro	1938	10,200	10,200		
Tusket Hydro	1929	2,820[1]	2,820	3,680,540	7,870,919
Roseway Hydro	1930	560	560	365,600	2,245,313
Markland Hydro	1931	1,400	1,200	5,813,555	3,493,480
Antigonish Hydro	1931	[2]	500	389,520	2,197,800
Totals, Hydro	–	–	77,550	122,396,217	247,075,250
Canseau Diesel	1937	72	374	21,650	121,280
Canseau Steam	1945	1,125[3]	1,125[3]	4,437,280	4,220,180
Totals, Thermal	–	–	–	4,458,930	4,341,460
Grand Totals	–	–	–	**126,855,147**	**251,416,710**

[1] Minimum head. [2] Distribution system only. [3] Rated in kilowatts.

The nine systems comprised 2,150·61 miles of combined transmission and distribution lines and served 35 wholesale and 13,053 retail customers at Nov. 30, 1947. Nineteen generating stations and 40 generating units are in service with a total installed capacity of 79,049 h.p. The total delivery to customers, which is somewhat variable, has reached 249,449,505 kwh. per year.

The Dickie Brook hydro-electric development of the Antigonish System now under construction provides for immediate installation of 2,900 h.p. and an additional 1,450 h.p. when required.

Preliminary work is being carried on for the construction of a steam plant in Pictou County which is expected to begin operation in 1950. This plant will have an initial installation of 10,000 kw.

Deep Brook hydro-electric development on the Mersey River, now in process of design, will add 12,000 h.p. to the Markland System. It is scheduled to start operation early in 1950.

New Brunswick.—The New Brunswick Electric Power Commission was incorporated under the Electric Power Act, 1920. Generating stations owned and operated by the Commission are as follows:—

Plant	*Type*	*Capacity*
		h.p.
Musquash	Water power	10,000
Grand Lake	Steam	26,800
Kouchibouguac	Water power	200
Grand Manan	Diesel	310
St. Quentin	Diesel	280
St. Stephen[1]	Diesel	600
TOTAL CAPACITY		38,190

[1] Operated from August, 1947.

The Musquash, Grand Lake and Kouchibouguac plants are inter-connected and operate in parallel at all times.

Transmission Lines.—The transmission system consists of a 66,000-volt line from Musquash to Moncton, and five lines from Grand Lake, viz., two 33,000-volt lines to Fredericton, one 66,000-volt line to Newcastle, one 66,000-volt line to Moncton, and one 66,000-volt line from Coal Creek to Hampton.

Power is sold *en bloc* to the cities of Saint John, Moncton, Fredericton and the town of Sussex.

The statistical information given below shows the growth of the Commission's undertakings since 1924.

14.—Growth of the New Brunswick Electric Power Commission, Years Ended Oct. 31, 1924, and 1943-47

Item	1924	1943	1944	1945	1946	1947
High-voltage transmission line.....miles	138	344	348	348	348	348
Distribution line..... "	67	2,150	2,150	2,326	2,510	2,902
Indirect customers..... No.	11,561	Nil	Nil	Nil	Nil	Nil
Direct customers..... "	1,129	20,368	21,955	24,166	27,299	33,837
Plant capacities..... h.p.	11,100	27,260	32,510	37,590	37,590	38,190
Power generated.....kwh.	15,500,000	103,800,000	115,524,000	122,508,320	131,315,745	147,008,120
Capital invested..... $	3,780,000	10,470,000	11,066,400	11,509,962	12,439,470	15,532,885
Revenue..... $	310,000	1,741,800	1,899,500	2,024,468	2,181,272	2,495,868

Quebec.—The National Electricity Syndicate, 1937 (1 Geo. VI, c. 24), was established to develop electricity generating plants and distributing systems in the Province. It was abolished in 1940 (4 Geo. VI, c. 22) and its powers, duties, and contractual obligations were then transferred to the Quebec Streams Commission.

The Quebec Streams Commission.—Created in 1910 by 1 Geo. V, c. 5, and given additional powers by 3 Geo. V, c. 6 (see R.S.Q., c. 46) and by 20 Geo. V, c. 34, the Commission was authorized to ascertain the water resources of the Province, to make recommendations regarding their control, to construct certain storage dams and operate them so as to regulate the flow of streams. The Commission has assisted companies engaged in such work by the systematic collection of data on the flow of the principal rivers and on the meteorological conditions, by investigation of numerous water-power sites and determination of the longitudinal profile of a large number of rivers, but mainly by the regulation of the flow of the principal power streams through the construction of storage dams.

From 1912 to 1925, a number of storage reservoirs were built or acquired by the Commission, charges being made to benefiting companies to cover interest and amortization on the capital invested as well as the cost of operation. Since 1925, companies or persons have availed themselves of the latitude given them by R.S.Q. 1925, c. 46, s. 6, to build the necessary dams; such storages have been transferred to and are operated by the Commission, the cost of operation only being charged annually to the interested companies or persons. In all, the Commission now controls and operates 28 storage-reservoirs in the Province.

Among the rivers controlled by the Commission, either by means of dams on the rivers themselves or by controlling the outflow of lakes at their headwaters are: the St. Maurice, now developing 1,110,550 h.p.; the Gatineau, 528,000 h.p.; the Lièvre, 274,000 h.p.; the St. Francis, 100,000 h.p.; the Chicoutimi, 41,400 h.p.; the Au Sable, 33,200 h.p.; the Metis, 15,700 h.p. The Commission also operates nine reservoirs on Rivière du Nord, two in the watershed of Ste-Anne-de-Beaupré River, and one at the outlet of Lake Morin, on Rivière-du-Loup (en bas).

Reservoirs not Controlled by the Province.—Among storage reservoirs not controlled or operated by the Commission are: the Lake St. John, the Lake Manouane and Passe Dangereuse on the Peribonca River, and the Onatchiway on the Shipshaw River; the Temiscouata Lake on Madawaska River, controlled by Gatineau Power Company; Memphremagog Lake on the Magog River, controlled by Dominion Textile Company; Temiscamingue and Quinze Lakes on the Ottawa River, controlled by the Department of Public Works of Canada; Kipawa Lake on the Ottawa River, controlled by Canadian International Paper Company; etc.

Power developments on the Saguenay River, benefiting from the Peribonca and Lake St. John reservoirs, amount to 1,950,000 h.p. since the Chute-à-Caron (Shipshaw) project has been completed.

The Quebec Hydro-Electric Commission.—The Quebec Hydro-Electric Commission was established by 8 Geo. VI, c. 22, with the object of supplying power to the municipalities, industrial or commercial undertakings and citizens of the Province of Quebec at the lowest rates consistent with sound financial administration.

On Apr. 15, 1944, in accordance with the provisions of this enactment, the Commission took over: *(a)* the system of Montreal Light, Heat and Power Consolidated for the generating and distributing of electricity; *(b)* the undertaking of Montreal Island Power Company for the generating and distributing of electricity; and (c) all the shares of the capital stock of Beauharnois Light, Heat and Power Company. Thus, Quebec Hydro-Electric Commission acquired the control, among other assets, of the following hydro-electric plants:*—

Hydro-Electric Plant	*River*	*Installed Capacity*
Cedars	St. Lawrence	200,000 h.p.
Chambly	Richelieu	9,000 h.p.
Sault-au-Récollet	Rivière-des-Prairies	45,000 h.p.
Beauharnois	St. Lawrence	680,000 h.p.

The Commission operates a public utility system which supplies electric light and power requirements to Greater Montreal and surrounding districts embracing a population of nearly 1,500,000.

* The Commission also purchases 175,000 h.p., mainly from the Shawinigan Water and Power Company.

From the Cedars Plant, electric energy is supplied to the Aluminum Company of America at Massena, N.Y., and through Beauharnois Light, Heat and Power Company power is sold to the Hydro-Electric Power Commission of Ontario. The sales involved are in the neighbourhood of rates of 100,000 h.p. to Massena, N.Y. and 250,000 h.p. to Ontario.

15.—Growth of the Quebec Power Systems, 1935-47

Year	Municipalities Served	Customers Served	Power Distributed	
			Total	Primary
	No.	No.	h.p.	h.p.
1935	61	266,744	540,000	405,000
1936	61	268,818	585,000	455,000
1937	61	271,274	600,000	480,000
1938	61	273,637	733,000	635,000
1939	61	277,010	773,000	676,000
1940	61	281,027	806,000	699,000
1941	61	285,648	892,000	784,000
1942	61	289,038	1,032,000	827,000
1943	61	293,005	1,044,000	942,000
1944	61	298,767	1,060,000	897,000
1945	61	305,049	1,045,000	883,000
1946	61	309,022	1,085,000	947,000
1947	61	318,984	1,127,000	980,000

16.—Distribution of Primary Power to Systems, 1942-47

(Coincident with Montreal System peak)

System	1942	1943	1944	1945	1946	1947
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
Montreal System	413,000	440,000	466,000	512,000	538,000	567,000
Beauharnois Local System	36,000	129,000	77,000	27,000	34,000	35,000
Beauharnois 25-cycle System (H.E.P.C. of Ontario)	250,000	250,000	250,000	250,000	250,000	250,000
Massena System	128,000	123,000	104,000	94,000	125,000	128,000
Totals	**827,000**	**942,000**	**897,000**	**883,000**	**947,000**	**980,000**

In addition to the ownership and operation of these generating and distribution systems, the Quebec Hydro-Electric Commission administers the 48,000-h.p. Upper River plant at Rapid VII. Primary power statistics for this Northern Quebec System (Cadillac-Noranda district) are as follows: 1943, 15,030 h.p.; 1944, 16,820 h.p.; 1945, 14,720 h.p.; 1946, 15,750 h.p.; and 1947, 18,140 h.p.

Ontario — *The Hydro-Electric Power Commission.* — An account of the inception and operations of the Commission is given at pp. 377-378 of the 1940 Year Book.

Since 1945 the Commission has been engaged in implementing the power development program for which plans were started before the termination of the Second World War. During the past year, however, the Commission again found it necessary to revise its plans to cope with the ever-increasing magnitude of prospective demands.

The total generating capacity available to the Commission in 1947, including its own generating plants and the purchased power contracts, aggregated 2,050,000 kw. (2,748,000 h.p.). The power plants authorized for construction (with an

additional power purchase contract) will add, during the next few years, a capacity of 704,000 kw. (943,000 h.p.) making a total of 2,754,000 kw. (3,691,000 h.p.) as shown in the accompanying statement.

COMMISSION'S AVAILABLE POWER RESOURCES—ALL SYSTEMS, 1947

	kw.	h.p.
Maximum normal plant capacity (including DeCew Falls, second unit placed in service in September, 1947)	1,338,000	1,793,000
Power purchased (contract amount)	712,000	955,000
	2,050,000	2,748,000
New projects as tabulated below	704,000	943,000
TOTALS	2,754,000	3,691,000

AUTHORIZED CONSTRUCTION

System and Development		
Southern Ontario System—		
Stewartville-Madawaska River	60,000	80,000
Des Joachims-Ottawa River	358,000	480,000
Chenaux-Ottawa River	119,000	160,000
	537,000	720,000
Thunder Bay System—		
Aguasabon-Aguasabon River	40,000	53,000
Pine Portage-Nipigon River	60,000	80,000[1]
	100,000	133,000
Northern Ontario Properties—		
Ear Falls-English River	5,500	7,500
Tunnel Site-Mississagi River	42,000	56,500
	47,500	64,000
Additional Power Purchase Contract—		
Polymer Corporation-Sarnia	19,500	26,000
TOTALS	704,000	943,000

[1] Hydraulic structures and power-house for 4 units. Initial installation 2 units, ultimate capacity 4 units=160,000 h.p.

Hydro-Electric Power Commission Statistics.—The Annual Reports of the Commission present in great detail descriptions and statistics of operation, construction, municipal work, transmission and distribution. The Commission exercises supervisory functions over the electrical utilities owned and operated by the partner-municipalities.

The Commission was established in the early years of the twentieth century. The initial capital expenditure required to serve about twelve municipalities amounted to approximately $3,600,000. At Oct. 31, 1946, the total capital investment amounted to $545,545,202 of which $393,339,254 represented investments by the Commission in generating plants, transmission systems, etc., including electric railway and other properties operated by the Commission for the major systems under their control, and $152,205,948 were investments by municipalities in local distributing systems of their own, including other assets. Similarly, total reserves of the Commission and of the municipal electrical utilities for sinking fund, renewals, contingencies and insurance purposes amounted to $414,830,047, of which $276,932,621 represented reserves of the Commission and $137,897,426 of the municipalities.

17.—Growth of the Ontario Hydro-Electric Power Commission, Years Ended Oct. 31, 1931-46

Year	Municipalities Served	Customers Served	Total Power Distributed	Capital of Commission and Assets of Municipal Utilities
	No.	No.	h.p.	$
1931	721	600,297	1,107,227	373,010,000
1932	747	611,955	1,108,037	382,558,000
1933	757	621,418	1,366,735	394,661,000
1934	760	624,801	1,451,699	398,225,000
1935	766	636,134	1,625,733	408,001,000
1936	782	649,517	1,509,667	413,710,000
1937	795	667,863	1,648,467	424,422,000
1938	821	694,400	1,831,216	436,822,000
1939	858	720,372	1,963,471	446,123,000
1940	886	748,232	1,954,069	449,038,000
1941	900	771,681	2,312,219	467,235,000
1942	902	785,564	2,265,796	483,333,000
1943	903	797,258	2,330,806	487,023,000
1944	904	818,085	2,416,157	492,831,000
1945	922	869,712	2,599,873	521,644,000
1946	924	910,563	2,595,135	545,545,000

18.—Distribution of Power to Systems of the Ontario Hydro-Electric Power Commission, Years Ended Oct. 31, 1943-46

System and District	1943	1944	1945	1946
	h.p.	h.p.	h.p.	h.p.
Niagara System	1,738,606			
Georgian Bay System	48,189	2,043,646	2,177,763	2,156,599
Eastern Ontario System	203,944			
Thunder Bay System	124,638	127,212	136,863	151,072
Manitoulin District	491			
Northern Ontario Properties—				
Nipissing District	6,126			
Sudbury District	19,670			
Abitibi District	180,563	245,299	285,247	287,464
Patricia District	8,579			
St. Joseph District	–			
Totals	**2,330,806**	**2,416,157**	**2,599,873**	**2,595,135**

Statistics of Urban Municipal Electrical Utilities of Ontario Served by the Commission.—Statistics of the assets and liabilities of the electrical departments of urban municipalities served by the Hydro-Electric Power Commission show, for 1946, total assets of $222,034,483 as compared with liabilities of $13,736,601. Of the difference $120,008,908 was allotted as reserves. In computing the percentage of net debt to total assets, the equity in the provincial system is not taken into account. Between 1933 and 1946 total assets increased by $86,255,813 while total liabilities decreased by $36,184,153.

*Rural Electrical Service in Ontario.**—During past years substantial progress has been made in Ontario in the field of rural electrification, and the Commission's rural operations are now an important feature of its work. The Ontario Govern-

* Legislation passed concerning rural power is as follows: the Power Commission Act (R.S.O. 1937, c. 62); the Rural Hydro-Electric Distribution Act (R.S.O. 1937, c. 64); the Rural Power District Loans Act (R.S.O. 1937, c. 65); and the Rural Power District Service Charge Act (R.S.O. 1937, c. 66).

ment, pursuant to its policy of promoting agriculture—a basic industry—contributes, in the form of 'grants-in-aid', 50 p.c. of the initial capital cost of distribution lines and equipment. In 1930, the Ontario Government passed legislation providing for advances up to $1,000 to actual farm owners of lands and premises in rural power districts for the installation of electrical wiring, the purchase of equipment and providing for the fixing of low maximum service charges for all classes of rural Hydro service.

New Uniform Rural Rate Structure.—A new uniform rural rate structure, for the sale of energy, was placed in effect on Jan. 1, 1944, for all rural Hydro service throughout the Province, and replaced the numerous rural rate schedules previously in effect.

The new energy rates consist, essentially, of a three-step energy charge as follows:

(1) A first block or number of kilowatt-hours of energy consumption in the billing period, charged for at 3½ cents gross per kilowatt-hour;

(2) A second block or number of kilowatt-hours of energy consumption in the billing period, charged for at 1·6 cents gross per kilowatt-hour; and

(3) All remaining kilowatt-hours of energy consumption in the billing period, charged for at 0·75 cents gross per kilowatt-hour.

In addition, the service charge in use prior to Jan. 1, 1944, has been eliminated in the case of farm and commercial service, reduced by 50 per cent in the case of hamlet service and changed to an annual fixed charge in the case of summer service.

19.—Electrical Service to Rural Power Districts Operated by the Ontario Hydro-Electric Power Commission, Years Ended Oct. 31, 1943-46

Item		1943	1944	1945	1946
Rural power districts	No.	120	120	121	92
Townships served	"	467	467	468	469
Customers	"	136,341	146,633	159,608	177,605
Primary distribution lines	miles	20,119	21,023	22,309	23,663
Power supplied	h.p.	88,878	100,514	128,345	164,424
Revenues from customers	$	5,618,695	5,666,392	6,094,010	7,203,192
Total expenses	$	5,297,242	5,235,814	5,795,063	7,146,610
Net surpluses	$	321,453	430,578	298,947	56,582
Capital invested	$	39,494,638	41,257,200	44,536,481	49,296,971
Provincial grants-in-aid	$	*19,580,576*	*20,426,487*	*22,022,424*	*24,391,821*

Manitoba.—The Manitoba Power Commission commenced its operations in 1919 under the authority of the Electrical Power Transmission Act. This Act empowered the Commission to make provision for generating electric energy, to enter into contracts for the purchase of power in bulk from generating agencies, and for its transmission and sale to municipalities, corporations and individuals. The first stretch of transmission line was completed in 1920 from Winnipeg to Portage la Prairie.

For the first ten years power was purchased in bulk from the Winnipeg Hydro Electric System. At the expiration of this period, the Seven Sisters Agreement between the Manitoba Government and the Winnipeg Electric Company provided for the reservation of a block of power for the Power Commission.

The Manitoba Power Commission Act of 1931 provided for the reorganization of the utility's administration. Bulk contracts were cancelled and service begun direct to the consumer, municipalities and towns having contracts for street lighting only. This made possible the adoption of a policy by which the Commission might eventually establish standard rates for all towns and villages regardless of distance from the source of supply or the sparseness of population.

The expansion of the utility since 1931 shows the importance of this reorganization. In 1931 there were 56 cities, towns and villages on the System; 243 communities were served in 1947. Revenue increased from $700,000 to over $2,000,000. Rate reductions, meanwhile, have reduced the average customer cost per kilowatt-hour 50 p.c. in the past 15 years.

The successful growth of the network to the majority of the cities, towns, and villages of the Province, made it possible for the Commission to consider a project of extending electric service to the farms. The Manitoba Electrification Enquiry Commission appointed by the Provincial Government in 1942 to study farm electrification in the Province, reported electric service could be brought to at least 90 p.c. of the farms in the Province. It was estimated this project would involve the construction of 40,000 miles of transmission line at a cost of $35,000,000.

Previously, individual or small groups of farms situated near existing low voltage transmission lines were connected on a contributory basis.

Construction under the farm program began on an experimental basis in 1945 when transmission lines were built to serve 674 farms in seven test areas. Under the farm electrification program the Commission bears the expense of building the power line right into the farm-yard, the farmer being responsible for his yard and interior wiring, and for the purchase of appliances. Construction was to proceed at the rate of 5,000 farms annually, but post-war shortage of line materials restricted this to 1,500 farms in 1946 and 3,500 in 1947.

Substitution of Manitoba jack-pine poles and the establishment of a transformer factory and the development of miscellaneous pole-line hardware manufactures in the Province, enabled the Commission, in 1948, to return to the original plan of construction to 5,000 farms. Estimated expenditure in 1948 for the farm program is $4,000,000.

In conjunction with the farm program, the Commission is constructing lines to serve every community having a population of at least 20 persons, located within the practical service area of the Province. Following the connection of 103 communities scheduled to receive service during 1948 and 1949, 346 cities, towns, villages and hamlets will be supplied with power by the Commission.

Saskatchewan.—The Saskatchewan Power Commission was established in 1929 under the Power Commission Act (R.S.S. 1940, c. 33) which authorized the Commission to manufacture, sell and supply electric energy, to acquire and develop water-power sites, to acquire or construct oil and steam plants, to construct transmission lines, to purchase power and to enter into contracts with municipalities for the supply of electric energy.

During the years 1929 to 1945, the Commission purchased certain generating plants, and constructed and purchased transmission lines and also distribution systems in towns and villages. These were improved, enlarged or supplemented. Particulars of these acquisitions and constructions are given in the 1941 Year Book and subsequent editions.

Control and regulatory powers regarding franchises for the supply of electric energy and the rates to be charged therefor are conferred upon the Local Government Board by Part III of the Public Utilities Companies Act (R.S.S. 1940, c. 118). The Commission is given certain control and regulatory powers regarding public electrical utilities under Part III of The Power Commission Act.

On Jan. 1, 1947, Dominion Electric Power Limited, which up to that date had been operated as a wholly owned subsidiary, was completely absorbed by the Commission, and on the same date the properties of Canadian Utilities Limited in Saskatchewan, with the exception of its Lloydminster plant, were acquired and added to the Commission's system.

Including the properties acquired from the three private companies mentioned, the Commission now owns and operates 3,550 miles of transmission line and distribution systems in 343 cities, towns and villages which are served from the system. Steam generating plants with a total installed capacity of 65,000 kw. are located at Saskatoon, North Battleford, Prince Albert, Estevan and Taylorton, while diesel plants with a total installed capacity of 28,770 h.p. are located at Swift Current, Wynyard, Tisdale, Watrous, Humboldt, Leader, Maple Creek, Unity, Assiniboia, Biggar, Canora, Davidson, Eastend, Grenfell, Gull Lake, Herbert, Hudson Bay, Kerrobert, Kindersley, Meadow Lake, Melfort, Melville, Shellbrook, Nipawin, Perdue, Rosetown, Shaunavon, Wilkie and Yorkton. The Commission also purchases several blocks of power from and contracts for the interchange of power with private interests. Electric energy is sold retail direct to consumers except in the cities of Saskatoon, North Battleford and Swift Current, and the town of Battleford, where energy is furnished in bulk to the municipal corporations and retailed by them to the consumers. The number of customers served direct at the end of 1947 (including rural services) was 45,087, while the number served by municipalities buying power in bulk from the Commission was 18,718.

One hundred and thirty-two cities, towns, villages and hamlets were added to the Commission's system during 1947, including 64 taken over from Dominion Electric Power Limited and Canadian Utilities Limited.

In 1947 approximately 465 miles of transmission lines were constructed. Substantial alterations were also made in existing lines radiating out of the city of Saskatoon including the installation of a new under-ground cable from the Saskatoon plant to the Commission's substation and switch centre on the out-skirts of the city.

The 20,000 h.p. turbo-generator which was under erection at Saskatoon during 1946, was placed in service in January, 1947. The construction of an addition to the power-plant building and the installation of a new steam generator and a new steam turbo-generator at the Estevan plant, were in progress at the end of the year.

The capacity of a number of the Commission's diesel plants was increased during the year by a total of 3,700 h.p. accounted for by local increases as follows: Swift Current 1,250 h.p., Wynyard, 1,250 h.p., Canora 450 h.p., Meadow Lake 450 h.p., Kindersley 300 h.p.

A 520 h.p. natural-gas electric generating unit was also placed in operation in the Unity Plant, while two 875 h.p. natural gas electric units for use in the same plant were purchased and delivered.

Regina and Weyburn as well as a number of small towns and villages own and operate their municipal plants and distribution systems. The plant and distribution system in the city of Moose Jaw, and a short transmission line south of that city are owned and operated by a private company.

20.—Growth of the Saskatchewan Power Commission, 1934-47

NOTE.—Figures for the years 1929-33 inclusive will be found at p. 499 of the 1947 Year Book.

Year	Municipalities Served		Customers Served		Total Power Generated	Total Power Purchased	Capital
	In Bulk	Directly	In Bulk	Directly			
	No.	No.	No.	No.	kwh.	kwh.	$
1934	3	123	15,833	7,754	44,863,396	1,817,528	7,428,330
1935	4	123	13,644	8,219	46,889,172	1,986,105	7,504,726
1936	4	123	13,747	8,506	49,757,756	1,967,025	7,535,783
1937	4	126	13,513	8,620	49,165,813	1,918,473	7,609,910
1938	4	129	13,658	9,183	49,435,169	1,954,995	7,765,571
1939	4	129	13,606	9,467	55,055,958	2,085,702	8,174,141
1940	4	134	14,416	10,268	56,717,006	2,423,188	8,271,730
1941	4	136	14,416	10,542	65,225,001	2,019,107	8,511,974
1942	4	139	15,413	11,450	70,084,762	2,100,225	8,617,455
1943	4	139	16,677	12,197	79,565,860	1,921,440	8,748,856
1944	4	143	15,982	12,989	85,118,625	1,808,586	8,939,920
1945	4	203	16,341	18,034	87,248,840	3,098,450	10,661,321
1946	4	211	17,481	20,654	88,111,619	12,050,544	11,841,658
1947	4	343	18,718	45,087	145,049,416	15,371,443	20,305,068

Alberta.—Public ownership of power-generating and distributing systems in Alberta is confined to certain urban municipalities. The regulatory authority over privately owned systems is the Board of Public Utility Commissioners, which has jurisdiction over the distribution and sale of electricity. The Board has power to hold investigation upon complaint made either by a municipality or by a utility company and, following such investigation, may fix just and reasonable rates.

There are three private utility services in the Province, the Calgary Power Limited, Canadian Utilities Limited, and Northland Utilities Limited. A short synopsis of these services is given below:

(1) *Calgary Power Limited.*—This Company has five hydro generating plants on the Bow River and its tributaries, west of Calgary. These plants, the Horseshoe Falls, Kananaskis Falls, Ghost River with a storage reservoir capacity of 74,000 acre feet of water, Cascade, and Barrier Plants, total 105,000 h.p. The Barrier Plant, completed in 1947, is operated by remote control. In addition to the Ghost storage, the Company has reservoirs at Lake Minnewanka and the Upper Kananaskis Lake.

Power from these 5 plants together with that received under interchange agreements with the cities of Lethbridge and Edmonton, the East Kootenay Power Company Limited and the 14,000-h.p. steam plant in Calgary is fed into a transmission network which supplies the entire electrical requirements of the cities of Calgary and Red Deer and 170 towns, villages and hamlets in central and southern Alberta. Calgary Power Limited transmission system comprising 30,000 miles of lines of all voltages extends from the United States boundary to Westlock, 60 miles north of Edmonton, and in the central part of the Province extends west to the Brazeau coal

fields at Nordegg and east to Macklin, Sask. Calgary and Lethbridge and the towns of Ponoka, Macleod and Cardston are supplied upon a wholesale basis and own their own distribution systems. All other points upon the system are supplied on a retail basis.

The Company has 3,799 miles of transmission lines and 431 miles of pole lines.

An extensive farm electrification program is in progress and at Dec. 31, 1947, the Company was supplying approximately 2,666 farms.

The Company's transmission systems are designed with a view to future expansion.

(2) *Canadian Utilities Limited.*—Towns and villages northeast of Drumheller are supplied from a 13,500 kw. steam plant in that city by Canadian Utilities Limited, while towns and villages north and east of Vegreville are served from a new gas-fired steam plant being built in Vermilion. There are also diesel stand-by plants at Lloydminster and a tie line with the first utility near Holden.

This utility also serves the areas around Grande Prairie from a diesel engine plant located in that centre. Service to the rural areas is gradually being expanded and up to the present time 550 customers are being served.

(3) *Northland Utilities Limited.*—This Company, with headquarters in Edmonton, supplies electric energy to 3,800 consumers in 15 towns and villages in northern Alberta. Diesel generating plants are located in Jasper, Mayerthorpe, Athabasca, High Prairie, McLennan, Peace River, Fairview and Chauvin. Low-voltage transmission lines extending from the generating stations supply electricity to 56 farms and to 7 villages. The Company's program for 1948 calls for extension of its service to supply 5 other villages. Farm service will also be extended to a large number of farms in the Peace River District of Alberta.

This Company also serves the communities of Dawson Creek, Pouce Coupe and Rolla in the Peace River block of British Columbia, which is tributary to Alberta areas although not located in the Province.

Other Privately Owned Utilities.—Edmonton generates power from coal and operates its own distribution system; in addition, there is a reciprocal arrangement with one of the privately-owned utilities for exchange of power at peak periods. Calgary, Red Deer, Lethbridge, Macleod, Cardston and Ponoka own their distributing systems but purchase power from the same private source as Edmonton. Medicine Hat owns its own power plant and distribution system and furnishes power to the adjacent town of Redcliff.

Villages and hamlets beyond the reach of the large utility companies are served by small privately-owned power plants.

British Columbia.—The British Columbia Power Commission was appointed Apr. 17, 1945, under the provisions of the Electric Power Act, "to provide for improving the availability and supply of electric power". In addition to acquiring the electrical systems of the West Canadian Hydro Electric Corporation, the Nanaimo-Duncan Utilities Limited, the Columbia Power Company Limited, the National Utilities Limited and the Kamloops properties of the British Columbia Electric Railway Company Limited, the Commission also purchased several smaller privately-owned utilities and municipal plants throughout the Province, and pending development of its own source of power, purchased electric energy for distribution at several points on Vancouver Island.

The Commission's main development on Vancouver Island, the building of a hydro-electric plant, the "John Hart Development", on Campbell River, designed for an ultimate capacity of 180,000 h.p., was officially opened on Dec. 15, 1947. The first two units comprising 50,000 h.p. now supply power to the territory north of Duncan over a 104-mile—132,000 volt double circuit transmission line making electric energy available to industries that may be attracted to this readily accessible area of Vancouver Island.

On the mainland another major construction project is underway at Whatshan near the west side of Upper Arrow Lake. This is the result of several surveys to locate a suitable source of power in the interior of the Province. The plan calls for immediate construction of two 15,000 h.p. units and a 75-mile—138,000 volt transmission line to Vernon in the rich Okanagan Valley. In this way a large area in the interior of the Province will be served by the Commission as a 65-mile—63,000 volt line is now under construction between Vernon and Kamloops on the main line of both transcontinental railways.

Early in 1948 the Commission owned and operated 21 generating stations comprising 2 steam plants, 9 hydro plants (some of which were operated in conjunction with small diesel plants) and 15 diesel plants. The total rated capacity of these plants was 68,120 kva. Electricity was distributed in 18 distinct power districts and supplied wholesale to one municipality. In 11 of these areas a promotional rate structure has been introduced to "permit and encourage the maximum use of power". Over 26,500 customers were being served by the Commission at the beginning of 1948. Of this figure 5,200 represented new services installed by the Commission, a growth of 20 p.c. in approximately a two-year period.

Subsection 3.—Private Ownership of Central Electric Stations

Summary statistics of privately owned central electric stations are given for the years 1930 to 1946 in Table 21.

21.—Summary Statistics of Privately Owned Central Electric Stations, 1930-46

Year	Power Plants	Customers	Electric Energy Generated	Power Equipment[1]	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
1930	421	745,608	12,937,014	3,690,095	3,914,474
1931	396	756,285	12,191,139	3,916,720	4,171,305
1932	402	776,400	12,338,216	4,426,235	4,704,523
1933	403	776,581	13,665,974	4,563,973	4,842,686
1934	402	760,462	16,060,883	4,817,600	5,097,613
1935	397	779,400	17,767,949	4,992,805	5,274,174
1936	390	802,676	18,515,225	4,866,471	5,146,863
1937	389	833,711	20,315,627	5,047,253	5,336,811
1938	406	859,506	19,488,323	5,142,432	5,300,183
1939	427	889,418	21,285,710	5,226,483	5,385,632
1940	421	926,093	22,287,270	5,544,803	5,708,664
1941	424	954,906	24,784,691	5,753,150	5,917,160
1942	428	985,059	28,177,387	6,099,440	6,269,386
1943	425	1,009,603	31,082,239	7,069,774	7,239,936
1944	424	753,239	25,688,581	6,175,674	6,373,523
1945	392	766,554	25,530,857	6,098,240	6,294,121
1946	397	826,091	26,997,716	6,104,383	6,301,996

[1] Exclusive of auxiliary equipment.

The predominant position of Quebec in the electric-power field can be seen from the column in Table 22 showing electric energy generated. Of the total power generated in Canada by all central electric stations in 1946, 45 p.c. was generated by privately owned or commercial stations in the Province of Quebec; this percentage decreased from 57 in 1943 as a result of the transfer in 1944 of the Montreal Light, Heat and Power Company and the Beauharnois Power Company to the publicly owned Quebec Hydro-Electric Commission.

All stations in Ontario produce less than one-half as much power as the Quebec stations and only 20 p.c. of the total for Ontario stations is produced by privately owned stations.

22.—Privately Owned Central Electric Stations, by Provinces, 1946

Province	Power Plants	Customers	Electric Energy Generated	Power Equipment	
				Water Wheels and Turbines	Total
	No.	No.	'000 kwh.	h.p.	h.p.
Prince Edward Island	8	6,962	13,209	363	7,450
Nova Scotia	18	69,806	342,413	25,878	115,887
New Brunswick	8	30,162	457,876	94,150	109,830
Quebec	74	329,959	18,957,865	4,361,672	4,362,002
Ontario	48	67,813	2,204,948	481,862	482,265
Manitoba	11	40,988	1,670,607	353,300	354,841
Saskatchewan	107	29,562	91,404	[1]	59,809
Alberta	69	43,484	407,170	91,000	105,181
British Columbia and Yukon	54	207,355	2,852,224	696,158	704,731
Totals	**397**	**826,091**	**26,997,716**	**6,104,383**	**6,301,996**

[1] Power generation in Saskatchewan is entirely by fuel plants. There is one hydro-electric station but the power is used in Manitoba and the statistics are included with those of Manitoba.

Section 3.—Total Development of Electric Power from All Available Sources

In Section 1 of this Chapter the total water-power resources and the proportion that has been so far developed are dealt with. Table 3 of that Section analyses the hydraulic turbine installation by the proportions in central electric stations, in pulp and paper mills, and in other industries. This is a useful picture, but it does not take into account electric power that is developed in central electric stations or in other industries from sources other than hydraulic.

Section 2 covers the central electric station industry including those under the public ownership of Provincial and Municipal Governments, and those under private ownership. Neither of these two Sections, however, gives a complete picture of the total electric power developed in Canada. All of the hydraulic energy developed is not converted to electric power: there are a number of water wheels and water turbines that are used for direct drive and are not geared to electric generators. On the other hand, certain central electric stations such as some in the Maritime Provinces and others in the Prairie Provinces generate electricity from steam or internal combustion engines. It is the purpose of this Section to show the total electric power generated from all available sources. Most of the power comes, of course, from the central electric stations, the figures having been given in Table 4 of

Section 2, p. 497. The total kilowatt hours of electric power generated by central electric stations is divided into that generated from water power and that generated from thermal engines of all kinds.

As shown in that table the total electric power generated by central electric stations in 1945 was 40,130,054,000 kwh. To get a complete picture, the power generated by manufacturing industries for their own use and the power generated by the primary mining industry for use in its own operations must be added. There are a few other sources of electric energy such as electric railways which produced 10,810,700 kwh. during 1945. This production has been taken into the annual totals shown in Table **23.** Also, there are numerous small lighting and power plants on farms, rural homes, summer resorts, etc., where electricity from central electric stations is not available—there are no available data regarding these. The following table gives available data separately and as a combined total. Of the total electric power generated in Canada in 1946, 94 p.c. is shown to have been developed in central electric stations and of this 2·3 p.c. was generated by thermal engines (see Table **4,** Sect. 2), the remainder having been produced hydraulically. Of the 6·5 p.c. generated by industry for its own use 6·1 p.c. was developed by the manufacturing industries and 0·4 p.c. by the mining industry.

23.—Total Power Generated, by Central Electric Stations, Manufacturing and Mining Industries, 1927-46

Year	Central Electric Stations		Manufacturing Industries		Mining Industries		Total[1]	
	'000 kwh.	p.c.	'000 kwh.	p.c.	'000 kwh.	p.c.	'000 kwh.	p.c.
1927	14,549,099	94·6	656,592	4·3	153,146	1·0	15,377,471	100·0
1928	16,336,518	93·3	999,173	5·7	153,643	0·9	17,509,037	100·0
1929	17,962,515	93·0	1,150,954	6·0	172,724	0·9	19,305,688	100·0
1930	18,093,802	92·9	1,182,870	6·1	174,937	0·9	19,467,904	100·0
1931	16,330,867	92·7	1,116,618	6·3	159,033	0·9	17,620,333	100·0
1932	16,052,057	92·0	1,279,831	7·3	108,222	0·6	17,453,088	100·0
1933	17,338,990	92·7	1,242,009	6·6	106,095	0·6	18,696,872	100·0
1934	21,197,124	93·2	1,407,272	6·2	137,099	0·6	22,748,752	100·0
1935	23,283,033	93·4	1,496,774	6·0	136,688	0·6	24,926,656	100·0
1936	25,402,282	93·7	1,576,611	5·8	109,359	0·4	27,098,648	100·0
1937	27,687,645	91·6	2,320,622	7·7	206,375	0·7	30,225,391	100·0
1938	26,154,160	91·4	2,198,732	7·7	240,078	0·8	28,602,697	100·0
1939	28,338,030	91·5	2,369,338	7·7	262,161	0·8	30,978,629	100·0
1940	30,109,283	91·1	2,640,919	8·0	303,077	0·9	33,062,459	100·0
1941	33,317,663	91·3	2,840,843	7·8	309,374	0·9	36,479,140	100·0
1942	37,355,179	91·1	3,345,445	8·2	296,734	0·7	41,007,482	100·0
1943	40,479,593	92·1	3,211,609	7·3	248,848	0·6	43,950,190	100·0
1944	40,598,779	93·2	2,752,125	6·3	210,554	0·5	43,571,276	100·0
1945	40,130,054	94.0	2,362,260	5·5	217,249	0·5	42,709,563	100·0
1946	41,736,987	93·5	2,703,362	6·1	199,950	0·4	44,640,299	100·0

[1] Includes power generated by Electric Railways for use in their own operations.

Section 4.—Power Equipment in Canadian Manufacturing and Mining Industries

Table **24** shows the power equipment installed in the manufacturing and mining industries of Canada from 1934 to 1945. The figures for the 12 years show that primary power increased from 1,685,819 h.p. to 2,304,206 h.p. or by 36·7 p.c. while the installation of electric motors operated by purchased power shows an increase of no less than 2,413,976 h.p. In considering the increase in the latter

figures, it must be borne in mind that the shift from belts and shafting to individual motors at each machine does not necessarily mean that an amount of power is used equivalent to the increased capacity: there is always a margin by which installed equipment exceeds the simultaneous load.

Of the total primary power installed in 1945, manufacturing establishments accounted for 87·7 p.c., while of the total electric motors operated by purchased power, manufacturing accounted for 82 p.c. and mining for 18 p.c.

The mining industry showed an almost uninterrupted increase in the amount of equipment operated by purchased power from 1934 to 1941; in 1937 a very sharp rise over the 1936 figure occurred; this would indicate a tendency of mining companies to rely more and more upon purchased power rather than to attempt to generate their own, a very natural tendency in northern Ontario and Quebec where water power is abundant and fuel scarce.

In manufacturing, a steady growth is indicated in total power equipment installed, total electric motors and in motors operated by purchased power.

24.—Power Equipment Installed in Manufacturing and Mining Industries, 1934-45, with Details by Provinces, 1945

Year and Province	Steam Engines and Turbines	Internal Combustion Engines	Hydraulic Turbines and Water Wheels	Electric Motors Operated by Purchased Power	Total Power Equipment Installed	Total Motor Capacity	Percentage Electric Power to Total Power
	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
1934—Total	**916,045**	**136,673**	**633,101**	**3,179,948**	**4,865,767**	**3,797,095**	**78·0**
Manufacturing	779,949	87,147	597,687	2,779,913	4,244,696	3,330,413	78·5
Mining	136,096	49,526	35,414	400,035	621,071	466,682	75·1
1935—Total	**913,871**	**141,827**	**667,694**	**3,311,853**	**5,035,245**	**3,898,945**	**77·4**
Manufacturing	779,983	88,345	603,754	2,874,693	4,346,775	3,387,098	77·9
Mining	133,888	53,482	63,940	437,160	688,470	511,847	74·3
1936—Total	**869,502**	**161,892**	**703,398**	**3,451,714**	**5,186,506**	**4,059,355**	**78·3**
Manufacturing	743,184	92,480	648,489	2,977,714	4,461,867	3,506,215	78·6
Mining	126,318	69,412	54,909	474,000	724,639	553,140	76·3
1937—Total	**979,157**	**183,980**	**693,132**	**3,707,493**	**5,563,762**	**4,410,974**	**79·3**
Manufacturing	834,703	98,223	650,557	3,129,790	4,713,273	3,732,745	79·2
Mining	144,454	85,757	42,575	577,703	850,489	678,229	79·7
1938—Total	**979,354**	**201,808**	**777,190**	**3,886,314**	**5,844,666**	**4,635,423**	**79·3**
Manufacturing	830,897	111,645	723,377	3,303,804	4,969,723	3,963,545	79·8
Mining	148,457	90,163	53,813	582,510	874,943	671,878	76·8
1939—Total	**971,766**	**218,429**	**793,882**	**4,078,415**	**6,062,492**	**4,883,670**	**80·6**
Manufacturing	827,801	121,997	731,390	3,366,104	5,047,292	4,069,619	80·6
Mining	143,965	96,432	62,492	712,311	1,015,200	814,051	80·2
1940—Total	**1,004,901**	**253,923**	**784,126**	**4,309,825**	**6,352,775**	**5,136,200**	**80·8**
Manufacturing	848,596	152,240	727,051	3,563,048	5,290,935	4,287,817	81·0
Mining	156,305	101,683	57,075	746,777	1,061,840	848,383	79·9
1941—Total	**1,073,808**	**287,383**	**823,859**	**4,778,068**	**6,963,118**	**5,624,681**	**80·8**
Manufacturing	917,474	179,461	724,199	4,028,942	5,850,076	4,769,054	81·5
Mining	156,334	107,922	99,660	749,126	1,113,042	855,627	76·9
1942—Total	**1,081,859**	**331,808**	**816,631**	**4,748,374**	**6,978,672**	**5,668,039**	**81·2**
Manufacturing	927,509	224,358	741,751	4,076,277	5,969,895	4,877,194	81·7
Mining	154,350	107,450	74,880	672,097	1,008,777	790,845	78·4
1943—Total	**1,134,786**	**364,265**	**790,043**	**5,115,214**	**7,404,308**	**5,981,280**	**80·8**
Manufacturing	988,280	257,873	749,593	4,420,105	6,415,851	5,180,735	80·7
Mining	146,506	106,392	40,450	695,109	988,457	800,545	81·0
1944—Total	**1,153,052**	**385,774**	**779,850**	**5,124,948**	**7,443,624**	**5,991,223**	**80·5**
Manufacturing	1,013,615	288,312	729,216	4,437,296	6,468,439	5,217,013	80·7
Mining	139,437	97,462	50,634	687,652	975,185	774,210	79·4

24.—Power Equipment Installed in Manufacturing and Mining Industries, 1934-45, with Details by Provinces, 1945—concluded

Year and Province	Steam Engines and Turbines	Internal Combustion Engines	Hydraulic Turbines and Water Wheels	Electric Motors Operated by Purchased Power	Total Power Equipment Installed	Total Motor Capacity	Percentage Electric Power to Total Power
1945	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.	h.p.
Prince Edward Island	**1,404**	**1,110**	**1,491**	**1,374**	**5,379**	**1,374**	**25·5**
Manufacturing	1,404	1,110	1,491	1,374	5,379	1,374	25·5
Mining	Nil	Nil	Nil	Nil	Nil	-	-
Nova Scotia	**125,430**	**22,391**	**14,844**	**164,524**	**327,189**	**245,508**	**75·0**
Manufacturing	71,644	18,440	14,824	95,236	200,144	160,833	80·4
Mining	53,786	3,951	20	69,288	127,045	84,675	66·5
New Brunswick	**88,196**	**14,724**	**28,485**	**137,665**	**269,070**	**191,441**	**71·1**
Manufacturing	86,741	13,148	28,485	135,800	264,174	189,349	71·7
Mining	1,455	1,576	Nil	1,865	4,896	2,092	42·7
Quebec	**218,358**	**82,847**	**348,404**	**2,070,396**	**2,720,005**	**2,250,091**	**82·7**
Manufacturing	212,418	58,490	317,360	1,777,161	2,365,429	1,947,729	82·3
Mining	5,940	24,357	31,044	293,235	354,576	302,362	85·3
Ontario	**429,851**	**125,886**	**238,881**	**2,363,801**	**3,158,419**	**2,710,072**	**85·8**
Manufacturing	421,994	97,431	236,211	1,977,890	2,733,526	2,314,388	84·7
Mining	7,857	28,455	2,670	385,911	424,893	395,684	93·1
Manitoba	**18,027**	**9,252**	**34**	**190,823**	**218,136**	**198,389**	**90·9**
Manufacturing	17,312	7,859	34	155,365	180,570	161,493	89·4
Mining	715	1,393	Nil	35,458	37,566	36,896	98·2
Saskatchewan	**20,812**	**21,207**	**-**	**118,054**	**160,073**	**119,932**	**74·9**
Manufacturing	18,515	17,678	Nil	47,260	83,453	47,547	57·0
Mining	2,297	3,529	"	70,794	76,620	72,385	94·5
Alberta	**48,287**	**30,882**	**25**	**146,428**	**225,622**	**155,534**	**68·9**
Manufacturing	28,479	21,426	25	95,711	145,641	96,625	66·3
Mining	19,808	9,456	Nil	50,717	79,981	58,909	73·7
British Columbia	**177,102**	**76,144**	**138,863**	**399,705**	**791,814**	**592,573**	**74·8**
Manufacturing	156,743	59,031	111,168	300,822	627,764	455,211	72·5
Mining	20,359	17,113	27,695	98,883	164,050	137,362	83·7
Yukon and N.W.T.	**44**	**1,525**	**19,700**	**1,154**	**22,423**	**5,821**	**26·0**
Manufacturing	44	510	Nil	17	571	17	3·0
Mining	Nil	1,015	19,700	1,137	21,852	5,804	26·6
Canada	**1,127,511**	**385,968**	**790,727**	**5,593,924**	**7,898,130**	**6,470,735**	**81·9**
Manufacturing	1,015,294	295,123	709,598	4,586,636	6,606,651	5,374,566	81·4
Mining	112,217	90,845	81,129	1,007,288	1,291,479	1,096,169	84·9

Section 5.—Fuel Used in Canadian Industry

Fuel is used quite generally throughout the industrial field for the generation of power by means of steam- and internal-combustion engines. It is used also for the heating of plants and for providing the heat necessary to some manufacturing processes. The most important industries where heat is applied to materials to facilitate or accomplish a desired transformation are: foundries; brick, tile, lime and cement works; petroleum refineries; the glass industry; distilleries; food preparation plants; rubber goods industry; etc. The figures of Table 25 cover fuel used for such heating purposes and for power. Fuels that constitute the raw materials to be transformed, such as coal in the coke and gas industries, crude petroleum in the refining industry and electricity used in such metallurgical processes as the electrolytic refining of non-ferrous metals, are excluded.

The value of fuel consumed in the manufacturing and mining industries in 1945, showed an increase of 60 p.c. over 1940. Of the 1945 fuel account, the requirements of Ontario amounted to 49·7 p.c. of the total, of Quebec 27·6 p.c., of British Columbia 6·9 p.c. and of Nova Scotia 5·3 p.c.

Coal is, of course, by far the most important, on the basis of dollar values, of the various kinds of fuels used in industry, and in 1945 accounted for 56·6 p.c. of the total.

Fuel oils ranks second with 21·9 p.c. and gas (manufactured gas 9·5 p.c. and natural gas 2·2 p.c.) third in importance. Gas as a fuel is particularly important in Ontario. Natural gas is obtained from the southwestern portion of the Province and coal gas from the coke plants of the steel city Hamilton, much as the Province of Quebec draws coal gas from the coke plants at Montreal.

The use of natural gas is also relatively important in Alberta in both manufacturing and mining industries in fact in the mining industry Alberta used, in 1945, gas which was valued at nine-tenths of the total used in mining operations generally.

The use of fuel oils in industry shows a very rapid rise especially during the war years between 1939 and 1943. The value of fuel oils consumed by Canadian industry was more than doubled. Total consumption rose from a value of $10,125,388 in 1939 to a peak of $23,909,494 in 1943, by 1945 the comparable figure was $29,897,657.

25.—Cost of Fuel Used in Manufacturing and Mining[1] Industries, 1934-45, with Details by Provinces for 1945

Year and Province	Coal	Coke	Fuel Oils	Wood	Gas	Other Fuels[2]	Totals
	$	$	$	$	$	$	$
1934—Totals	**26,129,822**	**1,680,710**	**5,794,194**	**1,934,597**	**5,922,218**	**1,867,583**	**43,329,124**
Manufacturing	23,140,344	1,670,877	5,182,216	1,450,553	5,734,229	1,549,086	38,727,305
Mining	2,989,478	9,833	611,978	484,044	187,989	318,497	4,601,819
1935—Totals	**26,965,746**	**1,933,864**	**6,613,052**	**1,963,590**	**5,901,772**	**2,100,264**	**45,478,288**
Manufacturing	23,988,177	1,921,138	5,981,169	1,419,130	5,707,589	1,773,040	40,790,243
Mining	2,977,569	12,726	631,883	544,460	194,183	327,224	4,688,045
1936—Totals	**29,818,892**	**1,892,257**	**7,540,053**	**2,095,574**	**6,811,907**	**2,378,631**	**50,537,314**
Manufacturing	26,584,200	1,883,025	6,381,311	1,421,076	6,583,603	1,962,450	44,815,665
Mining	3,234,692	9,232	1,158,742	674,498	228,304	416,181	5,721,649
1937—Totals	**37,565,075**	**5,184,876**	**10,203,373**	**2,430,269**	**7,876,022**	**3,490,856**	**66,750,471**
Manufacturing	33,916,705	5,169,524	8,580,369	1,636,098	7,404,919	2,867,421	59,575,036[3]
Mining	3,648,370	15,352	1,623,004	794,171	471,103	623,435	7,175,435
1938—Totals	**32,934,697**	**4,500,779**	**9,597,254**	**2,168,302**	**7,724,985**	**3,417,792**	**60,343,719**
Manufacturing	29,619,269	4,493,824	8,103,428	1,614,941	7,381,904	2,803,022	54,016,388[3]
Mining	3,315,338	6,955	1,493,826	553,361	343,081	614,770	6,327,331
1939—Totals	**34,494,179**	**4,909,416**	**10,125,388**	**2,068,169**	**8,624,570**	**3,748,284**	**63,970,006**
Manufacturing	31,022,811	4,870,875	8,560,418	1,562,119	7,891,892	3,155,016	57,063,131[3]
Mining	3,471,368	38,541	1,564,970	506,050	732,678	593,268	6,906,875
1940—Totals	**41,992,162**	**5,875,390**	**14,000,064**	**2,298,992**	**11,120,699**	**6,961,701**	**85,249,008**
Manufacturing	41,402,487	5,797,070	12,360,737	1,754,791	10,172,976	6,205,343	77,693.404[3]
Mining	3,589,675	78,320	1,639,327	544,201	947,723	756,358	7,555,604
1941—Totals	**58,379,870**	**6,501,557**	**19,327,851**	**2,510,183**	**13,205,368**	**10,835,406**	**110,760,235**
Manufacturing	54,493,713	6,388,464	17,734,137	1,896,184	12,554,559	9,819,759	102,886,816[3]
Mining	3,886,157	113,093	1,593,714	613,999	650,809	1,015,647	7,873,419

For footnotes, see end of table, p. 520.

25.—Cost of Fuel Used in Manufacturing and Mining[1] Industries, 1934-45, with Details, by Provinces, for 1945—concluded

Year and Province	Coal	Coke	Fuel Oils	Wood	Gas	Other Fuels[2]	Totals
	$	$	$	$	$	$	$
1942—Totals	**70,827,232**	**7,116,436**	**22,861,610**	**2,929,772**	**14,160,303**	**12,225,864**	**130,121,217**
Manufacturing	66,546,304	7,002,130	21,345,936	2,213,637	13,180,067	11,224,569	121,512,643[3]
Mining	4,280,928	114,306	1,515,674	716,135	980,236	1,001,295	8,608,574
1943—Totals	**80,037,816**	**7,377,250**	**23,909,494**	**3,199,480**	**15,990,467**	**12,182,624**	**142,697,131**
Manufacturing	75,400,290	7,260,866	22,402,629	2,469,573	15,198,110	11,272,877	134,004,345[3]
Mining	4,637,526	116,384	1,506,865	729,907	792,357	909,747	8,692,786
1944—Totals	**83,973,253**	**8,014,333**	**22,888,542**	**2,761,940**	**17,934,592**	**10,610,227**	**146,182,887**
Manufacturing	79,206,583	7,909,168	21,822,975	2,340,460	16,890,106	9,714,478	137,883,770[3]
Mining	4,766,670	105,165	1,065,567	421,480	1,044,486	895,749	8,299,117
1945							
Prince Edward Island	**98,470**	**4,677**	**16,682**	**9,888**	**Nil**	**500**	**130,217**
Manufacturing	98,470	4,677	16,682	9,888	"	500	130,217
Mining	Nil	Nil	Nil	Nil	"	Nil	Nil
Nova Scotia	**4,335,208**	**158,922**	**847,790**	**29,088**	**1,781,141**	**90,637**	**7,242,786**
Manufacturing	3,090,087	158,922	836,068	28,932	1,739,034	42,487	5,895,530
Mining	1,245,121	Nil	11,722	156	42,107	48,150	1,347,256
New Brunswick	**3,843,260**	**36,428**	**460,140**	**141,576**	**46,918**	**81,463**	**4,609,785**
Manufacturing	3,696,950	36,428	457,608	140,936	30,561	68,031	4,430,514
Mining	146,310	Nil	2,532	640	16,357	13,432	179,271
Quebec	**23,332,682**	**1,237,871**	**8,758,180**	**1,163,286**	**2,505,419**	**687,117**	**37,684,555**
Manufacturing	22,259,210	1,236,655	8,349,319	1,044,299	2,505,419	363,470	35,758,372
Mining	1,073,472	1,216	408,861	118,987	Nil	323,647	1,926,183
Ontario	**37,825,391**	**5,254,004**	**14,255,355**	**562,797**	**8,881,893**	**1,096,265**	**67,875,705**
Manufacturing	36,946,372	5,158,722	13,883,125	459,848	8,742,513	756,938	65,947,518
Mining	879,019	95,282	372,230	102,949	139,380	339,327	1,928,187
Manitoba	**2,448,823**	**132,980**	**629,358**	**216,969**	**209,608**	**50,762**	**3,688,500**
Manufacturing	2,408,377	128,151	622,255	212,021	209,608	35,459	3,615,871
Mining	40,446	4,829	7,103	4,948	Nil	15,303	72,629
Saskatchewan	**1,140,025**	**5,572**	**747,393**	**52,279**	**305,503**	**71,780**	**2,322,552**
Manufacturing	959,338	5,024	656,812	51,454	303,505	39,478	2,015,611
Mining	180,687	548	90,581	825	1,998	32,302	306,941
Alberta	**1,042,923**	**18,372**	**376,099**	**26,884**	**1,734,393**	**103,917**	**3,302,588**
Manufacturing	607,006	18,372	347,513	23,563	1,069,992	4,475	2,070,921
Mining	435,917	Nil	28,586	3,321	664,401	99,442	1,231,667
British Columbia	**3,104,048**	**860,196**	**3,756,283**	**283,341**	**477,718**	**950,073**	**9,431,659**
Manufacturing	2,474,055	859,296	3,555,767	252,931	477,718	868,815	8,488,582
Mining	629,993	900	200,516	30,410	Nil	81,258	943,077
Yukon and N.W.T.	**5,590**	**226**	**50,377**	**59,010**	**Nil**	**33,984**	**149,187**
Manufacturing	4,571	Nil	21,238	5,239	"	71	31,119
Mining	1,019	226	29,139	53,771	"	33,913	118,068
Canada	**77,176,420**	**7,709,248**	**29,897,657**	**2,545,118**	**15,942,593**	**3,166,498**	**136,437,534[3]**
Manufacturing	72,544,436	7,606,247	28,746,387	2,229,111	15,078,350	2,179,724	128,384,255
Mining	4,631,984	103,001	1,151,270	316,007	864,243	986,774	8,053,279

[1] For heating purposes and power only. Fuel used for the refining industry excluded. [2] Includes gasoline and kerosene. [3] Includes fuel used in smelters for metallurgical purposes.

CHAPTER XVI.—MANUFACTURES*

CONSPECTUS

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This Chapter deals with manufacturing industries in Canada in two main Parts. Part I gives general analyses of manufactures in the Dominion including: the historical development of manufacturing in Canada in so far as statistical data are available; production by industrial groups and individual industries, i.e., a detailed treatment of current production under various groupings and individual industries; general analyses of the principal factors in manufacturing production under such sub-headings as capital, employment, salaries and wages, size of establishment, power and fuel. Part II covers the provincial and local distribution.

With regard to the first section of Part I, dealing with historical development, it is impossible to give absolutely comparable statistics over a long period of years. From 1870 to 1915 statistics were collected only in connection with decennial or quinquennial censuses, and there was inevitably some variation in the information collected. The annual Census of Manufactures was instituted in 1917 and, while numerous changes have been made since then in the information collected and the treatment of the data, an effort has been made to carry all major revisions, in so far as possible, back to 1917.

The far-reaching influence of the War of 1914-18 was, of course, the outstanding factor in the growth recorded prior to the Second World War. It was during the years 1914-18 that Canadian manufactures began to develop on a really large scale.

The tremendous increase in production during 1939-45 is indicated by the increases in some of the main factors of production between 1939 and the highest point attained during the War. For manufacturing as a whole there was an increase of 161 p.c. in the gross value of production, 162 p.c. in the value added by manufactures, 89 p.c. in the number of persons employed, and 175 p.c. in the salaries and wages paid.

By 1945, gross value of manufacturing production was 137 p.c. above that of 1939, but 24 p.c. below that of 1944. The number of employees and the salaries and wages paid were 70 p.c. and 150 p.c., respectively, above those of 1939. Although still high, they reflected the decline to more normal productions compared with the peak of the War period.

* Revised under the direction of W. H. Losee, Director, Census of Industry and Merchandising Division, Dominion Brueau of Statistics, by A. Cohen, Chief, General Manufactures Section.

631—34

PART I.—GENERAL ANALYSES OF MANUFACTURING IN THE DOMINION

Section 1.—Growth of Manufacturing in Canada

Subsection 1.—Production of Manufactured Products

This section gives a picture of the growth of manufacturing, in general, as shown by comparable principal statistics, i.e., establishments, capital, employees, salaries and wages paid, cost of materials, and values of products. Other useful comparisons are made in Table 4 and figures of consumption are given in Table 5. Tables 6 and 7 show volume comparisons.

1.—Historical Summary of Statistics of Manufactures for the Dominion, 1917-46

NOTE.—Statistics of manufacturing from 1870 have been published, but between that year and 1917 they are not on a comparable basis to the series given below. They will be found at p. 363 of the 1943-44 edition of the Year Book. Statistics of the non-ferrous metal smelting industries were included in manufactures for the first time in 1925.

Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$	No.	$	$	$	$
1917	21,845	2,333,991,229	606,523	497,801,844	1,539,678,811	1,281,131,980	2,820,810,791
1918	21,777	2,518,197,329	602,179	567,991,171	1,827,631,548	1,399,794,849	3,227,426,397
1919	22,083	2,670,559,435	594,066	601,715,668	1,779,056,765	1,442,400,638	3,221,457,403
1920	22,532	2,923,667,011	598,893	717,493,876	2,085,271,649	1,621,273,348	3,706,544,997
1921	20,848	2,697,858,073	438,555	497,399,761	1,365,292,885	1,123,694,263	2,488,987,148
1922	21,016	2,667,493,290	456,256	489,397,230	1,272,651,585	1,103,266,106	2,375,917,691
1923	21,080	2,788,051,630	506,203	549,529,631	1,456,595,367	1,206,332,107	2,662,927,474
1924	20,709	2,895,317,508	487,610	534,467,675	1,422,573,946	1,075,458,459	2,570,561,931
1925[2]	20,981	3,065,730,916	522,924	569,944,442	1,571,788,252	1,167,936,726	2,816,864,958
1926[2]	21,301	3,208,071,197	559,161	625,682,242	1,712,519,991	1,305,168,549	3,100,604,637
1927[2]	21,501	3,454,825,529	595,052	662,705,332	1,741,128,711	1,427,649,292	3,257,214,876
1928[2]	21,973	3,804,062,566	631,429	721,471,634	1,894,027,188	1,597,887,676	3,582,345,302
1929[2]	22,216	4,004,892,009	666,531	777,291,217	2,029,670,813	1,755,386,937	3,883,446,116
1930[2]	22,618	4,041,030,475	614,696	697,555,378	1,664,787,763	1,522,737,125	3,280,236,603
1931	23,083	3,705,701,893	528,640	587,566,990	1,221,911,982	1,252,017,248	2,555,126,448
1932	23,102	3,380,475,509	468,833	473,601,716	954,381,097	955,960,724	1,980,471,543
1933	23,780	3,279,259,838	468,658	436,247,824	967,788,928	919,671,181	1,954,075,785
1934	24,209	3,249,348,864	519,812	503,851,055	1,229,513,621	1,087,301,742	2,393,692,729
1935	24,034	3,216,403,127	556,664	559,467,777	1,419,146,217	1,153,485,104	2,653,911,209
1936	24,202	3,271,263,531	594,359	612,071,434	1,624,213,996	1,289,592,672	3,002,403,814
1937	24,834	3,465,227,831	660,451	721,727,037	2,006,926,787	1,508,924,867	3,625,459,500
1938	25,200	3,485,683,018	642,016	705,668,589	1,807,478,028	1,428,286,778	3,337,681,366
1939	24,805	3,647,024,449	658,114	737,811,153	1,836,159,375	1,531,051,901	3,474,783,528
1940	25,513	4,095,716,836	762,244	920,872,865	2,449,721,903	1,942,471,238	4,529,173,316
1941	26,293	4,905,503,966	961,178	1,264,862,643	3,296,547,019	2,605,119,788	6,076,308,124
1942	27,862	5,488,785,545	1,152,091	1,682,804,842	4,037,102,725	3,309,973,758	7,553,794,972
1943	27,652	6,317,166,727	1,241,068	1,987,292,384	4,690,493,083	3,816,413,541	8,732,860,999
1944	28,483	[3]	1,222,882	2,029,621,370	4,832,333,356	4,015,776,010	9,073,692,519
1945	29,050	[3]	1,119,372	1,845,773,449	4,473,668,847	3,564,315,899	8,250,368,866
1946	31,249	[3]	1,058,156	1,740,687,254	4,358,234,766	3,467,004,980	8,035,692,471

[1] In accordance with a resolution passed by the Conference of British Commonwealth Statisticians, 1935, the net value of production is now computed by subtracting the cost of fuel and electricity as well as the cost of materials from the gross value of the products. The figures for 1924 and later years have, therefore, been revised in accordance with this resolution. The revision could not be carried farther back as statistics for cost of electricity are not available for years prior to 1924. [2] A change in the method of computing the number of wage-earners in the years 1925 to 1930, inclusive, increased the number somewhat over that which the method otherwise used would have given. In 1931, however, the method in force prior to 1925 was re-adopted. The figures for 1931 and later years are, therefore, comparable with those for 1924 and earlier years. [3] Not collected.

2.—Summary Statistics of Manufactures, by Provinces, Significant Years, 1917-46

Province and Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$	No.	$	$	$	$
Prince Edward Island—							
1917	411	2,008,082	1,556	663,251	3,087,621	1,750,135	4,837,756
1920	370	2,328,686	1,287	855,210	4,164,223	2,135,857	6,300,080
1922	340	2,446,574	1,086	593,660	2,620,235	1,660,282	4,280,517
1929[2]	263	2,646,354	2,074	727,286	2,862,725	1,466,446	4,408,608
1933	249	2,256,307	991	529,684	1,590,834	1,126,826	2,775,787
1937	240	2,637,472	1,062	607,547	2,386,091	1,117,298	3,566,991
1939	222	2,682,900	1,088	617,945	2,239,117	1,243,979	3,543,681
1941	213	3,106,369	1,105	680,883	3,229,433	1,347,990	4,649,476
1942	243	3,367,368	1,261	842,061	4,789,315	1,973,540	6,855,344
1943	230	3,881,832	1,552	1,298,112	6,432,079	3,021,848	9,577,446
1944	241	[3]	1,786	1,694,763	6,993,510	3,570,835	10,713,644
1945	234	[3]	1,851	1,679,212	8,242,949	3,178,434	11,592,753
1946	246	[3]	1,755	1,651,469	7,582,046	3,469,435	11,200,310
Nova Scotia—							
1917	1,337	124,357,851	25,252	18,838,051	102,415,215	57,565,703	159,980,918
1920	1,345	135,679,188	23,425	25,625,089	85,724,785	61,371,243	147,096,028
1922	1,092	98,117,897	13,678	11,586,235	37,980,329	27,516,271	65,496,600
1929[2]	1,094	118,951,398	19,986	16,905,885	50,725,562	35,676,421	89,787,548
1933	1,277	92,004,624	12,211	9,604,680	25,354,319	19,988,257	47,912,432
1937	1,135	94,756,601	18,088	16,727,338	46,964,053	33,146,796	84,393,656
1939	1,083	101,954,082	17,627	16,651,685	43,332,195	35,885,563	83,139,572
1941	1,177	124,409,791	24,577	27,527,339	76,779,821	51,318,369	133,873,428
1942	1,332	152,668,789	31,318	41,273,942	85,193,680	63,615,890	155,931,264
1943	1,278	179,363,703	37,445	55,205,712	96,551,817	84,909,686	188,463,088
1944	1,281	[3]	37,812	59,940,411	103,463,123	93,376,638	204,421,664
1945	1,297	[3]	33,423	51,703,245	107,860,539	84,358,189	199,775,177
1946	1,397	[3]	29,724	43,060,259	100,354,480	71,738,873	178,793,420
New Brunswick—							
1917	943	60,300,907	19,710	12,893,014	32,380,621	27,027,725	59,408,346
1920	901	101,216,395	19,007	19,266,821	60,812,641	45,803,164	106,615,805
1922	846	77,036,627	13,934	11,801,670	38,032,967	25,163,444	63,196,411
1929[2]	803	91,376,948	17,952	15,127,716	39,800,366	26,640,786	68,145,012
1933	747	90,148,317	11,336	9,308,100	20,442,421	18,166,713	41,345,622
1937	805	89,797,597	15,612	14,563,310	36,983,284	28,770,727	69,479,207
1939	803	91,171,323	14,501	13,659,162	35,617,614	27,041,195	66,058,151
1941	791	97,952,799	19,600	21,718,407	59,234,107	47,296,960	111,433,726
1942	867	105,056,835	22,182	26,546,806	64,891,227	53,920,484	123,839,475
1943	862	111,287,910	23,225	30,451,181	76,711,513	58,956,676	140,934,879
1944	937	[3]	23,164	32,345,080	83,993,599	62,258,478	152,106,577
1945	889	[3]	22,503	32,408,048	87,235,347	63,380,075	156,623,378
1946	993	[3]	22,732	33,151,919	96,389,299	67,783,377	170,753,741
Quebec—							
1917	7,032	662,012,975	188,043	141,008,616	385,212,984	380,882,409	766,095,393
1920	7,530	878,859,638	183,748	202,516,550	553,558,520	499,643,217	1,053,201,737
1922	7,190	800,859,568	143,584	139,876,821	333,298,544	346,020,126	679,318,670
1929[2]	6,948	1,246,208,650	206,580	225,226,808	537,270,055	537,796,395	1,108,592,775
1933	7,856	1,035,339,591	157,481	134,696,386	292,560,568	288,504,782	604,496,078
1937	8,518	1,117,772,721	219,033	216,971,207	562,889,160	445,885,666	1,046,470,796
1939	8,373	1,182,538,441	220,321	223,757,767	536,823,039	470,385,279	1,045,757,585
1941	8,711	1,700,527,405	327,591	393,819,671	961,162,209	815,086,832	1,841,088,523
1942	9,342	1,883,353,668	399,017	536,329,170	1,193,445,432	1,059,873,943	2,333,303,012
1943	9,372	2,230,620,386	437,247	658,323,620	1,483,627,797	1,280,097,615	2,852,191,853
1944	9,656	[3]	424,115	668,156,053	1,494,253,053	1,350,519,134	2,929,685,183
1945	10,038	[3]	384,031	607,473,443	1,307,534,193	1,149,390,919	2,531,903,830
1946	10,818	[3]	357,276	565,986,105	1,297,009,099	1,125,991,848	2,497,971,521
Ontario—							
1917	9,061	1,157,850,643	299,389	258,393,065	794,556,502	662,174,261	1,456,730,763
1920	9,113	1,464,097,346	295,674	362,941,317	1,071,843,374	792,267,562	1,864,110,936
1922	8,703	1,400,041,955	235,070	265,818,003	674,025,732	572,098,704	1,246,124,436
1929[2]	9,348	1,986,736,556	328,533	406,622,627	1,056,530,202	916,971,816	2,020,492,433
1933	9,542	1,587,947,947	224,816	220,530,088	464,544,563	465,103,842	958,776,858
1937	9,796	1,674,806,201	321,743	373,018,048	1,025,871,741	804,703,114	1,880,388,188
1939	9,824	1,762,571,669	318,871	378,376,209	907,011,461	791,428,569	1,745,674,707
1941	10,250	2,336,788,884	468,230	660,722,278	1,683,912,216	1,360,055,756	3,121,756,568
1942	10,711	2,632,519,471	542,958	840,783,705	2,056,746,983	1,671,130,314	3,817,396,404
1943	10,587	2,994,953,988	570,017	956,399,212	2,278,871,511	1,844,651,587	4,221,101,063
1944	10,731	[3]	564,392	975,038,060	2,310,347,858	1,930,043,913	4,339,797,784
1945	10,869	[3]	518,056	882,483,387	2,148,290,603	1,720,938,199	3,965,069,021
1946	11,424	[3]	498,120	845,216,547	2,001,900,592	1,659,284,622	3,754,523,701

[1] See footnote 1, Table 1. [2] See footnote 2, Table 1. [3] Information not collected.

2.—Summary Statistics of Manufactures, by Provinces, Significant Years, 1917-46 —concluded

Province and Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$	No.	$	$	$	$
Manitoba—							
1917	732	82,566,858	18,939	16,513,423	69,715,149	42,280,801	111,995,950
1920	747	94,424,145	23,728	32,372,081	92,729,271	62,776,912	155,506,183
1922	697	65,172,676	13,076	16,853,345	54,373,811	36,842,899	91,216,710
1929[2]	861	121,363,898	24,012	31,224,596	87,832,324	63,925,015	155,266,294
1933	1,010	100,074,404	18,871	18,687,430	44,579,998	37,390,275	83,934,777
1937	1,043	119,363,026	23,706	27,198,978	87,684,514	49,950,465	140,805,451
1939	1,087	119,659,365	23,910	28,444,798	82,408,293	48,810,544	134,293,595
1941	1,184	163,489,471	32,262	40,894,267	132,330,823	74,450,721	211,534,751
1942	1,287	175,902,477	37,519	51,605,139	159,248,309	94,856,679	259,554,350
1943	1,245	173,752,507	37,003	53,841,825	200,464,756	99,146,670	304,867,912
1944	1,290	[4]	40,937	62,758,081	226,234,925	120,339,926	352,334,594
1945	1,302	[4]	38,367	59,814,109	216,114,576	117,775,126	339,821,283
1946	1,357	[4]	38,367	61,018,345	223,096,935	122,780,805	351,887,099
Saskatchewan—							
1917	560	24,372,585	6,230	5,403,332	22,040,674	13,894,179	35,934,853
1920	554	24,640,520	6,709	9,571,175	34,894,105	22,610,861	57,504,966
1922	490	22,734,469	3,494	4,734,885	22,366,129	13,186,266	35,552,395
1929[2]	594	43,925,797	7,025	9,105,597	51,003,566	23,002,952	75,368,605
1933	673	38,688,433	4,782	4,848,763	19,124,030	11,478,634	31,559,387
1937	689	39,279,050	6,107	6,758,154	43,782,999	17,068,655	62,205,884
1939	737	37,654,095	6,475	7,346.127	38,782,135	20,283,273	60,650,589
1941	945	42,158,738	8,546	9,979,974	65,836,308	28,172,441	96,020,975
1942	966	45,013,677	9,801	12,543,065	84,208,201	33,933,836	120,256,733
1943	976	60,674,093	11,683	16,445,866	111,193,185	37,895,459	152,123,360
1944	1,054	[4]	12,361	17,703,103	131,215,017	40,833,333	175,349,234
1945	926	[4]	11,617	16,905,606	126,279,202	38,275,127	167,688,133
1946	955	[4]	11,957	17,956,317	126,595,761	38,459,630	168,356,619
Alberta—							
1917	636	49,146,241	9,461	8,662,417	42,632,212	23,883,673	66,515,885
1920	666	48,310,655	10,955	15,210,628	56,139,646	29,812,891	85,952,537
1922	556	41,154,178	6,516	8,293,572	30,189,648	18,939,659	49,129,307
1929[2]	736	81,875,952	12,216	14,585,734	62,500,175	36,824,969	100,966,196
1933	874	69,604,563	9,753	9,573,468	29,425,975	18,876,929	49,395,514
1937	895	70,804,070	12,524	13,903,062	55,898,599	28,923,095	86,225,069
1939	961	73,284,225	12,712	14,977,700	53,151,149	32,618,153	87,474,080
1941	1,108	95,676,318	16,761	20,151,705	94,176,887	45,958,219	142,651,493
1942	1,115	101,401,133	18,397	23,992,613	117,617,500	57,479,536	178,103,011
1943	1,133	111,682,419	20,613	29,494,369	142,057,051	65,796,813	211,159,142
1944	1,165	[4]	22,186	33,227,729	172,082,537	77,415,753	252,949,894
1945	1,157	[4]	21,486	32,760,326	166,198,136	78,547,626	248,287,504
1946	1,315	[4]	22,649	34,939,088	169,425,176	83,735,011	257,031,867
British Columbia and Yukon—							
1917	1,133	171,375,087	37,943	35,426,675	87,637,833	71,673,094	159,310,927
1920	1,306	174,110,438	34,360	49,135,005	125,405,084	104,851,641	230,256,725
1922	1,102	159,929,346	25,818	29,839,039	79,764,190	61,838,455	141,602,645
1929[2]	1,569	311,806,456	48,153	57,764,968	141,145,838	113,082,137	260,418,645
1933	1,552	263,195,652	28,417	28,469,225	70,166,220	59,034,923	133,879,330
1937	1,713	256,011,093	42,576	51,979,393	144,466,346	99,359,051	251,924,258
1939[3]	1,710	274,969,502	42,554	53,881,994	136,655,872	103,263,292	247,948,600
1941[3]	1,905	340,609,179	62,447	89,256,478	219,755,738	181,232,637	412,957,807
1942[3]	1,990	388,649,300	89,570	148,782,063	270,823,072	272,926,065	558,137,606
1943[3]	1,961	450,360,048	102,221	185,711,773	294,445,005	341,699,478	652,046,313
1944[3]	2,116	[4]	96,062	178,639,118	303,560,016	337,137,197	655,844,689
1945[3]	2,326	[4]	87,974	160,419,133	305,759,836	307,954,519	628,903,124
1946[3]	2,731	[4]	75,484	137,506,645	335,708,533	293,352,652	644,527,898
Yukon and N.W.T.—							
1939	5	538,847	55	97,766	138,500	92,054	242,968
1941	9	785,012	59	111,641	129,477	199,863	341,377
1942	9	852,827	68	106,278	139,006	263,471	417,773
1943	8	589,841	62	120,714	138,369	237,709	395,943
1944	12	[4]	67	118,972	189,718	280,803	489,256
1945	12	[4]	64	126,940	153,466	517,685	704,663
1946	13	[4]	92	200,560	172,845	408,727	646,295

[1] See footnote 1, Table 1. [2] See footnote 2, Table 1. [3] British Columbia only.
[4] Information not collected.

3.—Summary Statistics of Manufactures, by Industrial Groups, Significant Years, 1917-46

Industrial Group and Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$	No.	$	$	$	$
Vegetable Products—							
1917	4,151	279,627,827	62,777	45,915,557	367,214,061	183,782,501	550,996,562
1920	4,549	402,383,047	74,241	77,750,189	536,828,044	239,328,371	776,156,415
1922	4,638	379,567,139	64,753	66,228,286	333,295,009	210,835,301	544,130,310
1929[2]	5,350	581,820,861	91,032	95,853,121	431,595,751	341,688,938	783,706,883
1933	5,916	522,389,736	75,416	68,535,349	226,879,373	196,820,952	432,315,617
1937	5,968	539,531,357	94,258	94,632,901	395,491,147	266,869,693	672,540,163
1939	5,872	539,446,225	99,447	104,248,785	356,726,153	292,129,840	659,624,014
1941	5,948	634,728,760	113,753	131,066,093	532,876,217	349,912,287	897,978,448
1942	5,985	656,756,413	115,476	145,000,211	552,791,525	396,956,313	965,896,035
1943	5,913	684,292,303	117,243	157,733,379	635,042,582	410,340,183	1,062,561,932
1944	5,941	[3]	130,679	183,943,948	763,606,750	485,551,491	1,270,518,297
1945	5,862	[3]	135,311	196,010,688	802,367,469	529,112,219	1,352,986,147
1946	5,916	[3]	137,170	206,893,681	871,436,061	575,963,454	1,469,914,130
Animal Products—							
1917	5,486	207,165,245	46,994	35,753,133	320,302,039	124,103,990	444,406,029
1920	4,823	221,792,457	48,687	54,291,606	400,496,354	152,995,130	553,491,484
1922	5,118	201,829,414	49,595	49,933,679	264,078,631	107,473,382	371,552,013
1929[2]	4,490	243,825,065	67,670	62,081,423	345,351,882	127,929,857	477,761,855
1933	4,496	201,993,642	53,111	46,453,188	179,429,948	87,629,444	271,068,210
1937	4,435	230,312,163	67,996	64,816,361	326,537,087	118,117,971	449,783,908
1939	4,362	250,335,831	69,358	68,231,871	333,647,306	122,821,410	461,983,262
1941	4,240	303,657,373	82,131	90,185,037	534,909,242	165,416,939	708,220,447
1942	4,392	322,045,016	87,038	103,620,997	649,160,318	203,152,956	861,190,126
1943	4,380	324,811,863	88,037	114,467,581	750,435,541	211,149,715	971,190,128
1944	4,388	[3]	94,195	129,215,389	835,586,247	246,064,720	1,092,015,647
1945	4,470	[3]	98,267	138,405,263	839,885,434	261,069,677	1,111,929,735
1946	4,528	[3]	102,844	151,517,837	849,242,804	271,279,430	1,132,233,759
Textiles and Textile Products—							
1917	1,067	191,338,745	76,978	47,764,436	131,225,032	109,904,530	241,129,562
1920	1,304	302,758,185	87,730	84,433,609	256,233,300	173,741,035	429,974,335
1922	1,089	259,324,870	80,558	69,685,529	151,333,320	142,577,057	293,910,377
1929[2]	1,534	360,762,584	103,881	94,969,433	217,954,088	180,469,064	403,205,809
1933	1,740	298,730,436	95,707	72,813,424	143,184,861	131,065,992	279,475,267
1937	1,941	322,204,180	121,677	105,056,051	219,813,775	174,076,945	400,383,726
1939	1,930	347,248,927	121,022	107,117,035	203,618,197	181,927,898	392,657,759
1941	2,104	439,078,775	156,892	159,339,028	367,149,392	290,105,448	666,438,539
1942	2,369	464,161,573	165,478	185,731,313	441,718,052	341,475,081	793,304,750
1943	2,384	455,056,029	157,987	191,305,628	446,136,675	334,242,717	790,659,927
1944	2,481	[3]	153,122	195,805,681	419,988,642	351,186,488	781,771,688
1945	2,740	[3]	158,148	207,629,471	429,208,436	367,980,705	807,722,241
1946	3,082	[3]	164,737	228,018,323	459,664,221	418,263,665	888,658,943
Wood and Paper Products—							
1917	7,263	536,320,247	152,277	113,359,997	148,277,935	245,372,487	393,650,422
1920	7,881	774,937,232	144,391	172,368,578	309,813,724	417,256,115	727,069,839
1922	6,966	761,020,831	118,364	132,092,249	206,860,089	283,006,200	489,866,289
1929[2]	7,392	1,151,463,962	164,572	192,088,948	313,797,201	381,485,477	724,972,308
1933	7,891	892,652,622	105,080	102,218,652	134,663,641	184,233,540	341,336,701
1937	8,497	927,070,757	147,254	165,298,485	256,269,941	306,961,553	597,061,878
1939	8,538	960,804,672	144,782	165,287,455	246,292,820	303,662,441	579,892,183
1941	9,420	1,086,022,546	179,967	227,821,739	386,999,813	463,967,834	892,936,114
1942	10,222	1,080,457,129	186,106	252,179,776	428,526,286	488,433,355	961,842,906
1943	9,974	1,103,984,216	183,865	264,844,792	447,399,954	508,835,982	1,001,563,243
1944	10,452	[3]	189,674	284,436,559	497,656,158	550,826,986	1,093,725,822
1945	10,653	[3]	199,373	306,179,416	551,143,890	586,057,023	1,184,650,720
1946	11,994	[3]	224,121	366,049,562	679,343,485	749,055,011	1,484,436,122
Iron and Its Products—							
1917	1,495	695,677,552	161,745	161,875,424	378,193,116	371,792,489	749,985,605
1920	1,789	726,371,335	164,087	231,595,911	377,499,134	411,875,057	789,374,191
1922	1,083	567,011,222	78,565	95,443,053	171,529,909	170,769,391	342,299,300
1929[2]	1,224	826,063,942	142,772	203,740,658	405,818,468	367,465,582	790,726,338
1933	1,334	614,632,403	73,348	72,296,179	98,793,191	109,198,169	216,828,992
1937	1,345	651,398,528	127,148	163,261,130	328,091,063	280,165,582	624,819,877
1939	1,394	697,893,720	121,041	158,559,728	262,292,781	275,774,796	553,468,880
1941	1,759	1,138,701,669	253,701	408,064,135	715,595,982	735,511,841	1,483,169,765
1942	1,931	1,446,215,017	360,845	639,330,901	985,960,237	1,084,424,334	2,112,822,237
1943	2,044	1,852,506,052	435,744	833,383,684	1,131,858,008	1,396,768,112	2,575,976,547
1944	2,192	[3]	411,944	818,452,454	1,104,083,922	1,390,703,087	2,540,992,974
1945	2,188	[3]	321,719	637,335,990	887,425,621	1,046,097,484	1,975,310,083
1946	2,358	[3]	249,279	475,812,983	635,344,199	735,459,371	1,405,542,865

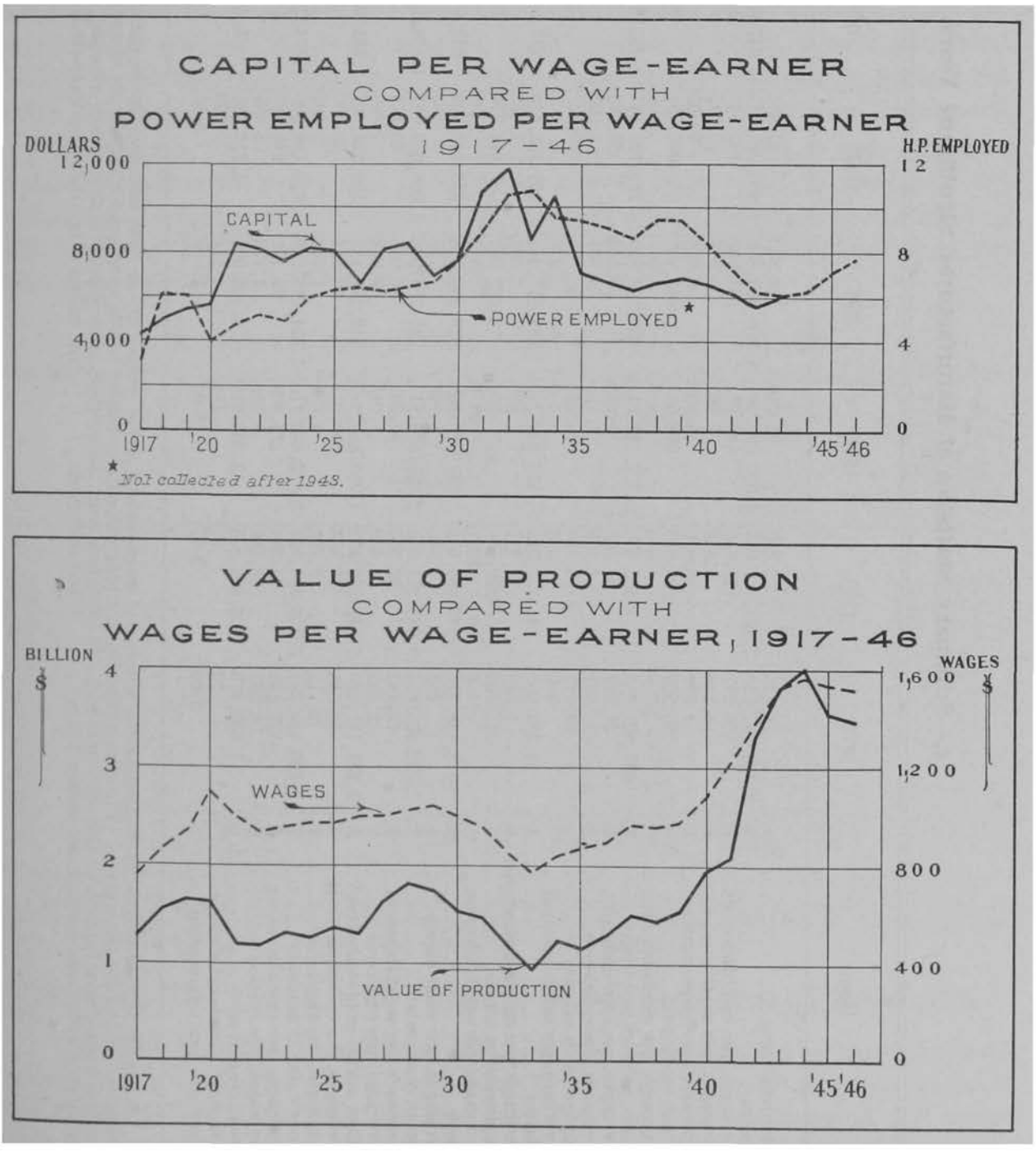
[1] See footnote 1, Table 1. [2] See footnote 2, Table 1. [3] Information not collected.

3.—Summary Statistics of Manufactures, by Industrial Groups, Significant Years, 1917-46—concluded

Industrial Group and Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Net Value of Products[1]	Gross Value of Products
	No.	$	No.	$	$	$	$
Non-Ferrous Metal Products—							
1917	296	69,421,911	18,220	15,898,890	46,445,469	41,039,351	87,484,820
1920	324	109,382,033	23,162	27,895,343	48,434,120	52,847,178	101,281,298
1922	325	102,208,275	18,222	21,451,629	30,861,895	39,993,798	70,855,693
1929[2]	408	298,721,106	39,867	54,501,806	124,900,632	150,415,215	283,545,666
1933	478	266,266,443	25,273	28,099,026	71,990,608	88,427,984	164,765,604
1937	526	306,522,643	44,614	57,722,728	282,532,128	182,968,223	482,440,562
1939	526	346,489,890	44,563	59,684,858	242,063,177	155,808,806	416,060,459
1941	579	545,862,427	73,450	108,895,000	406,132,161	288,823,325	726,348,447
1942	596	612,513,064	90,937	146,690,366	505,122,844	355,005,408	901,569,437
1943	597	674,802,402	109,522	186,874,396	615,283,895	369,005,912	1,034,390,379
1944	635	[3]	104,314	182,909,292	549,317,062	399,498,519	992,345,975
1945	683	[3]	88,350	158,358,737	429,913,071	316,572,975	779,384,900
1946	740	[3]	84,853	150,366,178	413,022,247	278,461,262	719,191,106
Non-Metallic Mineral Products—							
1917	1,075	145,423,082	20,795	18,224,724	36,994,392	58,092,396	95,086,788
1920	846	215,281,921	25,500	32,351,764	69,856,558	80,205,472	150,062,030
1922	812	230,486,004	20,932	25,401,278	60,671,305	74,022,607	134,693,912
1929[2]	843	316,692,818	29,257	38,958,390	112,573,103	99,065,847	229,774,300
1933	770	295,139,543	16,975	19,282,401	69,077,701	52,817,078	131,325,706
1937	823	287,473,542	23,837	30,389,958	115,938,578	77,667,225	208,205,148
1939	809	290,865,285	23,026	30,067,934	107,979,292	85,511,631	208,166,781
1941	773	325,032,038	28,829	42,376,214	183,140,990	117,425,887	324,289,898
1942	782	329,401,312	30,707	48,702,880	191,143,787	141,216,996	358,075,414
1943	747	351,164,254	30,994	53,282,340	215,139,225	146,460,170	388,713,942
1944	748	[3]	31,590	56,130,338	234,714,319	152,525,053	416,268,879
1945	789	[3]	32,525	57,193,679	231,341,920	145,197,043	405,736,477
1946	910	[3]	36,493	63,848,640	240,485,869	173,638,196	446,484,682
Chemicals and Allied Products—							
1917	539	175,836,690	56,153	51,505,484	99,068,092	131,381,995	230,450,087
1920	464	122,123,730	17,653	22,193,421	62,644,608	65,183,212	127,827,820
1922	469	118,025,483	14,082	16,770,503	37,650,061	48,981,277	86,631,338
1929[2]	554	165,886,912	16,694	22,639,449	55,184,337	78,785,911	138,545,221
1933	696	153,900,930	15,397	18,738,629	34,271,854	55,394,284	92,820,761
1937	754	161,165,068	21,968	28,612,719	64,460,947	79,290,240	148,973,220
1939	808	172,459,365	22,595	31,567,558	65,230,839	89,046,832	159.536,984
1941	849	358,429,529	54,014	75,634,741	134,924,947	157,304,350	304,400,569
1942	928	471,679,779	93,030	134,345,942	233,386,894	252,390,766	501,656,123
1943	945	759,864,951	92,288	146,677,194	368,111,343	379,453,873	765,217,887
1944	981	[3]	81,822	137,422,977	360,412,749	355,260,598	733,569,232
1945	973	[3]	60,723	106,017,985	212,197,636	249,701,603	478,532,689
1946	1,017	[3]	37,278	66,538,532	159,308,350	203,639,442	376,288,264
Misc. Industries—							
1917	473	33,179,930	10,584	7,504,199	11,958,675	15,662,241	27,620,916
1920	552	48,637,071	13,442	14,613,455	23,465,807	27,841,778	51,307,585
1922	516	48,020,052	11,185	12,391,024	16,371,366	25,607,093	41,978,459
1929[2]	421	59,654,759	10,786	12,457,989	22,495,351	28,081,046	51,207,736
1933	459	33,554,083	8,351	7,810,976	9,497,751	14,083,738	24,138,927
1937	545	39,549,593	11,699	11,936,704	17,792,121	22,807,435	41,251,018
1939	566	41,480,534	12,280	13,045,929	18,308,810	24,368,247	43,393,206
1941	621	73,990,849	18,441	21,480,656	34,818,275	36,651,877	72,525,897
1942	657	105,556,242	22,474	27,202,456	49,292,782	46,918,549	97,437,944
1943	668	110,684,657	25,388	38,723,390	81,085,860	60,156,877	142,587,014
1944	665	[3]	25,542	41,304,732	66,967,507	84,159,068	152,484,005
1945	692	[3]	24,956	38,642,220	90,185,370	62,527,170	154,115,874
1946	704	[3]	21,381	31,641,518	50,387,530	61,245,149	112,942,600

[1] See footnote 1, Table 1. [2] See footnote 2, Table 1. [3] Information not collected.

The figures in Table 4 trace the tendencies in Canadian manufacturing industries as clearly as possible through the latest period of their development. In analysing statistics of production and materials used, it should be borne in mind that, due to the inflation of values from 1914 through the immediate post-war period and the drop in prices of commodities during the depressions following 1921 and 1930, the figures for these periods are not completely comparable. One very important figure, however, which shows the trend of development clearly, is concerned with the use of power. The total horse-power employed increased from 1,658,475 in 1917 to 6,606,651 in 1945, an increase of about 298 p.c. in 28 years. In the same period, horse-power per wage-earner showed an interrupted trend from 3·06 to 10·82 in 1933 and 9·46 in 1939. The significant feature is the increase in both the absolute figure of power employed and the average per wage-earner. Other interesting comparisons are the trend of value added by manufacture, per employee, and of average salaries and wages paid since 1929.



4.—Summary Statistics of Manufactures, Significant Years, 1917-46

Item	1917	1920	1929[1]	1933	1937	1939	1944	1945	1946
Establishments.....No.	21,845	22,532	22,216	23,780	24,834	24,805	28,483	29,050	31,249
Capital..... $	2,333,991,229	2,923,667,011	4,004,892,009	3,279,259,838	3,465,227,831	3,647,024,449	[2]	[2]	[2]
Averages, per establishment... $	106,843	129,756	180,271	137,900	139,536	147,028	–	–	–
Averages, per employee..... $	3,848	4,882	6,009	6,997	5,247	5,542	–	–	–
Averages, per wage-earner..... $	4,309	5,616	6,933	8,584	6,363	6,838	–	–	–
Totals, employees.....No.	606,523	598,893	666,531	468,658	660,451	658,114	1,222,882	1,119,372	1,058,156
Averages, per establishment... "	27·8	26·6	30·0	19·7	26·6	26·5	42·9	38·5	33·9
Totals, salaries and wages..... $	497,801,844	717,493,876	777,291,217	436,247,824	721,727,037	737,811,153	2,029,621,370	1,845,773,449	1,740,687,254
Averages, per establishment... $	22,788	31,843	34,988	18,345	29,062	29,744	71,257	63,538	55,704
Averages, per employee..... $	821	1,198	1,166	931	1,093	1,121	1,660	1,649	1,645
Employees on salaries.....No.	64,918	78,334	88,841	86,636	115,827	124,772	192,558	190,707	181,006
Averages, per establishment... "	3·0	3·5	4·0	3·6	4·7	5·0	6·8	6·6	5·8
Salaries..... $	85,353,667	141,837,361	175,553,710	139,317,946	195,983,475	217,839,334	418,065,594	417,857,619	410,875,776
Averages, per salaried employee $	1,315	1,811	1,976	1,608	1,692	1,746	2,171	2,191	2,270
Employees on wages.....No.	541,605	520,559	577,690	382,022	544,624	533,342	1,030,324	928,665	877,150
Averages, per establishment... "	24·8	23·1	26·0	16·1	21·9	21·5	36·2	32·0	28·1
Wages..... $	412,448,177	575,656,515	601,737,507	296,929,878	525,743,562	519,971,819	1,611,555,776	1,427,915,830	1,329,811,478
Averages, per wage-earner..... $	762	1,106	1,042	777	965	975	1,564	1,538	1,516
Cost of materials..... $	1,539,678,811	2,085,271,649	2,029,670,813	967,788,928	2,006,926,787	1,836,159,375	4,832,333,356	4,473,668,847	4,358,234,766
Averages, per establishment... $	70,482	92,547	91,361	40,698	80,814	74,024	169,657	153,999	139,472
Averages, per employee..... $	2,539	3,482	3,045	2,065	3,039	2,790	3,952	3,997	4,119
Values added in manufacture[3]... $	1,281,131,980	1,621,273,348	1,755,386,937	919,671,181	1,508,924,867	1,531,051,901	4,015,776,010	3,564,315,899	3,467,004,980
Averages, per establishment[3]... $	58,646	71,954	790,015	38,674	60,760	61,724	140,989	122,696	110,951
Averages, per employee[3]..... $	2,112	2,707	2,634	1,962	2,285	2,326	3,284	3,184	3,276
Gross value of products..... $	2,820,810,791	3,706,544,997	3,883,446,116	1,954,075,785	3,625,459,500	3,474,783,528	9,073,692,519	8,250,368,866	8,035,692,471
Averages, per establishment... $	129,128	164,501	174,804	82,173	145,988	140,084	318,565	284,006	257,183
Averages, per employee..... $	4,651	6,189	5,286	4,170	5,489	5,280	7,420	7,371	7,797
Power employed.....h.p.	1,658,475	2,068,875	3,855,648	4,135,008	4,712,283	5,045,287	6,468,439	6,606,651	6,783,949
Averages, per establishment.... "	76	92	174	174	190	203	227	227	217
Averages, per wage-earner..... "	3·06	3·97	6·67	10·82	8·65	9·46	6·28	7·11	7·73

[1] A change in the method of computing the number of wage-earners in the years 1925 to 1930, inclusive, increased the number somewhat over that which the method otherwise used would have given. There was, therefore, a proportionate reduction in the averages for 1925-30 per employee and wage-earner, as compared with what these averages would have been under the other method. In 1931, however, the method in force prior to 1925 was re-adopted. The figures for 1931 and later years are, therefore, comparable with those for 1924 and earlier years. [2] Not collected. [3] Net values of products; see footnote 1, Table 1.

Subsection 2.—Consumption of Manufactured Products

One of the beneficial results of adopting the same classification for external trade and for production is exhibited in Table 5, where the value of commodities made available for consumption in Canada is derived from these statistics. For example, the value of all manufactured commodities made available in 1946 was $7,724,273,871, a figure obtained by adding to the value of manufactured products the value of the imports of manufactured and partly manufactured goods and deducting the value of the exports.

In past years there have always been large amounts of manufactured animal, wood and non-ferrous metal products available for consumption in Canada with considerable surplus left for export. With the commencement of the War, however, it was necessary to export more and more of such goods to the United Kingdom, and while this was done mainly by increasing production, Government control of consumption at home grew stronger as the War advanced. In the case of manufactured vegetable products, the figures for 1946 showed large excesses of exports over imports for such products as cereal foods (including flour), canned and dehydrated vegetables, etc. Excesses of imports were chiefly confined to cocoa, tea, coffee and preserved fruits and fruit juices that cannot be produced in Canada.

On balance, Canada, in the past, imported large quantities of iron and steel, textile and non-metallic mineral products in spite of large home production. The urgent requirements for munitions of war brought about an expansion of the iron and steel, chemical and non-ferrous metals industries that will enable Canada to meet most requirements for home consumption in the future.

5.—Consumption of Manufactured Products, 1933-1946

Year	Value of Products Manufactured	Manufactured and Partly Manufactured Goods[1]		Value of Manufactured Products Available for Consumption
		Value of Net Imports	Value of Domestic Exports	
	$	$	$	$
1933	1,954,075,785	298,068,344	365,232,113	1,886,912,016
1934	2,393,692,729	357,320,284	419,094,297	2,331,918,716
1935	2,653,911,209	385,597,041	582,041,141	2,457,467,109
1936	3,002,403,814	468,455,981	676,890,803	2,793,968,992
1937	3,625,459,500	566,876,483	781,099,407	3,411,236,576
1938	3,337,681,366	472,193,253	587,758,795	3,222,115,824
1939	3,474,783,528	542,364,930	646,853,938	3,370,294,520
1940	4,529,173,316	807,636,948	913,049,979	4,423,760,285
1941	6,076,308,124	1,123,994,913	1,292,855,603	5,907,447,434
1942	7,553,794,972	1,283,884,068	2,056,368,079	6,781,310,961
1943	8,732,860,999	1,305,838,746	2,444,862,298	7,593,837,447
1944	9,073,692,519	1,302,413,996	2,668,575,781	7,707,530,734
1945	8,250,368,866	1,117,544,874	2,352,441,796	7,015,471,944
1946	8,035,692,471	1,390,258,426	1,701,677,026	7,724,273,871

[1]Imports and exports of manufactured and partly manufactured goods for the years 1928 to 1938 are for the fiscal years ended Mar. 31 of the following years, while for 1939 to 1945 they are for the calendar year. Net imports are total imports less foreign products re-exported.

Section 2.—Value and Volume of Manufactured Products

Value of Manufactured Products.—In the interpretation of manufacturing values over a number of years, variations in the level of prices must be borne in mind, especially when such variations have been as great as those in the period since the annual Census of Manufactures was begun in 1917. The index number of

wholesale prices in Canada, on the 1926 base, compiled by the Dominion Bureau of Statistics, stood at 114·3 in 1917, 155·9 in 1920, 97·3 in 1922, 95·6 in 1929, 67·1 in 1933, 84·6 in 1937, 75·4 in 1939 and 103·6 p.c. in 1945. Index numbers of the prices of fully or chiefly manufactured goods were: 113·5 in 1917, 156·5 in 1920, 100·4 in 1922, 93·0 in 1929, 70·2 in 1933, 80·5 in 1937, 75·3 in 1939 and 94·0 p.c. in 1945.

Volume of Manufacturing Production.—Since real income is ultimately measured in goods and services, the growth of the volume of manufacturing production, as distinguished from its value, becomes a matter of great significance. The important thing to know is whether consumers are getting more goods and services, not whether they are expending more dollars and cents.

The index of volume (Table 6) is based on the quantities of manufactured products reported. The industry indexes are weighted according to the values added by manufacture. The weights and products were changed from the 1926 values in 1931, 1936 and then again in 1941. By changing the weights and products used in the construction of the index every five years, current changes in production are thereby reflected more accurately.

The physical volume of manufacturing production increased 50·2 p.c. from 1923 to 1929. When it is recalled that the population of Canada is estimated to have increased by only 11·1 p.c. during the same period, the growth of manufacturing production is indeed remarkable. Of this advance, the part resulting from an increase in the domestic demand due to growth of population would therefore be about 11·1 p.c. Exports of partly and fully manufactured goods increased from $591,830,000 in the fiscal year ended Mar. 31, 1924, to $686,876,000 in the fiscal year 1929-30, the increase in exports representing about 3·6 p.c. of the 1923 production. The remainder of the increase in production by 1929, or a margin equal to roughly 35 p.c. of the volume of manufactures of 1923, was, therefore, apparently absorbed by increases in capital equipment and by the rise in the standard of living of the population of Canada.

A similar analysis of the volume of manufactures since 1929 in relation to population and exports would show that the decline in the depression preceding the Second World War was due chiefly to reduced exports and a cessation in production of capital equipment. As a result of the expansion in production resulting from the demands created by the War, the physical volume of production in 1943 when production was at an all-time high increased by 76·6 p.c. since 1939 and by 85·1 p.c. since 1929. The chemical and allied products group, with an increase of 262·5 p.c., reported the greatest expansion in output since 1939. This was followed by the iron and its products group with an increase of 222·2 p.c., non-ferrous metal products 129·9 p.c., miscellaneous industries 68·0 p.c., non-metallic mineral products 55·6 p.c., animal products 40·4 p.c., textiles and textile products 33·7 p.c., vegetable products 24·6 p.c., and wood and paper products 21·4 p.c. There was also an increase in the volume of consumer goods. As was to be expected, the increase was not so great as that for the output of equipment and supplies needed by the Armed Forces. Drink and tobacco increased by 50·5 p.c., food 26·8 p.c. and clothing 24·7 p.c.

In 1945 the index of the physical volume of production at 165·3 represented a drop of 11·9 p.c. from the high mark attained in 1943. Chemicals and allied products had the sharpest decline of 34·9 p.c., non-ferrous metal products with 30·5 p.c.; iron and its products 24·6 p.c. and textiles and textile products 3·9 p.c. The

vegetable, wood and paper, animal, non-metallic mineral, and miscellaneous industries groups on the other hand reported an increase in the volume of production. The volume of consumers goods continued to rise with the drink and tobacco group reporting an increase of 21·2 p.c., followed by books and stationery with 12·3 p.c., personal utilities 12·1 p.c., food 9·8 p.c., house furnishings 4·3 p.c., and clothing 1·3 p.c. Industrial equipment and producers materials were both down with declines of 18·8 and 11·5 p.c., respectively. Vehicles and vessels also declined 22·4 p.c.

6.—Indexes of the Volume of Manufacturing Production, According to Component Material and Purpose Classifications, 1933-1945

(1935-39=100)

NOTE.—Figures for the years 1923-32 are given at p. 519 of the 1947 Year Book.

Year	COMPONENT MATERIAL CLASSIFICATION GROUPS									
	All Industries	I	II	III	IV	V	VI	VII	VIII	IX
1933	67·7	72·8	79·6	81·1	69·6	50·2	57·6	68·8	69·9	71·9
1934	79·6	82·4	86·5	89·5	81·5	67·6	70·8	82·5	79·3	85·2
1935	87·9	87·0	91·3	94·5	89·5	83·4	81·2	88·1	87·2	91·1
1936	96·2	95·9	98·7	99·9	98·4	93·5	91·5	96·8	93·6	91·7
1937	108·9	104·5	102·7	106·0	109·6	118·1	110·1	111·3	107·3	106·6
1938	100·8	102·4	100·3	94·5	97·8	102·8	106·0	101·6	102·9	105·3
1939	106·3	109·0	107·2	104·9	104·4	101·9	111·1	105·1	108·9	110·7
1940	125·2	117·9	118·7	124·8	117·8	141·2	133·2	127·8	130·2	116·3
1941	155·9	137·2	138·2	143·1	131·3	217·1	165·4	148·8	219·6	157·4
1942	179·9	136·4	145·0	152·4	131·2	289·2	213·7	157·6	369·6	180·2
1943	187·7	135·8	150·5	140·2	126·7	328·3	255·4	163·5	394·8	186·0
1944	180·8	155·0	155·9	136·2	129·1	300·5	229·6	166·5	338·8	192·0
1945	165·3	159·0	159·9	134·7	136·2	247·7	177·6	169·0	257·2	195·6

I. Vegetable products
II. Animal products
III. Textiles and textile products
IV. Wood and paper products
V. Iron and its products
VI. Non-ferrous metal products
VII. Non-metallic mineral products
VIII. Chemicals and allied products
IX. Miscellaneous industries

Year	PURPOSE CLASSIFICATION GROUPS									
	All Industries	I	II	III	IV	V	VI	VII	VIII	IX	X
1933	67·7	79·9	81·7	63·4	70·7	68·7	73·5	63·6	59·2	57·7	59·9
1934	79·6	87·8	87·7	72·7	79·5	79·1	83·6	77·3	73·8	76·6	72·8
1935	87·9	90·5	92·2	82·5	87·6	85·9	93·4	86·2	84·7	90·5	78·6
1936	96·2	98·8	97·9	90·9	94·3	95·4	96·3	97·0	94·9	94·3	87·2
1937	108·9	101·5	103·9	107·6	106·7	110·5	101·7	111·8	113·3	118·0	109·6
1938	100·8	102·4	97·9	107·5	103·0	101·6	103·8	98·0	102·0	99·9	109·1
1939	106·3	107·0	108·2	111·6	108·5	106·5	104·7	106·9	105·1	97·4	115·5
1940	125·2	115·0	119·9	129·7	115·1	120·5	102·8	128·7	138·7	129·5	180·3
1941	155·9	131·7	136·0	149·5	140·0	140·4	112·8	151·1	184·9	230·8	230·8
1942	179·9	130·6	142·7	171·2	144·6	149·4	106·6	172·3	222·8	310·2	430·9
1943	187·7	135·7	134·9	167·9	141·7	149·7	107·2	172·7	257·0	373·0	405·1
1944	180·8	147·5	135·7	193·0	143·9	153·6	110·7	164·4	237·6	369·5	362·4
1945	165·3	149·0	136·7	203·5	158·9	156·1	120·4	152·8	208·6	289·4	257·8

I. Food
II. Clothing
III. Drink and tobacco
IV. Personal utilities
V. House furnishings
VI. Books and stationery
VII. Producer materials
VIII. Industrial equipment
IX. Vehicles and vessels
X. Miscellaneous

7.—Indexes of the Volume of Manufacturing Production for the Groups of the Purpose Classification, Significant Years, 1923-45

(1935-39=100)

Group and Classification	1923	1929	1933	1939	1943	1944	1945
Food	**73·7**	**89·4**	**79·9**	**107·0**	**135·7**	**147·5**	**149·0**
Breadstuffs	81·0	98·7	84·3	106·9	138·7	141·5	144·5
Fish	108·5	114·1	86·7	98·8	131·9	125·5	161·5
Fruit and vegetable preparations	32·9	70·8	64·5	109·9	107·0	151·3	133·7
Meats	72·7	78·5	76·2	106·0	165·3	196·6	176·4
Milk products	69·8	77·2	78·7	107·3	145·5	147·1	148·7
Oils and fats	52·0	40·9	41·9	156·4	314·0	321·2	336·6
Sugar	79·2	88·5	82·5	109·4	83·3	98·8	95·0
Infusions	64·4	75·0	82·5	105·8	156·2	172·6	195·5
Miscellaneous	46·5	67·4	66·5	110·4			
Clothing	**69·2**	**95·8**	**81·7**	**108·2**	**134·9**	**135·7**	**136·7**
Boots and shoes	73·0	100·6	80·0	113·4	107·9	112·6	129·9
Fur goods	41·1	97·6	81·0	118·3	169·7	171·1	195·0
Garments and personal furnishings	75·3	94·2	80·2	103·1	153·9	146·5	144·4
Gloves and mittens	59·2	84·0	76·4	100·4	167·1	179·7	172·5
Hats and caps	58·6	95·3	74·3	104·5	130·9	122·4	123·9
Knitted goods	64·8	86·1	83·1	112·4	118·2	119·5	120·4
Waterproofs	48·9	89·8	65·7	100·4	250·0	171·4	160·9
Drink and Tobacco	**50·1**	**92·6**	**63·4**	**111·6**	**167·9**	**193·0**	**203·5**
Beverages, alcoholic	49·5	105·9	60·5	102·8	165·8	199·3	229·5
Beverages, non-alcoholic	35·9	61·3	54·9	136·4	178·6	207·8	171·8
Tobacco	55·3	90·7	77·1	111·3	170·6	184·0	210·1
Personal Utilities	**85·1**	**101·5**	**70·7**	**108·5**	**141·7**	**143·9**	**158·9**
Jewellery and time-pieces	78·4	88·5	67·7	108·1	140·0	148·3	167·6
Recreational supplies	193·3	176·7	48·2	114·1	152·4	170·3	189·2
Personal utilities	56·1	79·8	78·1	107·5	142·6	139·8	152·5
House Furnishings	**62·1**	**108·3**	**68·7**	**106·5**	**149·7**	**153·6**	**156·1**
Books and Stationery	**56·1**	**79·3**	**73·5**	**104·7**	**107·2**	**110·7**	**120·4**
Producers Materials	**69·3**	**101·8**	**63·6**	**106·9**	**172·7**	**164·4**	**152·8**
Farm materials (fertilizers)	8·0	13·4	51·7	124·8	204·5	226·3	236·3
Manufacturers materials	58·7	88·1	64·4	105·6	169·1	159·7	146·8
Building materials	109·3	152·9	58·8	111·2	154·8	156·2	162·7
General materials	86·0	120·3	69·3	108·5	190·0	198·7	202·8
Industrial Equipment	**64·3**	**109·2**	**59·2**	**105·1**	**257·0**	**237·6**	**208·6**
Farming equipment	97·7	144·7	43·3	85·1	240·7	226·3	211·0
Manufacturing equipment	66·5	101·3	44·9	107·6	293·5	271·4	244·1
Trading equipment	55·2	77·2	80·0	107·7	Nil	Nil	Nil
Service equipment	67·7	75·8	72·5	100·4	317·8	240·0	220·9
Light, heat and power equipment	46·6	104·8	61·7	105·0	220·7	224·5	199·7
General equipment	74·2	114·4	58·5	106·4	292·8	256·5	217·3
Vehicles and Vessels	**77·4**	**142·6**	**57·7**	**97·4**	**373·0**	**369·5**	**289·4**
Miscellaneous	**45·0**	**66·2**	**59·9**	**115·5**	**405·1**	**362·4**	**257·8**
Totals, All Manufactures	**67·5**	**101·4**	**67·7**	**106·3**	**187·7**	**180·8**	**165·3**

Section 3.—Production by Industrial Groups and Individual Industries

For the purposes of the Census of Manufactures, the main detailed analysis is made under a classification in which industries are grouped according to the chief component materials of the goods manufactured. This is, therefore, the grouping used in the historical series shown in Table 3. However, there are also less detailed analyses under the standard classification grouping given in Table 9, purpose groupings in Table 10 and under origin groupings in Table 12.

THE CHEMICAL INDUSTRIES IN CANADA*

A quarter of a century ago, in 1920, when commodity prices were at a peak, the output value for all chemical and allied industries in Canada was $127,800,000. A major decline during the post-war recession after 1918 reduced output to $88,600,000 in 1921 but this was followed by a period of steady improvement which

* Prepared under the direction of W. H. Losee, Director, Census of Industry and Merchandising, Dominion Bureau of Statistics, by H. McLeod, Chief, Mining, Metallurgical and Chemical Section.

carried the value to $138,500,000 in 1929. Then came the depression years during which production fell, in 1933, to $92,800,000 from which it then advanced steadily to the pre-war high of $159,500,000 in 1939. Since then, there has been phenomenal expansion featuring the erection of many new plants and the manufacture of many new products. In 1946, the value of output was $376,288,264.

In 1946, there were 1,017 operating establishments in the chemicals and allied industries and these were distributed across the country as follows: 534 in Ontario, 327 in Quebec, 64 in British Columbia, 37 in Manitoba, 18 in Alberta, 16 in Nova Scotia, 11 in Saskatchewan, 8 in New Brunswick and 2 in Prince Edward Island. Quebec accounted for 33 p.c. of the production and those in Ontario for 53 p.c.

The average employment in all these works was 37,278 employees and salaries and wages for the year totalled $66,538,532. Details of the chemical process industries are given on pp. 544-550.

The chemical industries might be conveniently arranged in three groups: (1) to include the actual manufacture of heavy or fine chemicals; (2) to include the manufacture of allied products, such as coal tar and hardwood distillation products, paints, soaps, medicines, etc.; (3) to include the chemical process industries such as pulp and paper, electrolytic refining, etc. For statistical purposes the first two divisions are grouped under the heading of chemicals and allied products while the process industries are distributed amongst other industrial groups. This review will indicate in some detail the extent and diversity of the heavy chemical industry in Canada and briefer mention will be made of the allied and process divisions.

The Heavy Chemical Industry Group

Information regarding the beginning of the chemical manufacturing industry in Canada is very sketchy. The Census of 1890 showed the output of chemical plants at slightly more than $2,000,000 but it seems certain that this total included some allied products as well as basic chemicals. At any rate, the industry at that time was very small—a sulphuric acid plant had begun operations a few years previously, the manufacture of methyl alcohol by the destructive distillation of wood had been started, some nitroglycerine was being made for use in explosives, and some ethyl alcohol was being produced. The next decade, however, saw the start of the electro-chemical industry with the building of a carbide plant at Niagara Falls, Ont., and a phosphorus works at Buckingham, Que. From the turn of the century to the outbreak of the First World War, there was continued expansion featuring the opening of large works to make carbide at Shawinigan Falls, Que., cyanamide at Niagara Falls, Ont., and electrolytic caustic soda at Windsor, Ont. With the First World War there came heavy responsibilities to manufacture special chemicals for munitions purposes and a number of new plants and extensions were erected. Some of these developments were essentially for war needs, such as the manufacture of trinitrotoluene, cordite, etc., and were discontinued soon after the Armistice, but others were of a fundamental nature and remained as part of the permanent industry. Outstanding among the latter was the synthetic acetic acid and acetone plant at Shawinigan Falls, Que.

The period between the two wars, 1918-39, was characterized by a steady advance in both volume and diversity of products including such outstanding developments as the manufacture of soda ash at Amherstburg, Ont., and of sulphuric acid from waste smelter gases at Copper Cliff, Ont., and at Trail, B.C.

In this period too there was consolidation within the industry through the merger of smaller units to form such concerns as Canadian Industries, Limited, and Shawinigan Chemicals, Limited. There was remarkable progress also in technical skill, in research, and in the training of personnel. When the Second World War broke upon the world, the industry was well fitted in these essentials to undertake the tremendous responsibilities that were to be faced.

In the transformation of Canadian industry for war production, probably no aspect was more important or more spectacular than the explosives and chemicals program. Before the outbreak of hostilities, the explosives industry in this country was occupied almost entirely on ordinary commercial requirements, and consequently the chemical industry lacked facilities to feed a large-scale munitions output. In October, 1939, under the Defence Purchasing Board, the future Chemicals and Explosives Branch of the Department of Munitions and Supply was set up to expand explosives production and to place the chemical industry on a parallel course of development. Soon great plants mushroomed up in every part of the country as three score separate projects involving expenditures of more than $160,000,000 were undertaken, some being extensions and others entirely new works—some for explosives, some for shell filling, some for grenades, fuse powders and pyrotechnics, but about one-half for special chemicals required in the over-all program. It is estimated that the production of chemicals in Canada expanded threefold during the Second World War and reached a total value in 1944 of $110,000,000.

With the end of hostilities some of these works were closed or dismantled but a number have been taken over by private concerns and have become part of the post-war industry. In 1948, the industry stands as one of the nation's leading activities. It supplies about 70 p.c. of the country's chemical needs, and in addition makes a substantial contribution to export trade. It has buildings and capital equipment valued at $120,000,000, employs 10,000 people, and annually distributes $18,000,000 for salaries and wages, and $40,000,000 for materials, fuel and power. It includes some of the largest industrial establishments in Canada.

A few large concerns dominate the heavy chemical field of manufacture. First in value and diversity of output is the Canadian Industries, Limited, which has a chain of plants across the country. This Company, which is also dominant in the manufacture of allied lines, such as paints, fertilizers, cellophane, nylon, explosives, etc., is linked commercially with the E. I. Dupont de Nemours and Company, and the Imperial Chemical Industries, Limited, prominent chemical firms in the United States and in the United Kingdom, respectively. Other major producers in Canada are the North American Cyanamid, Limited; the Shawinigan Chemicals, Limited; the Consolidated Mining and Smelting Company of Canada, Limited; the Brunner-Mond Canada, Limited; the Nichols Chemical Company, Limited; the Electric Reduction Company of Canada, Limited; and the Dow Chemical Company of Canada, Limited. Two score or more smaller concerns complete the list.

Special War Chemicals—Among the special wartime developments of the chemical industry were the following: the manufacture of carbamite, an important requirement for use as a stabilizer and plasticizer in cordite, was begun in 1941 by Defence Industries, Limited, at Windsor, Ont. This project in turn necessitated a steady supply of monoethylaniline, an essential ingredient, so its manufacture was undertaken in 1941 by Shawinigan Chemicals, Limited, in a Government-

owned works at Shawinigan Falls, Que. Aniline for this purpose was imported at first, but at the end of 1941 the Naugatuck Chemicals, Limited, started its manufacture at Elmira, Ont., and in 1942 this Company began production of diphenylamine in a separate Government unit at the same location.

The manufacture of dibutyl phthalate, needed for smokeless powders, was started in 1942 by the Dominion Tar and Chemical Company, Limited, at its Toronto plant and by the Shawinigan Chemicals, Limited, at Shawinigan Falls. The former Company added a unit for phthalic anhydride in the same year and the latter concern a unit for butyl alcohol in 1943. Hexachlorethane, for smoke bombs, was produced by Defence Industries, Limited, at Shawinigan Falls and Windsor.

Most important of all special war projects in the chemical field is the Sarnia plant of the Polymer Corporation, Limited, for the manufacture of synthetic rubber, with its integrated units for making intermediate chemicals such as styrene, butadiene, etc. Erected by the Government at a cost of $50,000 000 this huge development began operations in the autumn of 1943. In 1948, it was working at capacity to meet peacetime requirements.

Probably the next largest of the Government undertakings was for the production of ammonium nitrate and nitroguanidine at Welland, Ont., in a works which was operated by the Welland Chemical Works, Limited. It came into production early in 1941 and has since been taken over by the North American Cyanamid, Limited.

In addition to the above, mention might be made of the projects to produce cumene, alkylates and other such ingredients of high octane gasolines, and still other expansions to meet the increased demands for basic lines such as carbide, phosphorus, acetylene black, ethyl alcohol, toluol, glycerine and others.

According to records of the Department of Munitions and Supply, the output of military explosives and special chemicals, to the end of 1944, reached a total of 1,500,000 tons.

The major divisions of the heavy chemical industry are treated separately under the following headings:

Alkalies.—The alkalies division of the industry is based upon the vast salt deposits which underlie the Windsor-Sarnia district in southwestern Ontario. The salt is brought to surface as brine of which about one-half is evaporated to produce ordinary salt for commercial and table use, the other half is used for chemical purposes.

At Windsor, Ont., the Canadian Industries, Limited, treats brine electrolytically to produce caustic soda and liquid chlorine. Built in 1912 and operated continuously since that date, this works in 1930 added an extension to utilize the hydrogen (which formerly went to waste) in the manufacture of ammonia, this being the first synthetic unit of its kind in Canada. Other lines have been added from time to time, including hydrochloric acid, chloride of lime, ferric chloride, sulphur monochloride, sulphur dichloride and sodium hypochlorite.

To meet the demand of the expanding pulp, rayon and cellophane industries of Eastern Canada, the Canadian Industries, Limited, in 1934, erected a new caustic-chlorine plant at Cornwall, Ont., and, in 1938, opened another unit at Shawinigan Falls, Que. For these projects most of the salt is brought from Windsor, the raw material in this instance being transported to the source of cheap power and to the principal markets for the finished products.

Another important plant which uses salt brine as its chief material is operated by Brunner-Mond Canada, Limited, at Amherstburg, Ont. Built in 1919, it is the only producer of soda ash in Canada and also, since 1934, of calcium chloride which is recovered as a secondary product in the Solvay process.

While these alkali producers were working to capacity in June, 1948, and in some instances had extended their facilities considerably since the start of the Second World War, there were still substantial imports under these headings in 1947 amounting to 28,899 tons at $740,074 for caustic soda and 4,390 tons at $184,398 or soda ash.

In late 1946, there were three caustic-chlorine plants under construction, one by the Dow Chemical Company of Canada, Limited, Sarnia, Ont., one by the Dominion Alkali Chemicals, Limited, Beauharnois, Que., and one by the Aluminum Company of Canada, Limited, Arvida, Que.

Acids.—In the acids division of the industry, Canada has long been self-sufficient in regard to inorganic acids, but has been very largely dependent on foreign sources for her supply of organic acids. The manufacture of sulphuric acid was started at London, Ont., in 1867, and the next commercial unit was built at Capelton, Que., at which location there was a considerable supply of pyrites from nearby mines. Built in 1885, this latter plant operated steadily until 1925 when it was dismantled. The first unit using the contact process was built in 1908 at Sulphide, Ont., with pyrites as the chief source of sulphur, and the first plant to utilize smelter gases was built at Coniston, Ont., in 1925. Three new plants were built after the outbreak of the Second World War to make ten producers in all, as follows: the Canadian Industries, Limited, at Copper Cliff, Ont., Hamilton, Ont., and New Westminster, B.C.; the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, B.C.; the Nichols Chemical Company, Limited, at Sulphide, Ont., Valleyfield, Que., and Barnet, B.C.; the North American Cyanamid, Limited, at Welland, Ont.; the Aluminum Company of Canada, Limited, at Arvida, Que.; and the Dominion Steel and Coal Corporation, Limited, at Sydney, N.S. Output of sulphuric acid in 1947 totalled 717,830 tons (66° Be) compared with the highest pre-war tonnage of 282,716 of the same density in 1937.

The successful recovery of sulphuric acid from smelter gases has been one of the outstanding developments of the industry. Previously the raw materials for its manufacture were either sulphur or sulphur-bearing ores and with the exhaustion of the latter more dependence was placed on elemental sulphur imported chiefly from Texas, U.S.A. In search of a cheaper source of sulphur, attention was turned to the sulphur gases which belched from the stacks of Canada's huge metal smelters. In 1925, a trial plant was built by Canadian Industries, Limited, at Coniston, Ont., in connection with the nickel smelter at that point, and it proved highly successful. In 1929, this Company established a larger and permanent unit at the smelter of the International Nickel Company, Limited, at Copper Cliff, Ont.

Even more striking were the developments at Trail, B.C., arising out of the utilization of the gases from the lead-zinc smelter of the Consolidated Mining and Smelting Company of Canada, Limited. For some time this Company had been faced with claims for damage to crops on nearby lands from the sulphur-bearing gases, and the problem assumed international proportions when complaints came from across the International Boundary. This condition of affairs and the desire to eliminate waste led to an extensive program of research which culminated in the building of one of the largest chemical plants in the country. It was decided to

use the waste gases to make sulphuric acid, which in turn could be used to make ammonium sulphate for fertilizer purposes. There is now at Trail, B.C., the largest acid plant in Canada, a huge synthetic ammonia plant, an ammonium sulphate plant, an ammonium nitrate plant, a phosphoric acid plant and an ammonium phosphate plant. The final products are the nitrogen-bearing fertilizers, ammonium sulphate, ammonium nitrate and ammonium phosphate, which are chiefly for export. In 1934, a process was developed to produce elemental sulphur, but in late years this unit has not been in operation as all sulphur in the smelter gases is required for fertilizers.

The principal users of nitric acid in Canada, the explosives and ammonium nitrate industries, make their own requirements. Works for this purpose are in use by North American Cyanamid, Limited, at Welland, Ont., the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, B.C., and at Calgary, Alta., and the Canadian Industries, Limited, at McMasterville, Que., Nobel, Ont., and James Island, B.C. Some of these concerns also make acid for sale to industrial users, as does the Nichols Chemical Company, Limited, at Sulphide, Ont. A very large part of the production facilities have been erected since the outbreak of the Second World War and it is estimated that the total output for all purposes amounted to 256,000 tons (42° Be) in 1946.

Muriatic or hydrochloric acid is made by Canadian Industries, Limited, at Hamilton, Windsor, and Cornwall, all in Ontario; cresylic acid is made by the Dominion Tar and Chemical Company, Limited, at Toronto, Ont.; hydrofluosilicic acid is made by the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, B.C.; phosphoric acid is made by the latter Company as an intermediate in making phosphate fertilizers and also by the Electric Reduction Company of Canada, Limited, at Buckingham, Que.; stearic acid is made by the W. C. Hardesty Company of Canada, Limited, at Toronto, Ont., and the S. F. Lawrason and Company, Limited, at London, Ont.; naphthenic acid is made by Imperial Oil, Limited, at Montreal, Que.; oleic acid by S. F. Lawrason and Company, Limited; and fatty acids by the last-mentioned concern and by the Woburn Chemicals, Limited, at Toronto, and the W. C. Hardesty Company of Canada, Limited, at Toronto.

Glacial acetic acid is made by the Shawinigan Chemicals, Limited, at Shawinigan Falls, Que., which is one of the great chemical plants of the British Commonwealth. As early as 1903, the power developments at this point had attracted a carbide plant which has continued to operate ever since and which, during the First World War, was greatly expanded. The Allies were then in urgent need of acetone for T.N.T. and later for acetic acid for the manufacture of cellulose acetate, an essential compound for the treatment of aeroplane wings. A process was worked out by Canadian chemists by which these chemicals could be made synthetically from calcium carbide and, in 1916, at the request of the Imperial Government, the capacity of the carbide furnaces was enlarged and a large chemical plant was erected. At the close of the First World War the demand for acetone ceased and the Company soon discontinued its manufacture, but improvements in its process for making acetic acid and an increasing demand enabled the Company to expand its output and ship to markets in all parts of the world. Continuous research has led to the commercial production at this plant of many acetylene derivatives, and it is interesting to note that the Company started to make acetone again in 1936 by an entirely new process. In normal times Shawinigan Chemicals, Limited, is a large exporter, particularly of carbide, acetic acid, acetylene black and vinyl resins.

In 1947, Canada's export of acids amounted to $3,712,611 chiefly acetic and sulphuric. Imports were valued at $3,510,121 with tartaric, acetic, citric, salicylic, boracic and stearic as the principal items.

Cyanamide, Cyanide and Carbide.—The first Canadian works to make calcium carbide was erected at Merritton, Ont., in 1897, electricity being obtained from power stations on the nearby Welland Canal. Later a plant was erected at Ottawa, and in 1903 the Shawinigan Carbide Company completed its furnaces at Shawinigan Falls, Que., to utilize the newly developed power at that point. About 1912, these three companies amalgamated to form the Canada Carbide Company, and the units at Merritton and Ottawa were later dismantled. In 1927, the Canada Carbide Company and the Canadian Electro Products Company, Limited, were consolidated into the Shawinigan Chemicals, Limited. The capacity of this works was expanded considerably during the Second World War.

Another carbide plant is operated at Welland, Ont., by the Electro Metallurgical Company of Canada, Limited. This Company and the Shawinigan Chemicals, Limited, are the only concerns making carbide for sale.

At Niagara Falls, Ont., the North American Cyanamid, Limited, operates a huge cyanamide works, probably the largest of its kind in the world. Started in 1909 with an initial capacity of 5,000 tons annually, the subsequent additions and improvements had brought the pre-war capacity to 355,000 tons. This tremendous tonnage was secured through the operation of what was, at that time, the largest lime-burning plant in the world, the largest carbide furnaces and the largest liquid air plant for the preparation of pure nitrogen. The calcium cyanamide, which is made by absorbing nitrogen in calcium carbide at white heat, is used as a fertilizer and a large part of the production is exported. Quite a large proportion of the output, however, is used by the Company to make cyanide for use by the Canadian mining industry or for export, also as a material for certain war chemicals. Sodium silicate has been produced in this works since 1932.

Ammonia.—Ammonia and its compounds were in heavy demand for war uses and facilities for increased capacity involved major expenditures in the war years. At the outbreak of the Second World War synthetic ammonia was being made at Trail, B.C., for use in nitrogen fertilizers, and at Windsor, Ont., for use mainly for the manufacture of blasting explosives; aqua ammonia and anhydrous ammonia were recovered from gas liquor by Canadian Industries, Limited, in a plant at Toronto, Ont. War requirements brought expansion to the original Trail, B.C., facilities as well as a new Government-owned unit at that point, a new plant at Calgary, Alta., operated by Alberta Nitrogen Products, Limited, on behalf of the Government, and a new works near Welland, Ont., also built for the Government but operated by the Welland Chemicals, Limited. The Calgary works is unique in that it uses natural gas as its primary material; at Welland, the coke process is used. All of these works made anhydrous ammonia and ammonium nitrate. In 1943, when war demands slackened and a shortage of fertilizer developed in the United States and Canada, steps were taken to utilize the excess ammonium nitrate capacity to provide a material suitable for fertilizer. This was made possible by a research program which resulted in the making of a prilled or pebbled form of ammonium nitrate properly conditioned to render it free flowing when used. Practically all of the output is now marketed in this form, chiefly for export to the United States to ease the fertilizer situation in that country.

The Calgary works has now been taken over by the Consolidated Mining and Smelting Company of Canada, Limited, and the Welland Works has been purchased by the North American Cyanamid, Limited.

Organic Chemicals.—In the manufacture of organic chemicals there has been outstanding progress in recent years. Mention has been made already of the Shawinigan Chemicals, Limited, which is the leading company in this field, and is concerned mostly with products based on acetylene, including butyl acetate, ethyl acetate, acetone, acetylene black, acetic anhydride, acetaldehyde, croton aldehyde, pentasol acetate, vinyl acetate, vinyl resins, dibutyl phthalate and butyl alcohol. Chloral crotomi acid and monochloracetic acid are post-war additions to the lines made by this company.

The principal producer of coal tar derivatives is the Dominion Tar and Chemical Company, Limited, Toronto, Ont., which makes cresylic acid, phenol, cresol, ortho cresol, para cresol, xylenols and naphthalene. Several coke-oven operators recover xylol, toluol and benzol; a number of explosives plants make dinitrotoluol, nitroglycerine and trinitrotoluene; the Standard Chemicals, Limited, Montreal, Que., and the Canadian Industrial Alcohol Company at Lindsay, Ont., recover methyl alcohol, and acetone by the destructive distillation of hardwoods; perchlorethylene and trichlorethylene are made at Shawinigan Falls, Que., by the Canadian Industries, Limited, and by Defence Industries, Limited. In 1941 the Naugatuck Chemicals, Limited, Elmira, Ont., started to make aniline oil, diphenylamine and certain accelerators and plasticizers for the rubber and plastics industries. Acetanilide, nitrobenzole and D.D.T. have since been added to its products.

The manufacture of styrene and butadiene for synthetic rubber began in late 1943, at the huge works of the Polymer Corporation, Limited, at Sarnia, Ont., and cumene, butane and propane are recovered from refineries in Sarnia, Ont., Montreal, Que., and Calgary, Alta. Industrial alcohol is made by a number of liquor distilleries and in 1943 the Ontario Paper Company, Limited, at Thorold, Ont., began to make ethyl alcohol from sulphite liquor obtained from the paper mill at that point. Late in 1947 work was started on a large plant at Gatineau, Que., to make alcohol from the sulphite liquor from the paper mill at that point.

Phosphorus Compounds.—Phosphorus, phosphate chemicals and chlorates are produced by the Electric Reduction Company of Canada, Limited, at Buckingham, Que., which is the sole producer of these items in this country. Established in 1897 to utilize the phosphate ores in the vicinity, this plant has been operating mainly on imported rock in late years. Phosphorus and phosphoric acid were the main products for most of this period, but in the past decade the Company has developed a very diversified line of chemicals including monosodium phosphate, disodium phosphate, trisodium phosphate, anhydrous tetrasodium phosphate, calcium phosphide, acid calcium phosphate and sodium acid pyrophosphate, also barium chlorate, ammonium chlorate, sodium perchlorate, potassium chlorate and potassium perchlorate. Both amorphous and yellow phosphorus are made in this works.

Superphosphates for fertilizers are made by Canadian Industries, Limited, at McMasterville, Que., Hamilton, Ont., and New Westminster, B.C., and by the Consolidated Mining and Smelting Company of Canada, Limited, at Trail, B.C. The latter concern also makes ammonium phosphate fertilizers.

Compressed Gases.—The tremendous wartime demand for acetylene and oxygen for welding purposes in the shipbuilding, aircraft, and munitions industries was met by the building of new plants and expansion of existing facilities. The production of acetylene in 1946 at 100,276,367 cu. ft. and of oxygen at 476,822,719 cu. ft. was 106 p.c. and 152 p.c., respectively, above the quantities made in 1939.

Most of the concerns in the industry operate several establishments located strategically across the country. The Canadian Liquid Air Company, Limited, makes acetylene, oxygen and nitrogen in 11 plants; the Dominion Oxygen Company, Limited, makes oxygen at five locations; the Prest-O-Lite Company of Canada, Limited, makes acetylene in four establishments; the Wall Chemicals Canadian Corporation, Limited, makes acetylene and oxygen, each in two separate works, and the Liquid Carbonic Canadian Corporation, Limited, makes carbon dioxide at six different points. Other operators include the Peoples Gas Supply Company, Limited, making acetylene at Ottawa, Ont.; the B.C. Welding Sales and Equipment Company, Limited, making hydrogen and oxygen at Armstrong, B.C.; the Oxygen Company of Canada, Limited, making nitrous oxide, at Toronto, Ont., and at Montreal, Que.; the Swift Canadian Company, Limited, Lever Brothers, Limited, and the Canada Packers, Limited, all of Toronto, Ont., and the Proctor and Gamble Company of Canada, Limited, of Hamilton, Ont., making hydrogen for use in hydrogenative oils for soap-making.

Miscellaneous Heavy Chemicals.—The above details refer to the main aspects of Canada's chemical manufacturing industry. To complete the list, mention should be made of certain items which do not fall under the particular features that have been treated separately, such as cobalt salts and white arsenic made by the Deloro Smelting and Refining Company, Limited, at Deloro, Ont.; litharge and red lead by the Carter White Lead Company of Canada, Limited, at Montreal, Que.; zinc oxide by the Zinc Oxide Company of Canada, Limited, at Montreal, the Durham Chemical Company (Canada), Limited, at Cap de la Madeleine, Que., and by the Watts Chemical Company at Toronto, Ont.; metallic naphthenates by the Nuodex Products of Canada, Limited, at Toronto, Ont.; metallic stearates by H. L. Blachford at Montreal, Que.; carbon bisulphide by the Cornwall Chemicals, Limited, at Cornwall, Ont.; sodium silicate by the National Silicates, Limited, at Toronto, Ont.; liquid hydrogen peroxide and trichlorethylene by Canadian Industries, Limited, at Shawinigan Falls, Que.; copper sulphate by Canadian Refineries, Limited, at Montreal East, Que.; vanillin by the Howard Smith Chemicals, Limited, at Cornwall, Ont.; fine chemicals by the Merck and Company, Limited, and the Mallinckrodt Chemical Works, Limited, at Montreal, Que.; and ammonium chloride, salt cake, sodium sulphite, zinc chloride, sodium metabisulphite, liquid sulphur dioxide and sodium thiosulphate by Canadian Industries, Limited, at Hamilton, Ont.; ethylene glycol by the Dow Chemical Company of Canada, Limited, at Sarnia, Ont.; aluminum sulphate by the Aluminum Company of Canada, Limited, at Arvida, Que., and by the Nichols Chemical Company, Limited, at Valleyfield, Que.

The heavy chemical industry, as it is defined for statistical purposes and for which figures are given on p. 549, includes only the plants which were occupied chiefly in this line of manufacture. Only 37 establishments were placed in this category in 1944 but there were other works, such as coke plants, metal refineries and explosives divisions which produced chemicals only as a secondary or minor part of their operations, and still other works, such as alcohol distilleries and coal

tar distilleries which have been given a separate industry classification. From data assembled from all sources, it is estimated that the factory value of all chemicals made for sale was approximately $110,000,000 in 1946. On a similar basis, the imports were computed at $35,000,000 and exports at $55,000,000.

The Allied Chemical Industries Group

All industries in the allied chemical products division recorded big gains during the war years. Fertilizers, medicinals, toilet preparations, polishes and adhesives output values in 1944 were about double those reported for 1939, and gains of about 50 p.c. were recorded for soaps, inks, paints and coal tar distillation. Each of the above industries, with the exception of the coal tar distillation industry, in which production declined approximately 3 p.c., recorded further increases in production in 1946; the first group increased by about 31 p.c. and the second approximately 16 p.c. The miscellaneous industry, which includes explosives and ammunition, with a production increase from $25,800,000 in 1939 to $431,500,000 in 1944 recorded the greatest gains during the war years, but with the cessation of hostilities, this industry suffered most and production declined to $59,000,000 by 1946.

Coal Tar Distillation.—There was no change in the operating coal tar distillation units in 1944 but production at $5,697,144 was 13 p.c. below the corresponding figure for 1943. By 1946 production had declined further to $5,509,727. Only 4 concerns operate in this industry.

Production of creosote and heavy oils totalled about 10,200,000 gal. in 1946, compared with 10,500,000 gal. in 1944; pitch production approximately 85,000 tons, compared with 86,000 tons in 1944 and refined tars about 5,000,000 gal. compared with 7,000,000 gal. in 1944. Imports in 1946, with corresponding 1944 figures in parentheses, included 3,271,874 (1,918,244) gal. of crude coal tar valued at $256,334 ($138,384) and 1,922 (6,258) tons of pitch at $43,311 ($118,080), and 231,054 (182,146) gal. of carbolic or heavy oils at $59,395 ($38,547). Exports of coal tar and pitch totalled 2,209,450 (288,698) gal. at $193,702 ($43,654) and of creosote oils, 86,534 (2,595,689) gal. at $16,262 ($437,671).

Hardwood Distillation.—In the hardwood distillation industry there were only 5 operating plants in 1944, 3 units for distilling only, 1 for refining only and 1 for both distilling and refining. The latter was operated by the Canadian Industrial Alcohol Company, Limited, at Lindsay, Ont., and the others by the Standard Chemical Company, Limited, at Fassett, Que., Donald, Ont., South River, Ont., and the refinery at Montreal, Que. By 1946, Standard Chemical Company, Limited, reported production at their South River and Montreal plants only. However, Western Wood Products, Limited, at Red Deer, Alta., reported commencement of operations producing charcoal and crude methyl hydrate, bringing the number of operating units to four. Production at $999,790 during 1946, represents a decline of about 34 p.c. from the 1944 total of $1,528,022 and included 217,547 gal. of refined wood alcohol at $253,676, 19,127 tons of charcoal at $512,838, and 2,380 tons of grey acetate of lime at $81,704 as well as acetone, etc.

It is estimated that 6,300 tons of charcoal were made in 1946 in ordinary wood-burning installations, mostly in the Province of Quebec, bringing the total for Canada to approximately 25,000 tons. Corresponding figures for 1944 were 21,000 tons and 50,000 tons.

Paints and Pigments.—Production of paints and pigments in 1946 amounted to $56,729,620, an increase of nearly 16 p.c. over the corresponding figure for 1944 and about 120 p.c. over the 1939 production of $25,855,506. The 98 factories classified in this industry in 1946, employed an average of 5,006 workers throughout the year. The main items of production were as follows: mixed paints, 9,700,000 gal. valued at $25,100,000; enamels, 3,800,000 gal. at $12,000,000; lacquers, 1,600,000 gal. at $4,300,000; and varnishes, 3,400,000 gal. at $7,000,000.

Imports in this category were valued at $9,400,000 in 1946, including the following as the more important items: lithopone 8,900 tons at $878,781; black carbon, 20,733 tons at $2,035,151; titanium oxide and antimony oxide, 11,900 tons at $2,200,000; zinc oxide, 925 tons at $151,000; ultramarine blue, 304 tons at $111,000; ochres and siennas, 1,436 tons at $82,000; varnishes, lacquers, etc., 175,000 gal. at $446,000. Exports were worth $4,407,000 in 1946.

Medicinals and Toilet Preparations.—In 1946, there was a 20 p.c. gain in output by the 201 firms in the medicinals and pharmaceuticals industry over the 1944 production and an increase of 146 p.c. over the corresponding figure for 1939. Total value at factory prices in 1946 was $67,049,834. Establishments in this line of manufacture employed an average of 7,670 workers and paid out $12,832,173 for salaries and wages and $23,163,222 for manufacturing materials. The value of standard pharmacopoeil items approximate $10,600,000; patent medicines, $9,400,000; specialties with ingredients declared, $16,200,000; vitamin and vitamin products, $8,000,000; penicillin, $6,000,000; and biological preparations, $2,200,000. Secondary products, such as cosmetics, flavourings, etc., made up the remainder of the output. Imports amounted to approximately $9,370,000 while exports totalled about $5,340,000.

A recent highlight is the manufacture of penicillin, which is now being made by Merck & Company, Limited, and Ayerst, McKenna and Harrison, Limited, both of Montreal, Que., and by the Connaught Laboratories at Toronto, Ont.

The toilet preparations industry showed production at $20,117,113 in 1946, this being 13 p.c. higher than in 1944 and 191 p.c. over the $6,918,573 reported value of production in 1939. There were 91 plants in this group in 1946 with 1,995 employees, the amount of $2,729,367 was paid in salaries and wages and $7,622,735 for materials. Imports in 1946 were appraised at $720,645 and exports at $804,540.

The production figures quoted above are based on factory selling values and do not, of course, represent the amounts actually spent by Canadians on these items. Annual records of retail sales are not available on a commodity basis; it is known, however, from the Census of Merchandising for 1941 that the value of toilet preparations at retail approximated $22,000,000 in that year, and of medicines, drugs, etc., $48,000,000.

Soaps and Cleaning Preparations.—The soaps, washing compounds and cleaning preparations industry in 1946 included 150 establishments, 49 in the soaps division, 56 in the washing compounds section, and 45 others occupied chiefly in making scouring powders, drain cleaner, hand cleaner and other cleaning preparations for household or industrial use. Output of these preparations was valued at $38,274,818 or 16 p.c. over that of 1944.

Production of soaps of all kinds in 1946 totalled 109,660 tons valued at $25,064,397 at factory prices, including 24,021 tons of bar laundry soap; 21,930 tons of chips and flakes; 40,308 tons of soap powders; 16,312 tons of bar toilet soap;

468 tons of shaving soap and cream; 1,805 tons of textile and mill soap; 2,683 tons of liquid soap, and 1,243 tons of soft soap. In addition to these approximately 6,136 tons of soaps were made as minor products by firms classified to other industries.

Imports valued at $962,469 in 1946 included castile soap, 3,245 lb. at $1,112; laundry soap 6,065,092 lb. at $538,637; soap powder and flakes, 745,492 lb. at $108,476; liquid soap 358,808 lb. at $55,017; bar toilet soap worth $171,925 and other soap, $87,302. Exports in 1946 amounted to $2,103,382, including 2,398,995 lb. of toilet soap at $485,855 and 17,503,826 lb. of other soap worth $1,617,527.

Fertilizers.—There was a substantial increase in the use of fertilizers in Canada with sales for the year ended June 30, 1946, amounting to 632,943 tons compared with 535,108 tons in 1944, an increase of about 18 p.c. The greatest tonnage used in pre-war years was 334,003 tons for the year ended June 30, 1939. Higher sales were recorded in each province in 1946; in Prince Edward Island the gain over 1944 was 32 p.c. to 56,725 tons; in Nova Scotia 4 p.c. to 43,068 tons; in New Brunswick 15 p.c. to 83,430 tons; in Quebec 2 p.c. to 151,308 tons; in Ontario 23 p.c. to 237,080 tons; in the Prairie Provinces 121 p.c. to 31,202 tons; and in British Columbia 31 p.c. to 30,130 tons.

Fertilizer-mixtures amounting to 542,497 tons accounted for 84 p.c. of all sales. The principal mixes were the 2-12-6 with 165,451 tons and the 4-8-10 with 143,436 tons, the former being used in greater amounts in Ontario and Quebec and the latter in the Maritimes. The total tonnage of fertilizers contained 26,403 tons of nitrogen, 81,025 tons of phosphoric acid and 45,520 tons of potash.

The increased demand, both at home and in the export markets, was reflected in the fertilizer manufacturing industry in Canada as production rose in 1946 to $50,000,000 compared with $31,000,000 in 1944 and $13,000,000 in 1939. The ammonium nitrate for fertilizer purposes, ammonium sulphate from coke plants and cyanamide are not included in these figures as the firms which produce these latter items have been classed in other industries. The total output of mixed fertilizers was shown as 597,855 tons worth $17,956,075 in the calendar year 1946.

Explosives, Ammunition and Pyrotechnics.—As was to be expected, this chemical sub-group was most affected by the outbreak of war. Through the creation of new units and the expansion of existing plants, production rose from $13,000,000 in 1939 to a peak of $454,000,000 by 1943 and the number of plants classified to this industry increased from 10 to 27. Because of major changes in the character of military requirements and to an easier demand in the earlier part of the following year, the output value of explosives and ammunition fell off about 13 p.c. to $391,000,000. With the cessation of hostilities, many of these plants were either closed down or adapted to peacetime pursuits with the result that, by 1946, only 8 plants remained under this classification and production fell to $12,000,000.

Other Allied Chemical Industries.—Production from the inks industry increased 37 p.c. between 1939 and 1944 rising from $3,454,951 to $4,740,061 in that period. The continued post-war expansion of this industry may be seen from the fact that, by 1946, value of production had increased to $6,244,648 with printing inks totalling 15,891,841 lb. valued at $5,221,622; writing inks at 949,260 lb. were valued at $310,230. Printers' rollers and certain secondary products, such as mucilage and paste, made up the remainder of the output from the 30 establishments in this group. Imports of printing inks amounted to 692,844 lb. at $363,085; writing inks to $40,360.

The adhesives industry with 22 operating plants showed production in 1946 at $6,784,313 or 21 p.c. above the $5,626,892 reported by the 24 plants operating in 1944 and 221 p.c. above the $2,110,806 reported in 1939. Output of bone and hide glue amounted to 5,224,629 lb. valued at $1,081,705. Vegetable glues, synthetic resin glues and linoleum cement were the other principal products.

Polishes and prepared waxes were made in greater volume in 1946, the value for the industry at $9,558,330 being 30 p.c. greater than in 1944 which, in turn, was 113 p.c. above the 1939 total of $3,461,556.

In the miscellaneous industry, excluding explosives and ammunition, there were 254 establishments making such items as insecticides, plastics, sulphonated oils, matches, etc. Output from these products in 1946, amounted to $47,665,000 compared with $40,569,000 in 1944 and $12,402,000 in 1939.

The Chemical Process Industries

The chemical process industries include those industries which, because of the nature of their products, are classified by the Bureau of Statistics with industrial groups other than the chemical industry. However, chemical processes enter into the manufacture of these products to such an extent that they may be considered as playing a major part in chemical production. These chemical process industries include some of the most important industries in the country. The manufacture of pulp and paper, rubber and rubber goods, glass, artificial abrasives, non-ferrous metal smelting and refining, breweries and distilleries, sugar refineries, leather tanneries, coke and gas plants and petroleum refineries are in this group. Output from these industries in 1946 exceeded $1,600,000,000 in value, and employment was provided for 125,000 workers.

In 1946, the production of newsprint at 4,162,158 tons compared with 3,039,783 tons in 1944 and 2,926,597 tons in 1939 was 42 p.c. above the production in 1939; coke output at 3,363,109 tons was 20 p.c. below the 4,193,424 tons produced in 1944 but nearly 40 p.c. above the 2,410,095 tons produced in 1939. Gasoline sales at 1,144,000,000 gal. exceeded the billion-gallon mark for the first time. Production of refined copper at 167,221 tons was down 33 p.c. from the 250,214 tons reported in 1944 but refined lead at 165,745 tons was up 17 p.c. over the 1944 total of 143,757 tons and refined zinc at 185,683 tons was greater by 9 p.c. than the 1944 total of 169,684 tons. Aluminum ingots production suffered the greatest decline of the metals under review, production having dropped from 460,686 tons in 1944 to 194,117 tons in 1946. Crude artificial abrasives amounting to 169,176 tons showed a decline of about 20 p.c.

Including the process industries and the chemicals and allied products industries, the gross production of these industries in 1946 totalled $2,050,000,000 compared with $2,300,000,000 in 1943, the record year, and $998,500,000 in 1939.

It appears that the chemical industries have emerged from the Second World War in a slightly better position than industry as a whole. The official index of the physical volume of business for all manufactures in Canada, as compiled by the Dominion Bureau of Statistics, averaged 188·4 in 1946, calculated on a base of 1935-39 equal to 100. This indicates a gain of 88 p.c. for industry in general compared with 100 p.c. for the chemical group.

In addition to the industries mentioned above, there are a number of related sub-groups which utilize chemical engineering principles or operate under chemical control. These are as follows:—

Artificial Abrasives.—The manufacture of artificial abrasives in Canada began about fifty years ago. The discovery of silicon carbide is generally credited to Dr. A. E. Acheson, who built the first commercial plant at Niagara Falls, New York, U.S.A., in 1895 and a little later erected a subsidiary works at Niagara Falls, Ont. Fused alumina was first produced commercially as an abrasive in 1901 by the Norton Company in Niagara Falls, New York, U.S.A.

Most of the North American output of crude artificial abrasives comes from Canadian plants, and most of this production is shipped to parent companies in the United States for crushing, cleaning and grading. Five concerns in Canada now operate 6 large works for the manufacture of these products, as follows: Simonds Canada Abrasive Company, Limited, Arvida, Que.; Canadian Carborundum Company, Limited, Shawinigan Falls, Que., and Niagara Falls, Ont.; Exolon Company, Thorold, Ont.; Lionite Abrasives, Limited, Niagara Falls, Ont.; Norton Company, Chippawa, Ont.

Output in 1946 included 49,953 tons of silicon carbide, 119,223 tons of fused alumina, and other products, such as boron carbide, calcium boride, fused magnesia, etc.

Glass.—Four companies now operate 7 glass factories across Canada. Bottles, jars, etc., are made by the Consumers Glass Company, Limited, Montreal, Que.; and by the Dominion Glass Company, Limited, with works at Montreal; Hamilton, Ont.; Wallaceburg, Ont.; and Redcliff, Alta. Pyrex brand ovenware is made by Corning Glass Works of Canada, Limited, at Leaside, Ont. Window glass is made by the Industrial Glass Works Company, Limited, at Montreal. This latter works, which is the only one of its kind in Canada, came into production in May, 1941, was destroyed by fire in June, 1944, but resumed operations in the autumn of 1946.

Output of pressed, blown and drawn glass of all kinds was valued at $17,500,000 in 1946. Imports of window glass in that year totalled 43,700,000 square feet valued at $2,700,000.

In 1946 about 5,921 persons were employed by the Canadian glass industry.

Pulp and Paper.—Paper manufacturing began in Canada early in the last century. The first mill in Lower Canada was established at St. Andrews, Que., near Lachute, in 1803, and the second in the county of Portneuf, Que., in 1810. The Maritime Provinces entered the industry in 1819 with a mill built a little distance from Bedford Basin, near Halifax, N.S. The first mill in Upper Canada was located at Crooks Hollow (now Greensville), Ont., near Hamilton, but the date is uncertain, being set by some at 1813 and by others at 1820 and 1825.

Until Confederation, the industry was confined to the manufacture of paper from rags, but in 1866 Alexander Buntin began to make wood-pulp at Valleyfield, Que., in what is claimed to have been the first wood grinder in America. In 1887, Charles Riordon installed Canada's first sulphite mill at Merritton, Ont., and in 1907 the Brompton Pulp and Paper Company, Limited, built at East Angus, Que., the first mill in North America to produce chemical pulp by the kraft or sulphate process.

In 1881, the output of the industry was worth about $2,500,000; 40 years later it was $151,000,000, and at the end of another 20 years, in 1941, it was $334,700,000. In 1946, the last year for which figures are available, the total was $527,800,000 and the 113 mills which were in operation employed 44,967 persons. Exports of newsprint alone in that year totalled 3,858,467 tons at $265,800,000.

Coke and Gas.—The present capacity of Canada's coke plants is about 4,000,000 tons per year. By-product ovens are operated by the following concerns: Dominion Steel and Coal Corporation, Limited, Sydney, N.S.; Montreal Coke & Manufacturing Company, Montreal, Que.; Algoma Steel Corporation, Limited, Sault Ste. Marie, Ont.; Hamilton By-Product Coke Ovens, Limited, Hamilton, Ont.; Steel Company of Canada, Limited, Hamilton, Ont.; Public Utilities Commission, Owen Sound, Ont.; Winnipeg Electric Company, Winnipeg, Man.; the British Columbia Electric Power and Gas Company, Limited, Vancouver, B.C., and the Crow's Nest Pass Coal Company, Limited, Michel, B.C. The latter Company also operates beehive ovens as does the International Coal and Coke Company, Limited, Coleman, Alta. Retort and water gas plants are operated in 17 different cities or towns.

Production from the coke and gas industry (30 plants employing 4,961 workers) was valued at $63,000,000 in 1946. Coke production totalled 3,451,000 tons.

Sugar, Starch and Glucose.—The refining of sugar is one of Canada's oldest industries, the Census of 1870 showing 4 establishments in this industry with 360 employees and output worth $4,000,000. In 1946 there were 11 refineries with 2,600 employees and production at $61,000,000. The following concerns have cane sugar refineries: Acadia Sugar Refining Company, Limited, Dartmouth, N.S.; Atlantic Sugar Refineries, Limited, Saint John, N.B.; Canada and Dominion Sugar Company, Limited, at Montreal, Que., and Chatham, Ont.; St. Lawrence Sugar Refineries, Limited, Montreal, Que., and the British Columbia Sugar Refining Company, Limited, Vancouver, B.C. Beet sugar plants are operated by the Quebec Sugar Refinery, St. Hilaire, Que.; Canada and Dominion Sugar Company, Limited, Wallaceburg, Ont.; the Manitoba Sugar Company, Limited, Winnipeg, Man., and the Canadian Sugar Factories, Limited, at Raymond and Picture Butte in Alberta. Output in 1946 included 377,000 tons of refined cane sugar and 103,000 tons of refined beet sugar.

At present there are only two concerns in Canada making corn starch, the Canada Starch Company, Limited, Cardinal, Ont., and the St. Lawrence Starch Company, Limited, Port Credit, Ont. Glucose, corn syrup, corn oil, dextrines, and related items are also made in these works.

Potato starch is made in Prince Edward Island and New Brunswick, there being 2 operating plants in each province in 1946. Three plants in British Columbia made glucose from potatoes.

Petroleum Refining.—The early 1860's were years of great activity in the western Ontario oil fields. Canada's first real oil well had been drilled in 1862 by James Shaw, a photographer, and there soon followed a number of good strikes including one famous gusher of 7,000 bbl. daily. Prices were high and the industry thrived, but the prosperity was shortlived. Soon discoveries in Pennsylvania, U.S.A., forced prices down and cut off markets. The Canadian industry was paralyzed and many of the refiners that had set up plants in and about the oil fields were ruined. A few struggled on, operating intermittently, and in 1880, seven of them in the London and Petrolia districts consolidated their assets and equipment to form the Imperial Oil Company, Limited. This was the beginning of the present Imperial Oil Company, Limited, which is now one of the principal operators, with refineries at Halifax, Montreal, Sarnia, Regina, Ioco and Norman Wells. Other

major refining companies in the industry include the British American Oil Company, Limited, at Toronto, Clarkson, Moose Jaw and Calgary; McColl-Frontenac Oil Company, Limited, at Montreal and Toronto; the Canadian Oil Companies, Limited, at Petrolia; the Good Rich Refining Company, Limited, at Port Credit; the Shell Oil Company of Canada, Limited, at Montreal; the Standard Oil Company of British Columbia, Limited, at Burnaby, and the Shell Oil Company of British Columbia, Limited, at Vancouver. A dozen or so smaller refineries, mostly in the Western Provinces, complete the list.

The Census of 1901 records 14 oil refineries in operation and production at $3,500,000. In 1946 there were 30 refineries with 7,048 employees and production at $222,000,000. Total refinery capacity in 1946 totalled 246,000 bbl. of crude oil per day.

Pig Iron, Steel and Ferro-Alloys.—The iron and steel industry in Canada dates back more than two centuries to the establishment in 1736 of the first iron works, "Les Forges de St. Maurice", on the banks of the St. Maurice River in Quebec. This works was in continuous production until 1883 when it was abandoned. In 1787, steps were taken to develop the iron industry in Nova Scotia and there were iron furnace ventures in Ontario as early as 1800.

In 1946, Canada produced 1,406,000 net tons of pig iron and 2,327,000 net tons of steel ingots and castings. The three major corporations that constitute the core of the industry in Canada are self-contained in that they process iron and steel from the ore through to the semi-finished and finished articles. The activities of the Steel Company of Canada, Limited, cover a wide range of products. The main plant at Hamilton, Ont., has 3 blast furnaces, 13 open-hearths, 1 electric furnace and rolling mills for making billets, bars, wire rods, sheets, plates, strip and light shapes. Its capacity is about 1,100,000 net tons of ingots annually. The Algoma Steel Corporation, Limited, has 5 blast furnaces and 12 open-hearths, also rolling mills. Its capacity is about 736,000 tons of ingots, annually. The Dominion Steel and Coal Corporation operates 4 blast furnaces and 16 steel furnaces, with annual ingot capacity of 750,000 tons.

In addition to these larger concerns, there are 31 other steel makers which use electric or open-hearth furnaces to produce steel from pig iron and scrap. In all, there are 131 steel furnaces in Canada, including 49 open-hearth units, 79 electric units and 3 converters. At the beginning of the Second World War the rated capacity of steel furnaces was 2,300,000 net tons, but new installations raised this potential to 3,547,000 tons at the end of 1946, including 3,245,000 tons ingot capacity and 302,000 tons for castings. The capacity of iron blast furnaces at the end of 1946 was 2,744,000 net tons annually.

In the ferro-alloys industry, there are 3 main operators, as follows: the Electro-Metallurgical Company of Canada, Welland, Ont., makes manganese alloys, ferrosilicon and ferrochrome; the St. Lawrence Alloys and Metals, Limited, Beauharnois, Que., makes ferrosilicon, calciumsilicon, silicon metal and zirconium alloys; and the Chromium Mining and Smelting Corporation, Limited, Sault Ste. Marie, Ont., makes ferrosilicon, sil-x and chrom-x. In addition, ferrosilicon is recovered as a by-product by the makers of artificial abrasives; ferrophosphorus is made by the Electric Reduction Company of Canada, Limited, Buckingham, Que.; and spiegeleisen and silvery ferrosilicon are made by the Canadian Furnace, Limited, Port Colborne, Ont.

About 24,000 persons are employed in Canada's primary iron and steel industry.

Non-Ferrous Metal Smelting and Refining.—Amongst the countries of the world, Canada ranks first in the production of nickel and of platinum-group metals, second in gold and zinc, third in copper, and fourth in lead and silver.

The smelting and refining of non-ferrous ores is one of Canada's major industries, employing approximately 14,000 workers and distributing $30,000,000 in salaries and wages each year. At Trail, B.C., there is one of the world's largest metallurgical works operated by the Consolidated Mining and Smelting Company of Canada, Limited. It produces refined lead and zinc, cadmium, bismuth, antimony, silver bullion and tin. At Flin Flon, Man., the Hudson Bay Mining and Smelting Company of Canada, Limited, produces refined zinc, cadmium and blister copper. Nickel smelters are operated by the Falconbridge Nickel Mines, Limited, Falconbridge, Ont., and the International Nickel Company of Canada, Limited, at Copper Cliff, Ont.; the former Company exports matte to Norway for refining, but the latter has a copper refinery at Coniston, Ont., and a nickel refinery at Port Colborne, Ont., and in addition to refined nickel and copper it recovers selenium, tellurium, platinum-bearing residues, nickel oxide, nickel salts, and gold and silver bullion. The Noranda Mines, Limited, Noranda, Que., treats the copper-bearing ores from northwestern Quebec; the Deloro Smelting and Refining Company, Limited, Deloro, Ont., produces cobalt metal and cobalt alloys; the Dominion Magnesium, Limited, Haley, Ont., makes magnesium metal and calcium metal; and the Canadian Copper Refiners, Limited, Montreal East, Que., recovers refined copper, selenium, tellurium, silver, gold and copper sulphate.

At Arvida, Que., the Aluminum Company of Canada, Limited, has one of the world's largest aluminum reduction works, and it also has units at Shawinigan Falls, Que. Radium salts and uranium salts are produced by the Eldorado Mining and Refining Company, Limited, Port Hope, Ont.

Distilleries and Breweries.—In 1946, there were 18 establishments engaged in the production of distilled liquors in Canada, 7 being in Quebec, 9 in Ontario and 2 in British Columbia. About 4,000 workers were employed in these plants and output was valued at $67,000,000.

The exigencies of war had a profound effect on the distilling industry as practically all facilities were converted to the manufacture of industrial alcohol for use in the synthetic rubber and explosives programs. The output of ethyl alcohol jumped from 5,000,000 gal. of proof spirits in 1939 to 26,700,000 gal. in 1944 but dropped to 8,900,000 gal. in 1946.

In the brewing industry there were 61 establishments in operation in 1946 with 8,600 employees and production valued at $109,000,000.

Rayon, Nylon and Synthetic Rubber.—Rayon yarn is made in Canada by Cortaulds (Canada), Limited, Cornwall, Ont., and both yarn and fabrics of artificial silk are produced by Canadian Celanese, Limited, at Drummondville, Que. Canadian Industries, Limited, Kingston, Ont., is the only maker of nylon yarns. Wood pulp and cotton pulp are the main raw materials of the first-mentioned concerns; imported nylon flake is used by the latter company.

The Polymer Corporation, Limited, Sarnia, Ont., turns out approximately 10,000,000 lb. of buna-S and butyl rubber each month. This plant, which employs about 1,800 people, is unique in that it not only makes both types of synthetic rubber but it also makes the principal components—butadiene and styrene for making buna-S, and isobutylene for making butyl rubber. It is located near the

Sarnia refinery of Imperial Oil, Limited, from which it draws its basic supply of petroleum gases. During the Second World War it also supplied large quantities of ethylbenzene and cumene for use in high octane gasolines. With its tremendous facilities it is a potential source of chemicals for Canadian industries, and, in fact, is now providing the styrene monomer for two large plants which have recently come into production on polystyrene plastics.

PRINCIPAL STATISTICS FOR THE MANUFACTURE OF CHEMICALS AND ALLIED PRODUCTS IN CANADA, BY INDUSTRIES, AND TOTALS FOR THE CHEMICAL PROCESS INDUSTRIES 1939, 1944 AND 1946

Industry and Year	Establishments	Average Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Selling Value of Products
	No.	No.	$	$	$	$
HEAVY CHEMICALS 1939	25	3,128	5,032,898	2,548,217	6,021,716	23,056,606
1944	37	7,964	15,752,782	8,980,955	29,540,390	81,323,151
1946	29	5,338	11,158,999	6,431,503	14,650,883	47,301,400
ALLIED PRODUCTS—						
Coal tar distillation 1939	11	302	393,522	163,950	2,108,544	3,648,080
1944	10	378	732,528	336,971	3,324,047	5,697,144
1946	11	410	740,619	341,482	3,116,167	5,509,727
Compressed gases 1939	31	672	1,037,718	156,372	501,108	4,009,829
1944	40	1,025	1,854,511	350,668	1,193,038	8,933,207
1946	42	1,064	1,961,493	314,524	1,258,423	8,308,028
Fertilizers 1939	27	1,211	1,819,612	706,003	8,140,498	13,165,164
1944	26	2,226	4,610,420	1,162,992	17,690,683	31,188,945
1946	29	2,805	5,929,796	3,232,099	22,865,328	49,992,443
Medicinals and pharmaceuticals 1939	174	4,388	5,906,891	199,899	9,804,525	27,184,262
1944	202	7,600	11,768,012	369,542	22,535,718	55,639,581
1946	201	7,670	12,832,173	440,585	23,163,222	67,049,834
Paints, pigments and varnishes 1939	93	3,540	5,311,616	331,316	12,080,774	25,855,506
1944	97	4,821	8,662,357	521,600	24,789,289	49,107,432
1946	98	5,006	8,847,406	466,512	28,733,401	56,729,620
Soaps and washing compounds 1939	110	2,406	3,142,213	376,980	9,171,373	20,145,072
1944	138	2,996	5,354,142	604,910	17,497,145	33,120,521
1946	150	3,219	6,213,581	645,786	19,268,952	38,274,818
Toilet preparations 1939	86	1,135	1,304,574	27,221	2,792,754	6,918,573
1944	95	2,096	2,798,410	69,300	6,126,860	17,811,721
1946	91	1,995	2,729,367	53,492	7,622,735	20,117,113
Inks 1939	33	543	956,165	41,842	1,465,418	3,454,951
1944	31	616	1,303,120	46,471	2,019,380	4,740,061
1946	30	653	1,330,097	59,062	2,770,760	6,244,648
Hardwood distillation 1939	5	179	146,541	89,220	415,873	737,673
1944	5	288	418,733	245,190	915,300	1,528,022
1946	4	170	236,305	65,459	540,228	999,790
Adhesives 1939	19	427	520,662	89,573	905,411	2,110,806
1944	24	631	1,123,129	232,435	3,139,664	5,626,892
1946	22	674	1,223,032	222,384	3,749,579	6,784,313
Polishes and dressings 1939	49	468	565,319	22,174	1,580,112	3,461,556
1944	51	744	1,036,004	32,259	4,033,211	7,358,519
1946	48	726	1,096,194	39,851	5,258,115	9,558,330
Miscellaneous 1939	145	4,196	5,429,827	506,546	10,242,733	25,788,906
1944	228	50,437	82,008,829	4,942,592	227,608,024	431,494,036
1946	262	7,548	12,239,470	1,027,733	26,310,557	59,418,200
TOTALS, ALLIED PRODUCTS 1939	783	19,467	26,534,660	2,711,096	59,209,123	136,480,378
1944	947	73,858	121,670,195	8,914,930	330,872,359	652,246,081
1946	988	31,940	55,379,533	6,908,969	144,657,467	328,986,864

PRINCIPAL STATISTICS FOR THE MANUFACTURE OF CHEMICALS AND ALLIED PRODUCTS IN CANADA, BY INDUSTRIES, AND TOTALS FOR THE CHEMICAL PROCESS INDUSTRIES 1939, 1944 AND 1946—concluded.

Industry and Year	Establishments	Average Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Selling Value of Products
	No.	No.	$	$	$	$
CHEMICAL PROCESS INDUSTRIES.....1939	554	86,811	118,723,504	55,726,516	437,723,798	838,976,873
1944	517	101,352	230,556,000	105,218,000	906,146,000	1,625,069,000
1946	547	124,938	251,249,023	99,990,057	901,124,745	1,675,887,006
GRAND TOTALS, ALL CHEMICAL INDUSTRIES.....1939	**1,362**	**109,406**	**150,291,062**	**60,985,829**	**502,954,637**	**998,513,857**
1944	**1,501**	**183,174**	**367,978,977**	**123,113,885**	**1,266,558,749**	**2,358,638,232**
1946	**1,564**	**162,216**	**317,787,555**	**113,330,529**	**1,060,433,095**	**2,052,175,270**

Subsection 1.—Manufactures Grouped by Chief Component Materials

A classification based on the chief component materials in the various products of each manufacturing establishment was applied for the first time in the compilation of the manufacturers returns for 1920. The number of groups was reduced from fifteen to nine to correspond with the external trade classification and the classes of industry were somewhat altered to conform with recent industrial developments. Subsequently, a number of minor changes were made, the most important being the elimination of central electric stations and the dyeing, cleaning and laundry industry from the compilation in 1936. Revisions due to these changes have been carried back to 1917 in so far as possible.

Trends in Manufacturing Production.—Table 8 shows the effects of the depression following 1929, the recovery since 1933, and the impact of the Second World War upon the main groups of industries with regard to the numbers employed, the salaries and wages paid, and the gross value of products. Owing to the price decline during the depression, money values of both wages and products were naturally affected more than the number of employees. Furthermore, during periods of curtailed production there is a tendency for wage-earners to be put on part time, while the number of salaried employees responds less quickly to reduction in output than that of wage-earners. Therefore, there are several reasons why the variation in number of employees should be less than that of money values. The figures of Table 8 are to be compared with those of Table 6, p. 531, which shows changes in volume of production. Compared with 1939, the number of employees in 1945 increased by 70·1 p.c. as compared with an increase of 55·5 p.c. in the physical volume of production; salaries and wages paid were 150·2 p.c. higher and the gross value of production 137·4 p.c. higher. Another significant change was the increase in the proportion of women engaged in manufacturing. Whereas in 1939, there were 281 females to every 1,000 males employed, by 1944 this figure had jumped to 403 and has since declined to 277 in 1945.

8.—Percentage Variation in Employment, Salaries and Wages, and Gross Value of Products in the Main Industrial Groups, Compared for Significant Years, 1929-45

NOTE.—The highest pre-depression year was 1929, while the lowest depression year was 1933.

Industrial Group	1933 Compared with 1929			1939 Compared with 1929			1945 Compared with 1939		
	Employees	Salaries and Wages	Gross Value of Products	Employees	Salaries and Wages	Gross Value of Products	Employees	Salaries and Wages	Gross Value of Products
Vegetable products	−17·2	−28·5	−44·8	+ 9·2	+ 8·8	−15·8	+36·1	+88·0	+105·1
Animal products	−21·5	−25·2	−43·3	+ 2·5	+ 9·9	− 3·3	+41·7	+102·8	+140·7
Textile products	− 7·9	−23·3	−30·7	+16·5	+12·8	− 2·6	+30·6	+93·8	+105·7
Wood and paper products	−36·1	−46·8	−52·9	−12·0	−14·0	−20·0	+37·7	+85·2	+104·3
Iron and its products	−48·6	−64·5	−72·6	−15·2	−22·2	−30·0	+165·8	+320·0	+256·9
Non-ferrous metals	−36·6	−48·4	−41·9	+11·8	+ 9·5	+46·7	+98·3	+165·3	+87·3
Non-metallic minerals	−42·0	−50·5	−42·8	−21·3	−22·8	− 9·4	+41·3	+90·2	+94·9
Chemicals	− 7·8	−17·2	−33·0	+35·3	+39·4	+15·2	+168·7	+235·8	+200·0
Miscellaneous products	−22·6	−37·3	−52·9	+13·9	+ 4·7	−15·3	+103·2	+196·2	+255·2
Averages, All Industries	**−29·7**	**−43·9**	**−49·7**	**− 1·3**	**− 5·1**	**−10·5**	**+70·1**	**+150·2**	**+137·4**

Subsection 2.—Manufactures Classified on the Standard Classification Basis

During the war years a new Standard Classification of Manufactures was planned to meet the varying needs of different agencies and allow direct comparisons on different bases, see p. 550. The new Standard Classification then developed will, in future, replace the component material but for a limited number of years manufactures will be classified according to both systems to facilitate comparisons with earlier records. When the Standard Classification is considered to have become sufficiently established the component material classification will be discarded.

Since space is limited in the Year Book it has been decided to present the statistics in this and following editions on the new Standard Classification basis. The interested reader who, for purposes of comparison, wishes to tie in with the Component Classification of earlier Year Books, will find the data in the separate Manufactures Report which is built up round the Year Book presentation but includes many detailed statistical treatments that cannot be carried here.

9.—Principal Statistics of the Manufacturing Industries of Canada, Classified on the Standard Classification Basis, 1945

Industrial Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Value of Products	
					Net	Gross
	No.	No.	$	$	$	$
Canada	**29,050**	**1,119,372**	**1,845,773,449**	**4,473,668,847**	**3,564,315,899**	**8,250,368,866**
Food and beverages	8,872	156,396	224,908,882	1,336,820,028	558,247,045	1,921,774,601
Tobacco and tobacco products	86	12,164	15,738,041	79,176,519	42,985,992	122,543,932
Rubber products	55	23,490	39,111,477	78,500,892	98,836,225	181,413,226
Leather products	706	34,123	43,268,635	95,006,015	71,297,713	167,888,463
Textile products (except clothing)	655	65,388	87,454,497	213,589,559	163,973,427	385,741,605
Clothing (textile and fur)	2,676	99,959	131,478,496	251,899,847	222,307,384	476,754,319
Wood products	7,656	93,209	119,833,932	240,482,275	208,979,657	454,447,165
Paper products	475	60,819	109,627,174	255,265,326	241,121,150	536,859,861
Printing, publishing and allied trades	2,312	43,565	74,257,775	52,655,848	132,385,988	186,945,134
Iron and steel products	1,903	169,278	313,966,173	395,624,098	527,473,688	952,482,150
Transportation equipment	504	154,844	326,748,794	498,241,686	523,910,119	1,034,666,913
Non-ferrous metal products	436	44,221	81,889,942	337,872,041	180,653,076	548,853,026

9.—Principal Statistics of the Manufacturing Industries of Canada, Classified on the Standard Classification Basis, 1945—continued

Industrial Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Value of Products	
					Net	Gross
	No.	No.	$	$	$	$
Canada—concluded						
Electrical apparatus and supplies	247	44,129	76,468,795	92,041,030	135,919,899	230,531,874
Non-metallic mineral products	700	20,269	32,959,877	41,488,955	76,318,456	130,704,796
Products of petroleum and coal	80	11,532	22,904,418	188,899,911	65,637,131	270,166,984
Chemical products	986	61,339	107,050,824	228,855,956	252,944,165	498,630,798
Miscellaneous manufacturing industries	701	24,647	38,105,717	87,248,861	61,324,784	149,964,019
1945—Detail						
Food and Beverages	**8,872**	**156,396**	**224,908,882**	**1,336,820,028**	**558,247,045**	**1,921,774,601**
Meat Products	**234**	**23,870**	**40,963,388**	**431,276,464**	**76,412,570**	**510,759,333**
Animal oils and fats	8	130	251,782	634,279	389,670	1,100,721
Sausage and sausage casings	74	525	701,718	3,474,071	1,257,694	4,809,089
Slaughtering and meat packing	152	23,215	40,009,888	427,168,114	74,765,206	504,849,523
Dairy Products	**2,381**	**22,542**	**31,219,760**	**214,494,441**	**64,016,477**	**283,652,417**
Butter and cheese	2,241	19,435	26,864,454	171,011,216	49,110,376	224,174,572
Cheese, processed	22	989	1,237,793	14,304,881	4,869,814	19,249,001
Condensed milk	29	1,458	2,199,008	26,438,916	7,470,688	34,809,972
Other dairy products	89	660	918,505	2,739,428	2,565,599	5,418,872
Fruit, Vegetable and Fish Processing	**1,010**	**24,659**	**27,385,191**	**121,776,492**	**68,487,350**	**192,938,665**
Fish curing and canning	540	10,219	11,268,019	62,064,331	30,529,102	93,567,274
Fruit and vegetable preparations	470	14,440	16,117,172	59,712,161	37,958,248	99,371,391
Grain Mill Products	**1,269**	**11,988**	**18,567,820**	**256,367,803**	**49,001,278**	**308,237,910**
Flour and feed mills	1,023	7,511	11,322,915	192,270,945	30,014,438	224,269,380
Foods, breakfast	24	991	1,681,149	6,182,569	7,282,939	13,717,791
Feeds, stock and poultry	222	3,486	5,563,756	57,914,289	11,703,901	70,250,739
Baking Products	**2,896**	**34,779**	**45,366,145**	**77,003,596**	**83,025,701**	**164,565,523**
Biscuits and crackers	36	5,734	7,037,671	14,174,162	17,444,876	32,047,311
Bread and other bakery products	2,860	29,045	38,328,474	62,829,434	65,580,825	132,518,212
Beverages	**562**	**17,598**	**31,660,460**	**61,568,705**	**137,095,460**	**202,445,495**
Aerated and mineral waters	453	5,473	8,672,097	13,643,081	26,630,502	41,017,850
Distilleries	18	3,839	6,547,838	23,957,216	34,722,574	60,203,727
Breweries	60	7,593	15,323,200	20,493,465	71,952,408	93,872,904
Wine	31	693	1,117,325	3,474,943	3,789,976	7,351,014
Miscellaneous Foods	**520**	**20,960**	**29,746,118**	**174,332,527**	**80,208,209**	**259,175,258**
Confectionery, cocoa, etc.	195	8,218	10,390,906	27,541,829	24,328,611	52,579,772
Sugar refineries	11	2,713	4,860,264	46,518,380	13,831,651	61,821,443
Malt mills	11	491	971,202	8,595,997	4,225,405	13,384,354
Macaroni, vermicelli, etc.	16	652	824,148	2,039,231	1,661,667	3,802,531
Starch and glucose	9	982	1,570,733	6,792,439	2,878,392	10,188,553
Miscellaneous food industries	267	7,106	9,652,137	79,653,383	29,682,189	109,931,480
Salt	9	724	1,329,384	953,054	3,241,456	4,864,697
All other industries	2	74	147,344	2,238,214	358,838	2,602,428
Tobacco and Tobacco Products	**86**	**12,164**	**15,738,041**	**79,176,519**	**42,985,992**	**122,543,932**
Tobacco, cigars and cigarettes	72	10,619	13,844,074	43,839,561	37,981,339	82,111,234
Tobacco processing	14	1,545	1,893,967	35,336,958	5,004,653	40,432,698
Rubber Products	**55**	**23,490**	**39,111,477**	**78,500,892**	**98,836,225**	**181,413,226**
Rubber goods, including footwear	55	23,490	39,111,477	78,500,892	98,836,225	181,413,226
Leather Products	**706**	**34,123**	**43,268,635**	**95,006,015**	**71,297,713**	**167,888,463**
Boots and shoes, leather	263	20,096	24,668,874	45,685,629	38,419,106	84,523,621
Boot and shoe findings	20	701	965,139	1,468,590	1,517,229	3,091,233
Gloves and mittens, leather	77	2,937	2,938,678	5,213,227	4,661,337	9,915,228
Belting, leather	17	253	407,612	1,004,054	596,928	1,616,288
Leather tanneries	74	4,834	7,979,353	30,351,717	16,100,820	47,339,321
Miscellaneous leather goods	255	5,302	6,308,979	11,282,798	10,002,293	21,402,772

9.—Principal Statistics of the Manufacturing Industries of Canada, Classified on the Standard Classification Basis, 1945—continued

Industrial Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Value of Products	
					Net	Gross
	No.	No.	$	$	$	$
Textile Products (except Clothing)	**655**	**65,388**	**87,454,497**	**213,589,559**	**163,973,427**	**385,741,605**
Cotton Goods	**175**	**25,543**	**32,849,518**	**81,780,003**	**54,393,840**	**139,430,423**
Cotton thread	7	903	1,103,985	3,363,305	2,136,826	5,579,538
Cotton yarn and cloth	41	21,646	28,020,333	66,528,980	45,126,175	114,682,802
Cotton batting and wadding	6	359	604,894	1,626,175	1,269,989	2,947,294
Cotton and wool waste	26	428	646,555	3,780,034	1,367,405	5,205,421
Cotton goods, n.e.s.	95	2,207	2,473,751	6,481,509	4,493,445	11,015,368
Woollen Goods	**181**	**15,575**	**20,809,245**	**54,811,039**	**39,008,831**	**95,560,886**
Woollen cloth	85	8,876	11,809,767	29,073,496	21,947,279	52,030,372
Woollen yarn	44	3,511	4,087,141	13,566,420	7,442,820	21,361,512
Woollen goods, n.e.s.	35	2,097	3,255,031	9,770,893	6,916,410	16,961,276
Carpets, mats and rugs	17	1,091	1,657,306	2,400,230	2,702,322	5,207,726
Silk and Artificial Silk	**33**	**11,950**	**16,187,441**	**20,198,948**	**33,093,161**	**55,118,613**
Other Primary Textiles	**80**	**4,315**	**5,982,653**	**7,188,193**	**11,942,400**	**19,792,855**
Dyeing and finishing of textiles	40	1,922	2,923,684	1,581,984	6,196,990	8,331,308
Narrow fabrics	40	2,393	3,058,969	5,606,209	5,745,410	11,461,547
Miscellaneous Textile Products	**186**	**8,005**	**11,625,640**	**49,611,376**	**25,535,195**	**75,838,828**
Awnings, tents and sails	82	1,666	2,102,477	5,354,445	3,328,102	8,730,070
Cordage, rope and twine	10	1,678	2,477,765	8,814,693	5,440,375	14,419,946
Cotton and jute bags	32	1,486	1,854,707	22,279,949	4,767,112	27,114,576
Flax products	42	716	757,002	–	1,966,446	2,036,425
Miscellaneous textiles, n.e.s.	18	2,345	4,320,454	12,725,869	9,750,001	22,812,795
All other industries	2	114	113,235	436,420	283,159	725,016
Clothing (Textile and Fur)	**2,676**	**99,959**	**131,478,496**	**251,899,847**	**222,307,384**	**476,754,319**
Men's, Women's, Children's Clothing	**1,642**	**60,128**	**81,952,065**	**157,239,262**	**137,767,794**	**295,877,130**
Clothing, men's, factory	453	27,423	36,933,900	78,554,206	60,928,679	139,920,218
Clothing, women's, factory	989	27,975	39,485,827	78,385,452	70,099,770	148,827,882
Clothing, contractors, men's	128	3,470	4,021,615	235,835	4,741,420	5,050,732
Clothing, contractors, women's	72	1,260	1,510,723	63,769	1,997,925	2,078,298
Knitted Goods	**216**	**23,654**	**26,640,343**	**40,423,407**	**46,368,918**	**88,035,902**
Hosiery and knitted goods	216	23,654	26,640,343	40,423,407	46,368,918	88,035,002
Miscellaneous Clothing	**818**	**16,177**	**22,886,088**	**54,237,178**	**38,170,672**	**92,842,187**
Corsets	33	2,527	2,786,015	3,475,601	5,708,054	9,214,536
Fur goods	571	5,782	9,188,972	35,488,515	15,417,611	51,032,829
Fur dressing and dyeing	20	1,417	2,114,550	792,455	2,882,495	3,740,854
Hats and caps	164	5,220	7,361,703	11,405,927	11,646,912	23,229,066
Oiled and waterproofed clothing	13	572	791,007	1,924,984	1,486,001	3,432,830
Gloves and mittens, fabric	17	659	643,841	1,149,696	1,029,599	2,192,072
Wood Products	**7,656**	**93,209**	**119,833,932**	**240,482,275**	**208,979,657**	**454,447,165**
Saw and Planing Mills	**6,253**	**61,346**	**77,679,470**	**176,020,429**	**143,927,051**	**323,103,997**
Flooring, hardwood	21	1,233	1,659,354	4,164,306	2,935,212	7,193,627
Veneer and plywood	31	4,284	6,311,203	9,663,402	13,580,395	23,558,610
Planing mills, sash and door factories	906	11,789	15,691,413	36,185,967	24,257,678	61,243,730
Sawmills	5,295	44,040	54,017,500	126,006,754	103,153,766	231,108,030
Furniture	**623**	**15,729**	**21,889,759**	**25,197,849**	**32,731,569**	**58,739,892**
Miscellaneous Wood Products	**780**	**16,134**	**20,264,703**	**39,263,997**	**32,321,037**	**72,603,276**
Boxes and baskets, wooden	189	5,661	7,368,837	13,239,354	11,793,869	25,350,013
Coffins and caskets	55	1,193	1,466,794	1,792,465	2,414,170	4,276,991

9.—Principal Statistics of the Manufacturing Industries of Canada, Classified on the Standard Classification Basis, 1945—continued

Industrial Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Value of Products	
					Net	Gross
	No.	No.	$	$	$	$
Wood Products—concluded						
Miscellaneous Wood Products—concluded						
Beekeepers' and poultrymen's supplies	13	156	153,231	246,700	376,735	636,417
Excelsior	8	142	163,312	180,899	267,775	461,300
Lasts, trees and other wooden shoe findings	18	759	860,193	872,029	1,250,324	2,151,130
Cooperage	59	899	1,186,434	2,758,776	2,110,700	4,929,983
Refrigerators other than electric	18	375	568,207	477,979	806,203	1,299,512
Woodenware	28	760	792,869	660,419	942,117	1,625,172
Wood turning	77	1,584	1,737,606	2,006,724	2,508,742	4,576,795
Misc. wood products, inc. charcoal and wood preservation	315	4,605	5,967,220	17,028,652	9,850,402	27,295,963
Paper Products	**475**	**60,819**	**109,627,174**	**255,265,326**	**241,121,150**	**536,859,861**
Boxes and bags, paper	150	10,762	13,989,364	33,854,336	26,115,449	60,455,338
Pulp and paper	109	39,996	80,462,644	179,369,499	180,401,885	398,804,515
Roofing paper, wallboard, etc.	21	1,701	2,775,712	8,398,326	7,591,899	16,344,489
Miscellaneous paper products, incl. wall paper	195	8,360	12,399,454	33,643,165	27,011,917	61,255,519
Printing, Publishing and Allied Trades	**2,312**	**43,565**	**74,257,775**	**52,655,848**	**132,385,988**	**186,945,134**
Printing and bookbinding	1,331	16,847	25,279,944	23,702,464	39,520,894	63,881,768
Blue printing	24	191	264,178	200,737	528,145	740,879
Trade composition	38	448	879,376	145,510	1,354,896	1,520,649
Printing and publishing	769	19,498	35,027,002	19,151,982	69,949,912	90,054,024
Engraving, stereotyping and electrotyping	107	3,374	7,143,033	2,518,020	11,313,443	13,975,827
Lithographing	43	3,207	5,664,242	6,937,135	9,718,698	16,771,987
Iron and Steel Products	**1,903**	**169,278**	**313,966,173**	**395,624,098**	**527,473,688**	**952,482,150**
Agricultural implements	41	13,554	24,409,526	26,414,939	30,127,717	57,621,390
Boilers and plate work	37	4,670	9,685,220	8,958,003	14,418,223	23,883,210
Bridge and other structural shapes	23	7,057	15,087,130	18,908,255	26,720,859	46,435,278
Hardware, tools and cutlery	244	14,901	26,025,726	20,238,543	47,410,504	68,945,881
Heating and cooking apparatus	73	7,025	11,751,285	10,528,997	18,848,204	29,954,426
Machinery	267	26,285	46,982,376	44,817,319	91,624,455	138,192,090
Castings, iron	205	15,726	29,316,949	29,478,446	44,687,679	76,581,974
Machine shops	479	6,740	12,549,187	6,560,145	18,615,694	25,582,177
Primary iron and steel	63	29,378	57,862,489	86,417,375	89,859,343	192,279,159
Sheet metal products	196	17,121	27,736,555	58,242,909	46,632,971	106,257,719
Wire and wire goods	89	6,158	10,791,526	13,837,950	26,234,722	41,026,403
Miscellaneous iron products	186	20,663	41,768,204	71,221,217	72,293,317	145,722,443
Transportation Equipment	**504**	**154,844**	**326,748,794**	**498,241,686**	**523,910,119**	**1,034,666,913**
Aircraft	38	37,812	84,230,503	115,093,267	161,746,606	278,652,880
Bicycles	7	691	1,135,695	1,288,153	1,711,785	3,072,950
Boats and canoes	149	1,337	1,946,415	2,194,398	2,744,662	4,995,801
Automobiles	6	17,915	43,623,220	164,963,785	61,987,025	228,695,109
Automobile parts and accessories	108	17,390	33,115,867	65,897,750	58,727,677	126,562,829
Railway rolling-stock	37	30,515	61,793,939	84,264,315	92,804,283	181,249,842
Shipbuilding and repairs	89	48,118	99,470,593	60,294,253	141,646,420	204,594,323
Carriages, wagons and sleighs	61	443	514,120	546,043	825,566	1,402,759
Automobile accessories, fabric	9	623	918,442	3,699,722	1,716,095	5,440,420
Non-Ferrous, Metal Products	**436**	**44,221**	**81,889,942**	**337,872,041**	**180,653,076**	**548,853,026**
Aluminum products	32	4,677	8,142,816	12,981,173	12,948,765	26,738,152
Brass and copper products	161	13,267	25,680,949	53,655,695	49,403,675	105,150,750
Jewellery, electro-plated ware etc	158	5,514	8,108,837	16,164,076	14,837,706	31,199,217
Non-ferrous metal smelting and refining	17	16,771	33,853,120	238,940,486	89,898,878	355,676,526
White metal alloys	41	2,929	4,560,581	13,718,455	9,160,589	23,222,129
Miscellaneous non-ferrous metal products	27	1,063	1,543,639	2,412,156	4,403,463	6,866,252
Electrical Apparatus and Supplies	**247**	**44,129**	**76,468,795**	**92,041,030**	**135,919,899**	**230,531,874**

9.—Principal Statistics of the Manufacturing Industries of Canada, Classified on the Standard Classification Basis, 1945—concluded

Industrial Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Value of Products	
					Net	Gross
	No.	No.	$	$	$	$
Non-Metallic Mineral Prod's.	**700**	**20,269**	**32,959,877**	**41,488,955**	**76,318,456**	**130,704,796**
Abrasive products	15	2,353	4,771,226	8,223,797	15,079,484	25,492,686
Asbestos products	13	912	1,422,077	2,812,091	2,648,565	5,677,291
Cement	8	1,317	2,398,117	2,794,676	9,416,426	15,422,031
Cement products	171	1,533	2,227,583	3,919,467	4,731,571	8,968,083
Clay products:						
Clay products, domestic	106	2,688	3,828,206	194,257	6,938,409	8,913,092
Clay products, imported	28	1,427	2,064,645	1,167,283	3,814,872	5,327,282
Sand, lime, brick	4	78	125,321	84,639	195,398	308,652
Glass products	103	5,830	9,043,864	10,467,286	15,947,871	28,281,397
Gypsum products	9	603	937,369	2,843,004	2,583,196	5,716,114
Lime	44	856	1,473,829	424,412	4,663,859	6,732,348
Stone, monumental and ornamental	144	1,055	1,665,593	1,706,599	3,295,818	5,199,120
Misc. non-metallic mineral products	55	1,617	3,002,047	6,851,444	7,002,987	14,666,700
Products of Petroleum and Coal	**80**	**11,532**	**22,904,418**	**188,899,911**	**65,637,131**	**270,166,984**
Coke and gas products	34	4,757	9,013,108	37,746,482	24,213,270	68,483,305
Petroleum products	46	6,775	13,891,310	151,153,429	41,423,861	201,683,679
Chemical Products	**986**	**61,339**	**107,050,824**	**228,855,956**	**252,944,165**	**498,630,798**
Acids, alkalies and salts	35	7,022	14,527,508	22,351,361	36,517,138	67,467,062
Fertilizers	26	2,146	4,418,916	18,708,175	14,681,500	34,505,756
Medicinal and pharmaceutical preparations	204	8,339	12,733,511	22,941,566	36,978,645	60,330,928
Paints, pigments and varnishes	90	4,979	8,947,199	24,532,362	23,438,321	48,396,502
Soaps, washing compounds, etc	134	3,210	5,873,994	18,366,330	18,158,389	37,174,244
Toilet preparations	94	2,137	2,842,440	7,053,472	11,887,050	18,992,908
Vegetable oil mills	13	616	1,032,839	16,658,320	3,242,562	20,098,109
Miscellaneous chemicals:						
Inks, printing and writing	31	641	1,341,553	2,138,428	2,852,169	5,037,168
Adhesives	20	576	1,067,337	2,662,236	2,594,042	5,422,488
Polishes and dressings	51	739	1,032,071	4,219,413	3,834,602	8,091,054
Coal tar distillation	10	381	727,102	3,356,468	1,917,916	5,616,313
Gases, compressed	41	1,097	1,933,727	1,269,309	6,812,375	8,429,524
Wood distillation	5	242	375,356	843,828	368,681	1,407,195
Miscellaneous chemicals, n.e.s	232	29,214	50,197,271	83,754,688	89,660,775	177,661,547
Miscellaneous Manufacturing Industries	**701**	**24,647**	**38,105,717**	**87,248,861**	**61,324,784**	**149,964,019**
Brooms, brushes and mops	85	2,340	3,024,400	4,418,618	5,668,839	10,188,372
Mattresses and springs	78	3,241	5,192,243	11,653,811	9,405,562	21,258,973
Musical instruments	25	836	1,142,927	816,604	1,630,497	2,520,332
Fountain pens and pencils	10	1,315	1,892,220	2,627,912	4,253,146	6,912,300
Scientific and professional equipment	49	7,226	13,964,073	52,605,810	17,404,946	70,323,034
Sporting goods	36	1,101	1,433,218	3,294,096	2,162,046	5,504,640
Toys and games	56	1,428	1,473,937	1,876,656	2,892,078	4,810,065
Typewriter supplies	8	306	568,151	1,255,348	1,085,730	2,358,608
Miscellaneous industries:—						
Statuary, art goods and novelties	89	1,031	1,154,995	1,054,240	1,824,637	2,901,849
Lamps, electric and lamp shades	28	651	768,117	1,115,817	1,355,273	2,491,819
Artificial flowers and feathers	30	689	706,074	796,486	1,293,186	2,097,865
Signs, electric, neon and other	30	605	1,095,673	499,680	1,999,872	2,574,827
Hair goods, animal and human	18	314	381,939	763,213	513,709	1,288,565
Umbrellas	6	113	143,143	239,610	288,249	528,956
Tobacco pipes	6	42	46,726	18,350	64,829	84,901
Buttons	21	944	1,348,191	1,479,301	2,214,270	3,748,687
Stamps and stencils, rubber and metal	43	528	811,011	392,142	1,278,302	1,686,874
Miscellaneous industries, n.e.s	10	364	426,382	443,210	681,908	1,138,936
Ice, artificial	56	871	1,335,515	125,792	3,190,353	3,621,664
Candles	12	252	326,739	666,462	829,190	1,517,187
Motion pictures	5	450	870,043	1,105,703	1,288,162	2,405,560
Grand Totals, All Industries	**29,050**	**1,119,372**	**1,845,773,449**	**4,473,668,847**	**3,564,315,899**	**8,250,368,866**

Subsection 3.—Manufactures Classified by the Purpose of the Products

Significant changes have occurred since 1922 in the importance of the various groups shown in the purpose classification. On the basis of percentage to gross value of production, the most striking change is in the food group which showed a substantial decline from 28·2 p.c. of the total in 1922 to 22·6 p.c. in 1939 and 20·8 p.c. in 1945. The producer materials group, which took the lead from the food group in 1923, showed a steady increase up to 1939, since when it has remained at about 30 p.c. of the total. Due to the production of war equipment, vehicles and vessels increased from 7·7 p.c. in 1939 to 13·1 p.c. in 1945 and industrial equipment from 15·2 p.c. to 16·3 p.c. The other groups with the exception of "miscellaneous" showed slight declines during the war years.

10.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Purpose of the Principal Product, by Main Groups, Significant Years 1929-45 and in Detail for 1945.

Year and Purpose Heading	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	$	No.	$	$	$
1929						
Food	8,351	463,984,558	94,707	87,960,036	597,396,238	837,986,384
Drink and tobacco	599	201,365,785	18,976	21,670,376	65,440,053	208,968,998
Clothing	1,680	223,376,104	93,935	88,914,849	172,726,557	336,452,685
Personal utilities	380	56,155,234	11,148	13,595,331	29,389,246	61,191,750
House furnishings	600	76,185,921	20,857	23,248,775	34,293,465	77,811,331
Books and stationery	1,917	144,222,275	38,141	56,003,183	45,384,362	155,947,960
Vehicles and vessels	781	310,942,038	61,835	91,239,185	243,258,350	407,947,648
Producers' materials	6,227	1,776,758,115	223,071	258,255,079	524,193,104	1,154,908,260
Industrial equipment	1,576	719,112,914	99,922	131,820,142	304,581,449	614,827,756
Miscellaneous	105	32,789,065	3,939	4,584,261	13,007,989	27,403,344
Totals, 1929	**22,216**	**4,004,892,009**	**666,531**	**777,291,217**	**2,029,670,813**	**3,883,446,116**
1933						
Food	8,759	408,995,499	75,434	68,652,798	313,760,942	492,729,174
Drink and tobacco	670	185,612,678	18,289	17,626,141	40,454,300	98,409,638
Clothing	1,922	143,382,092	75,363	56,001,234	103,209,050	194,627,734
Personal utilities	601	39,681,900	8,938	8,616,372	15,323,848	35,589,961
House furnishings	654	66,047,002	15,587	12,887,200	16,022,584	38,684,649
Books and stationery	2,170	132,507,101	34,300	42,830,661	28,818,380	103,477,707
Vehicles and vessels	479	232,153,543	37,618	35,725,625	56,917,292	120,992,781
Producers' materials	6,564	1,459,569,284	139,734	126,208,238	252,383,314	573,991,467
Industrial equipment	1,819	588,147,285	60,061	64,155,426	133,382,392	277,075,032
Miscellaneous	142	23,163,454	3,334	3,544,129	7,516,826	18,497,642
Totals, 1933	**23,780**	**3,279,259,838**	**468,658**	**436,247,824**	**967,788,928**	**1,954,075,785**
1937						
Food	8,696	441,611,585	96,740	94,656,930	558,118,480	792,271,852
Drink and tobacco	668	187,487,631	21,646	24,398,981	68,935,399	152,152,105
Clothing	2,158	173,474,299	95,274	79,547,935	148,901,374	271,690,917
Personal utilities	634	43,476,516	12,420	12,729,626	28,185,411	55,289,473
House furnishings	800	89,293,123	27,446	27,169,931	41,836,387	90,102,397
Books and stationery	2,349	137,392,420	40,348	53,453,842	44,257,314	138,673,644
Vehicles and vessels	376	248,949,257	55,141	71,890,706	186,070,917	319,280,534
Producers' materials	6,892	1,482,194,043	208,930	232,733,013	634,232,482	1,221,670,588
Industrial equipment	2,086	629,908,231	97,250	119,070,287	280,546,886	551,891,976
Miscellaneous	175	31,440,726	5,256	6,075,786	15,842,137	32,436,014
Totals, 1937	**24,834**	**3,465,227,831**	**660,451**	**721,727,037**	**2,006,926,787**	**3,625,459,500**

10.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Purpose of the Principal Product, by Main Groups, Significant Years 1929-45 and in Detail for 1945—continued.

Year and Purpose Heading	Establishments	Capital[1]	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	$	No.	$	$	$
1939						
Food	8,529	451,298,489	99,983	101,904,518	526,619,353	784,072,722
Drink and tobacco	657	190,313,279	23,489	27,051,038	74,295,571	164,812,439
Clothing	2,178	187,495,826	97,220	83,762,588	146,201,614	275,567,762
Personal utilities	623	46,866,657	12,623	13,771,704	26,408,179	57,043,684
House furnishings	767	93,773,837	27,647	28,417,336	40,528,394	88,800,804
Books and stationery	2,452	143,293,147	41,804	56,466,921	47,916,777	144,288,052
Vehicles and vessels	364	269,734,181	54,673	72,238,590	141,704,269	266,089,493
Producers' materials	7,095	1,580,602,852	201,849	229,381,185	559,816,486	1,130,510,177
Industrial equipment	1,957	650,305,878	93,235	117,754,260	257,416,596	528,678,421
Miscellaneous	183	33,340,303	5,591	7,063,013	15,252,136	34,919,974
Totals, 1939	**24,805**	**3,647,024,449**	**658,114**	**737,811,153**	**1,836,159,375**	**3,474,783,528**
1944						
Food	8,435	–	136,747	183,795,031	1,271,356,037	1,702,330,839
Drink and tobacco	635	–	28,566	44,140,376	118,406,602	281,731,695
Clothing	2,713	–	117,056	146,623,855	284,018,437	529,230,834
Personal utilities	758	–	18,922	26,130,683	54,417,448	115,502,040
House furnishings	908	–	38,940	58,426,100	83,231,172	187,175,054
Books and stationery	2,468	–	47,319	76,542,070	75,882,848	219,966,613
Vehicles and vessels	413	–	222,604	454,449,952	637,341,589	1,425,858,778
Producers' materials	8,990	–	343,035	567,699,762	1,369,160,212	2,646,303,770
Industrial equipment	2,889	–	216,279	385,434,071	697,897,961	1,512,623,216
Miscellaneous	274	–	53,414	86,379,470	240,621,050	452,969,680
Totals, 1944	**28,483**	–	**1,222,882**	**2,029,621,370**	**4,832,333,356**	**9,073,692,519**

Year and Purpose Heading	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	$	$	$	$
1945						
Food	8,310	138,798	193,248,422	1,275,251,323	421,151,585	1,719,329,106
Drink and tobacco	648	29,762	47,398,501	140,745,224	180,081,452	324,989,427
Clothing	3,046	123,681	159,792,122	303,595,189	266,681,013	573,291,033
Personal utilities	780	20,998	29,266,421	61,739,904	66,176,283	129,130,335
House furnishings	1,102	41,204	61,922,834	90,428,186	102,341,665	195,859,702
Books and stationery	2,502	51,276	85,428,837	84,949,518	156,991,699	244,398,179
Vehicles and vessels	442	160,321	331,825,962	507,145,106	562,302,572	1,084,076,890
Producers' materials	8,941	320,974	529,821,323	1,258,478,355	1,046,626,043	2,428,836,658
Industrial equipment	2,996	199,851	351,884,793	653,419,689	662,460,315	1,348,434,924
Miscellaneous	283	32,507	55,184,234	97,916,353	99,503,272	202,022,612
Totals, 1945	**29,050**	**1,119,372**	**1,845,773,449**	**4,473,668,847**	**3,564,315,899**	**8,250,368,866**
1945—Detail						
Food	**8,310**	**138,798**	**193,248,422**	**1,275,251,323**	**421,151,585**	**1,719,329,106**
Breadstuffs	4,167	52,716	70,703,809	315,872,381	150,897,599	474,921,779
Fish	540	10,219	11,268,019	62,064,331	30,529,102	93,567,274
Fruit and vegetable preparations	470	14,440	16,117,172	59,712,161	37,958,248	99,371,391
Meats	226	23,740	40,711,606	430,642,185	76,022,900	509,658,612
Milk products	2,381	22,542	31,219,760	214,494,441	64,016,477	283,652,417
Oils and fats	8	130	251,782	634,279	389,670	1,100,721
Sugar	11	2,713	4,860,264	46,518,380	13,831,651	61,821,443
Miscellaneous	507	12,298	18,116,010	145,313,165	47,505,938	195,235,469
Drink and Tobacco	**648**	**29,762**	**47,398,501**	**140,745,224**	**180,081,452**	**324,989,427**
Beverages, alcoholic	78	11,432	21,871,038	44,450,681	106,674,982	154,076,631
Beverages, non-alcoholic	484	6,166	9,789,422	17,118,024	30,420,478	48,368,864
Tobacco	86	12,164	15,738,041	79,176,519	42,985,992	122,543,932

[1] Not collected in 1944.

10.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Purpose of the Principal Product, by Main Groups, Significant Years 1929-45 and in Detail for 1945—concluded.

Year and Purpose Heading	Establishments	Employees	Salaries and Wages	Cost of Materials	Net value of Products	Gross Value of Products
1945—DETAIL—concluded	No.	No.	$	$	$	$
Clothing	**3,046**	**123,681**	**159,792,122**	**303,595,189**	**266,681,013**	**573,291,033**
Boots and shoes, leather	263	20,096	24,668,874	45,685,629	38,419,106	84,523,621
Fur goods	591	7,199	11,303,522	36,280,970	18,300,106	54,773,683
Garments and personal furnishings	1,675	62,655	84,738,080	160,714,863	143,475,848	305,091,666
Gloves and mittens	94	3,596	3,582,519	6,362,923	5,690,936	12,107,306
Hats and caps	194	5,909	8,067,777	12,202,413	12,940,098	25,326,931
Knitted goods	216	23,654	26,640,343	40,423,407	46,368,918	88,035,002
Waterproofs	13	572	791,007	1,924,984	1,486,001	3,432,830
Personal Utilities	**780**	**20,998**	**29,266,421**	**61,739,904**	**66,176,283**	**129,130,335**
Jewellery and time-pieces	158	5,514	8,108,837	16,164,076	14,837,706	31,199,217
Recreational supplies	117	3,365	4,050,082	5,987,356	6,684,621	12,835,037
Personal utilities	505	12,119	17,107,502	39,588,472	44,653,956	85,096,081
House Furnishings	**1,102**	**41,204**	**61,922,834**	**90,428,186**	**102,341,665**	**195,859,702**
Books and Stationery	**2,502**	**51,276**	**85,428,837**	**84,949,518**	**156,991,699**	**244,398,179**
Vehicles and Vessels	**442**	**160,321**	**331,825,962**	**507,145,106**	**562,302,572**	**1,084,076,890**
Producers' Materials	**8,941**	**320,974**	**529,821,323**	**1,258,478,355**	**1,046,626,043**	**2,428,836,658**
Farm material	26	2,146	4,418,916	18,708,175	14,681,500	34,505,756
Manufacturers' materials	1,278	193,981	343,051,920	849,533,316	682,621,563	1,637,559,529
Building materials	7,096	100,067	148,743,969	307,456,264	288,320,204	610,178,766
General materials	541	24,780	33,606,518	82,780,600	61,002,776	146,592,607
Industrial Equipment	**2,996**	**199,851**	**351,884,793**	**653,419,689**	**662,460,315**	**1,348,434,924**
Farming equipment	54	13,710	24,562,757	26,661,639	30,504,452	58,257,807
Manufacturing equipment	285	27,044	47,842,569	45,689,348	92,874,779	140,343,220
Trading equipment	137	2,310	3,810,350	2,272,962	7,554,257	10,241,973
Service equipment	402	18,239	30,189,416	79,499,784	59,910,560	140,238,362
Light, heat and power equipment	387	60,611	109,489,179	290,969,379	216,613,196	526,306,973
General equipment	1,731	77,937	135,990,522	208,326,577	255,003,071	473,046,589
Miscellaneous	**283**	**32,507**	**55,184,234**	**97,916,353**	**99,503,272**	**202,022,612**

Table **11** has been included in order to give the amount and value of each of the principal commodities produced by the manufacturing industries of Canada. The list is not intended to be complete since a large number of commodities are produced in such small quantities that it would extend the table considerably without adding proportionately to its value to include them. The commodities listed, however, cover approximately 75 p.c. of total production.

11.—Quantities and Values of the Principal Commodities Produced by the Manufacturing Industries of Canada, Grouped by Purpose, 1945

Item	Unit of Measure	Quantity	Value
			$
Food—			
Biscuits, all kinds	ton	73,070	25,119,235
Bread, pies, cakes, etc	—	–	120,339,509
Butter, factory made	lb.	293,782,846	101,398,478
Cheese, factory made	"	229,858,912	50,147,521
Confectionery, all kinds	—	–	41,276,125
Cream, sold in dairy factories	lb.	19,889,770	14,875,221
Feed, chopped grain	—	–	49,358,018
Fish, canned and otherwise prepared	—	–	47,010,832
Flour, wheat	bbl.	25,121,418	139,830,319
Feeds, stock, poultry, etc	—	–	62,286,635
Fruits and vegetables, canned	lb.	380,520,978	29,051,209
Ice cream, factory made	gal.	14,883,268	18,480,139
Jams, jellies and marmalades	lb.	89,018,523	11,292,419
Lard	"	67,343,035	9,016,883

11.—Quantities and Values of the Principal Commodities Produced by the Manufacturing Industries of Canada, Grouped by Purpose, 1945—continued

Item	Unit of Measure	Quantity	Value
			$
Food—concluded			
Meats, cured	lb.	577,728,666	136,882,855
Meats, sold fresh	"	184,663,858	230,660,261
Milk, sold in dairy factories	gal.	123,655,938	51,100,381
Milk, evaporated and condensed	lb.	228,878,651	19,389,016
Pickles, sauces and catsup	—	-	8,836,461
Powders, edible	lb.	108,423,166	44,580,329
Sausage, fresh and cured	"	133,250,476	25,436,642
Shortening	"	111,272,102	16,401,135
Soup, canned	"	131,916,108	15,872,545
Sugar, granulated (cane and beet)	"	851,314,065	52,233,169
Tea and coffee, prepared	"	102,107,540	49,476,314
Drink and Tobacco—[1]			
Aerated waters	gal.	51,340,353	34,602,233
Beer, ale, stout and porter	"	128,909,858	157,568,242
Cigarettes	M	17,684,707	207,612,532
Cigars	"	207,861	11,715,058
Spirits, potable, sold	proof gal.	10,105,042	48,001,549
Tobacco, chewing, smoking and snuff	lb.	30,016,710	44,724,715
Tobacco, raw leaf, processed	"	100,368,445	40,432,698
Wine, sold	gal.	3,862,963	6,851,915
Clothing—			
Coats and overcoats, men's, boys' and women's	No.	2,626,488	81,322,477
Dresses, women's and misses'	"	12,004,826	47,578,418
Footwear, leather	pr.	31,761,417	76,663,640
Footwear, rubber	"	18,025,431	24,659,378
Hats and caps, men's and boys'	doz.	664,392	9,525,573
Hats, women's	"	452,585	9,243,038
Hosiery, all kinds	"	8,492,631	36,251,873
Shirts, fine and work	"	1,114,723	15,041,989
Suits, men's and boys'	No.	1,765,202	31,498,099
Suits, women's and misses'	"	467,463	7,794,274
Underwear	doz.	3,596,131	21,080,694
Uniforms, woollen	No.	1,234,503	15,569,689
Personal Utilities—			
Bags, leather	—	-	8,221,671
Jewellery	—	-	11,056,402
Pianos, organs and parts	—	-	1,088,207
Plated ware, all kinds	—	-	5,550,512
Radio sets and accessories[2]	—	-	48,004,976
Soap	lb.	274,919,143	29,551,875
Sporting goods	—	-	6,450,203
Toilet preparations and perfumes	—	-	13,962,044
Toys and games	—	-	7,452,825
House Furnishings—			
Blankets, all kinds	lb.	11,070,480	8,845,862
Brooms and brushes	—	-	9,536,722
Carpets, mats and rugs	carpet yd.	1,676,402	4,974,837
Furniture, household, incl. beds and couches	—	-	44,275,480
Heating and ventilation equipment and furnaces	—	-	8,010,878
Kitchenware	—	-	5,349,255
Mattresses	No.	1,021,106	9,562,250
Mops	—	-	967,855
Springs, bed and other furniture	—	-	3,447,676
Stoves, coal, wood, electric and gas	No.	443,484	12,456,701
Books and Stationery—			
Advertising matter, printed	—	-	14,327,566
Books and catalogues, printed	—	-	10,348,069
Circular letters, bank notes, etc., printed	—	-	9,939,656
Periodicals, printed for publishers	—	-	10,120,430
Periodicals, printed by publishers—			
Subscriptions and sales	—	-	29,296,850
Gross revenue from advertising	—	-	47,360,692
Sheet forms, commercial, printed	—	-	15,919,602
Vehicles and Vessels—			
Aircraft, including parts and repairs	—	-	307,364,895
Automobiles, commercial	—	-	166,555,213
Automobile parts and accessories	—	-	101,710,087
Cars, and locomotives, and parts	—	-	91,140,205
Ships and ship repairs	—	-	266,093,998

[1] Includes excise taxes on tobacco products and prime cost of spirits.

[2] See also Radio communication equipment under "Miscellaneous".

11.—Quantities and Values of the Principal Commodities Produced by the Manufacturing Industries of Canada, Grouped by Purpose, 1945—concluded

Item	Unit of Measure	Quantity	Value
			$
Miscellaneous—			
Abrasives, artificial	—	–	18,934,590
Bags, cotton and jute	doz.	11,827,992	25,021,742
Bags, paper	—	–	12,268,100
Bars, iron and steel, hot rolled	net ton	438,622	31,680,209
Batteries, electric, and parts	—	–	16,242,963
Blooms, billets and slabs	—	–	17,732,009
Boilers, heating and power, and parts	—	–	14,816,324
Boxes, paper and wood	—	–	66,230,517
Calcium and sodium compounds	—	–	21,264,038
Cans, tin	—	–	37,461,193
Castings, iron	ton	229,427	27,929,572
Coke	"	3,912,320	37,671,991
Cotton fabrics	yd.	336,173,307	58,911,912
Enamels, lacquers and varnishes	—	–	18,815,872
Explosives	—	–	27,758,430
Farm implements and parts	—	–	38,701,000
Ferro-alloys	—	–	15,928,052
Forgings, steel and other	—	–	25,850,765
Gas, sold	M cu. ft.	21,551,189	19,916,643
Gases, compressed and liquefied	—	–	12,932,538
Gasoline	imp. gal.	953,016,955	110,785,813
Glass, pressed and blown	—	–	18,334,002
Hardware, builders' and other	—	–	8,642,102
Leather, shoe	—	–	34,081,996
Lumber, sawn, rough and planed	—	–	181,045,952
Machinery, all kinds and parts	—	–	142,972,423
Medicines and pharmaceuticals	—	–	46,248,763
Munitions and other war supplies	—	–	302,522,324
Oil, fuel and gas	imp. gal.	887,883,571	45,426,635
Paints, mixed, ready for use	"	9,729,387	23,404,582
Paper, newsprint, wrapping and book	—	–	216,336,130
Paper boards	—	–	46,805,442
Pipes and fittings, iron and steel	—	–	25,949,509
Plates, sheets, etc., iron and steel	net ton	495,213	35,311,676
Pulp, wood, made for sale	short ton	1,657,125	115,735,408
Radio communication equipment	—	–	34,141,520
Refrigerators, electric	No.	3,459	1,018,898
Rods and bars, brass, bronze, etc.	lb.	47,750,756	7,255,273
Rods, copper wire	net ton	–	17,189,884
Rolled iron and steel forms, semi-finished	"	1,800,066	17,732,009
Sash, doors and other millwork	—	–	24,830,781
Scientific instruments	—	–	60,569,313
Silk, artificial and mixtures, continuous filament	yd.	57,055,801	27,947,212
Smelter and refinery products	—	–	355,676,526
Spun rayon and mixtures	yd.	24,836,720	10,503,365
Steel ingots and castings (sold)	net ton	148,247	28,121,723
Steel shapes erected, bridge, etc.	—	–	14,581,836
Steel shapes, structural, made	—	–	18,491,204
Tire fabrics	lb.	25,865,820	14,545,665
Tools, all kinds	—	–	22,702,486
Twine and rope	—	–	16,571,427
Wires and cables, electrical	—	–	36,681,153
Wire, wire rope and cable, steel	—	–	18,028,199
Woollen cloth, woven and other	yd.	25,914,348	43,670,728
Yarn, cotton, artificial silk, wool, etc., made for sale	lb.	81,960,232	54,356,294

Subsection 4.—Manufactures Classified by Origin of the Materials

The distinction made between farm materials of Canadian and foreign origin is based on whether the materials are indigenous to Canada rather than on their actual source. Thus, the industries included in the foreign origin classes are those depending upon materials that cannot be grown in Canada, such as tea, coffee, spices, cane sugar, rice, rubber, cotton, etc. Industries included in the Canadian origin classes may, however, be using large quantities of imported materials.

The mineral origin group includes, in addition to the non-ferrous metals, so largely produced in Canada, the manufactures of iron and steel, of petroleum, and of other mineral substances, the raw materials for which are very largely imported. Products of mineral origin, with the exception of fuels, are nearly all durable goods. A high standard of living and advanced industrial organization is usually indicated by a relatively large production and consumption of mineral products. During periods of depression when the production of capital goods is curtailed, employment in the industries of the farm group, which produce mainly consumer goods, exceeds that of the mineral group. The industries of the mineral group in 1943 had by far the greatest capital investment, employed the largest number of persons, and paid out the highest amount in salaries and wages. In 1943 the average capital per employee amounted to $5,441 for the mineral group as compared with $4,417 for the farm origin group. The mineral group also pays the highest wages. In 1945 the average salary and wage was $1,914 for the mineral group and $1,407 for the farm origin group.

12.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Origin of the Material Used, by Main Groups, Significant Years 1929-45.

Year and Origin	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	$	No.	$	$	$
1929						
Farm origin	9,041	969,384,866	181,682	188,306,755	852,606,083	1,396,769,569
Mineral origin	3,219	1,550,662,908	218,879	304,027,803	678,683,203	1,392,499,868
Forest origin	7,353	1,148,558,242	163,863	191,044,307	313,088,964	722,269,066
Marine origin	730	28,644,442	16,367	5,411,855	21,496,859	34,966,260
Wild life origin	234	14,338,686	3,767	4,783,323	12,847,817	20,861,039
Mixed origin	1,639	293,302,865	81,973	83,717,174	150,947,887	316,080,314
Grand Totals, 1929	**22,216**	**4,004,892,009**	**666,531**	**777,291,217**	**2,029,670,813**	**3,883,446,116**
Farm Origin Group—						
From field crops	5,191	697,206,163	114,236	115,201,292	496,842,580	889,075,246
From animal husbandry	3,850	272,178,703	67,446	73,105,463	355,763,503	507,694,323
Totals, Farm Origin	**9,041**	**969,384,866**	**181,682**	**188,306,755**	**852,606,083**	**1,396,769,569**
Canadian origin	8,743	708,461,549	134,680	140,340,993	682,056,026	1,106,006,184
Foreign origin	298	260,923,317	47,002	47,965,762	170,550,057	290,763,385
1933						
Farm origin	9,695	844,582,058	158,602	137,711,749	454,882,704	791,956,470
Mineral origin	3,539	1,306,641,651	130,565	138,101,092	271,434,337	601,428,003
Forest origin	7,796	882,445,602	102,807	99,046,012	133,550,374	335,886,257
Marine origin	620	15,532,775	4,064	2,287,385	10,960,289	17,380,323
Wild life origin	335	10,507,157	3,498	3,481,885	7,159,079	13,000,927
Mixed origin	1,795	219,550,595	69,122	55,619,701	89,802,145	194,423,805
Grand Totals, 1933	**23,780**	**3,279,259,838**	**468,658**	**436,247,824**	**967,788,928**	**1,954,075,785**
Farm Origin Group—						
From field crops	5,746	609,044,529	93,433	81,655,182	263,007,043	494,048,930
From animal husbandry	3,949	235,537,529	65,169	56,056,567	191,875,661	297,907,540
Totals, Farm Origin	**9,695**	**844,582,058**	**158,602**	**137,711,749**	**454,882,704**	**791,956,470**
Canadian origin	9,373	629,450,643	124,547	107,807,386	365,559,776	620,197,449
Foreign origin	322	215,131,415	34,055	29,904,363	89,322,928	171,759,021

12.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Origin of the Material Used, by Main Groups, Significant Years 1929-45—continued.

Year and Origin	Establishments	Capital[1]	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	$	No.	$	$	$
1937						
Farm origin	10,139	901,539,200	203,908	197,861,819	809,964,706	1,276,249,283
Mineral origin	3,384	1,401,562,788	216,959	280,323,383	784,742,328	1,451,202,762
Forest origin	8,392	916,530,488	144,597	161,030,221	254,863,829	589,517,795
Marine origin	597	18,130,385	5,427	3,354,771	16,318,781	26,088,625
Wild life origin	365	13,328,164	4,264	4,452,918	10,761,233	17,658,867
Mixed origin	1,957	214,136,806	85,296	74,703,925	130,275,910	264,742,168
Grand Totals, 1937	**24,834**	**3,465,227,831**	**660,451**	**721,727,037**	**2,006,926,787**	**3,625,459,500**
Farm Origin Group—						
From field crops	6,197	635,995,955	118,765	115,999,546	456,791,911	774,683,154
From animal husbandry	3,942	265,543,245	85,143	81,862,273	353,172,795	501,566,129
Totals, Farm Origin	**10,139**	**901,539,200**	**203,908**	**197,861,819**	**809,964,706**	**1,276,249,283**
Canadian origin	9,326	673,003,567	158,075	152,070,575	659,488,389	1,008,885,353
Foreign origin	813	228,535,633	45,833	45,791,244	150,476,317	267,363,930
1939						
Farm origin	10,203	952,929,892	220,210	217,724,965	778,250,125	1,289,993,021
Mineral origin	3,474	1,498,265,618	210,752	280,054,303	669,728,573	1,321,444,094
Forest origin	8,430	951,016,933	142,091	160,798,500	244,944,997	572,335,960
Marine origin	523	21,479,200	5,369	3,638,794	18,114,698	28,816,536
Wild life origin	384	14,723,743	4,604	5,396,623	11,592,066	19,961,526
Mixed origin	1,791	208,609,063	75,088	70,197,968	113,528,916	242,232,391
Grand Totals, 1939	**24,805**	**3,647,024,449**	**658,114**	**737,811,153**	**1,836,159,375**	**3,474,783,528**
Farm Origin Group—						
From field crops	6,096	649,746,486	124,708	126,311,033	410,994,461	759,964,866
From animal husbandry	4,107	303,183,406	95,502	91,413,932	367,255,664	530,028,155
Totals, Farm Origin	**10,203**	**952,929,892**	**220,210**	**217,724,965**	**778,250,125**	**1,289,993,021**
Canadian origin	9,382	699,345,423	171,460	168,260,771	630,779,223	1,011,294,132
Foreign origin	821	253,584,469	48,750	49,464,194	147,470,902	278,698,889
1944						
Farm origin	10,329	–	287,756	394,716,309	1,781,014,374	2,688,731,415
Mineral origin	4,479	–	634,542	1,208,779,764	2,258,796,792	4,708,104,244
Forest origin	10,347	–	186,680	278,171,969	495,531,476	1,082,160,284
Marine origin	535	–	9,664	10,327,695	45,906,542	68,882,879
Wild life origin	535	–	6,190	9,430,191	28,076,572	43,985,177
Mixed origin	2,258	–	98,050	128,195,442	223,007,600	481,828,520
Grand Totals, 1944	**28,483**	–	**1,222,882**	**2,029,621,370**	**4,832,333,356**	**9,073,692,519**
Farm Origin Group—						
From field crops	6,307	–	164,514	226,751,705	888,435,918	1,477,008,962
From animal husbandry	4,022	–	123,242	167,964,604	892,578,456	1,211,722,453
Totals, Farm Origin	**10,329**	–	**287,756**	**394,716,309**	**1,781,014,374**	**2,688,731,415**
Canadian origin	9,493	–	225,077	303,293,749	1,507,501,822	2,202,655,904
Foreign origin	836	–	62,679	91,422,560	273,512,552	486,075,511

[1] Not collected since 1944.

12.—Principal Statistics of the Manufacturing Industries of Canada, Classified According to the Origin of the Material Used, by Main Groups, Significant Years 1929-45—concluded.

Year and Origin	Establishments	Capital[1]	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products
	No.	$	No.	$	$	$
1945						
Farm origin	10,346	-	296,224	416,822,843	1,801,780,401	2,761,024,764
Mineral origin	4,557	-	505,627	967,665,281	1,788,760,744	3,654,473,138
Forest origin	10,546	-	195,999	299,036,383	548,625,870	1,170,674,893
Marine origin	540	-	10,219	11,268,019	62,064,331	93,567,274
Wild life origin	591	-	7,199	11,303,522	36,280,969	54,773,683
Mixed origin	2,470	-	104,104	139,677,401	236,156,532	515,855,114
Grand Totals, 1945	**29,050**	-	**1,119,372**	**1,845,773,449**	**4,473,668,847**	**8,250,368,866**
Farm origin Group—						
From field crops	6,245	-	168,907	239,224,361	926,639,188	1,556,904,150
From animal husbandry	4,101	-	127,317	177,598,482	875,141,213	1,204,120,614
Totals, Farm Origin	**10,346**	-	**296,224**	**416,822,843**	**1,801,780,401**	**2,761,024,764**
Canadian origin	9,486	-	231,708	321,688,225	1,537,044,535	2,273,013,255
Foreign origin	860	-	64,516	95,134,618	264,735,866	488,011,509

[1]Not collected since 1944.

Subsection 5.—Leading Manufacturing Industries

In the following statement, the rank of the ten leading industries in 1945, from the standpoint of gross value of production, is compared with their respective ranks in significant years since 1922.

THE TEN LEADING INDUSTRIES, 1945, COMPARED AS TO RANK, SIGNIFICANT YEARS 1922-45

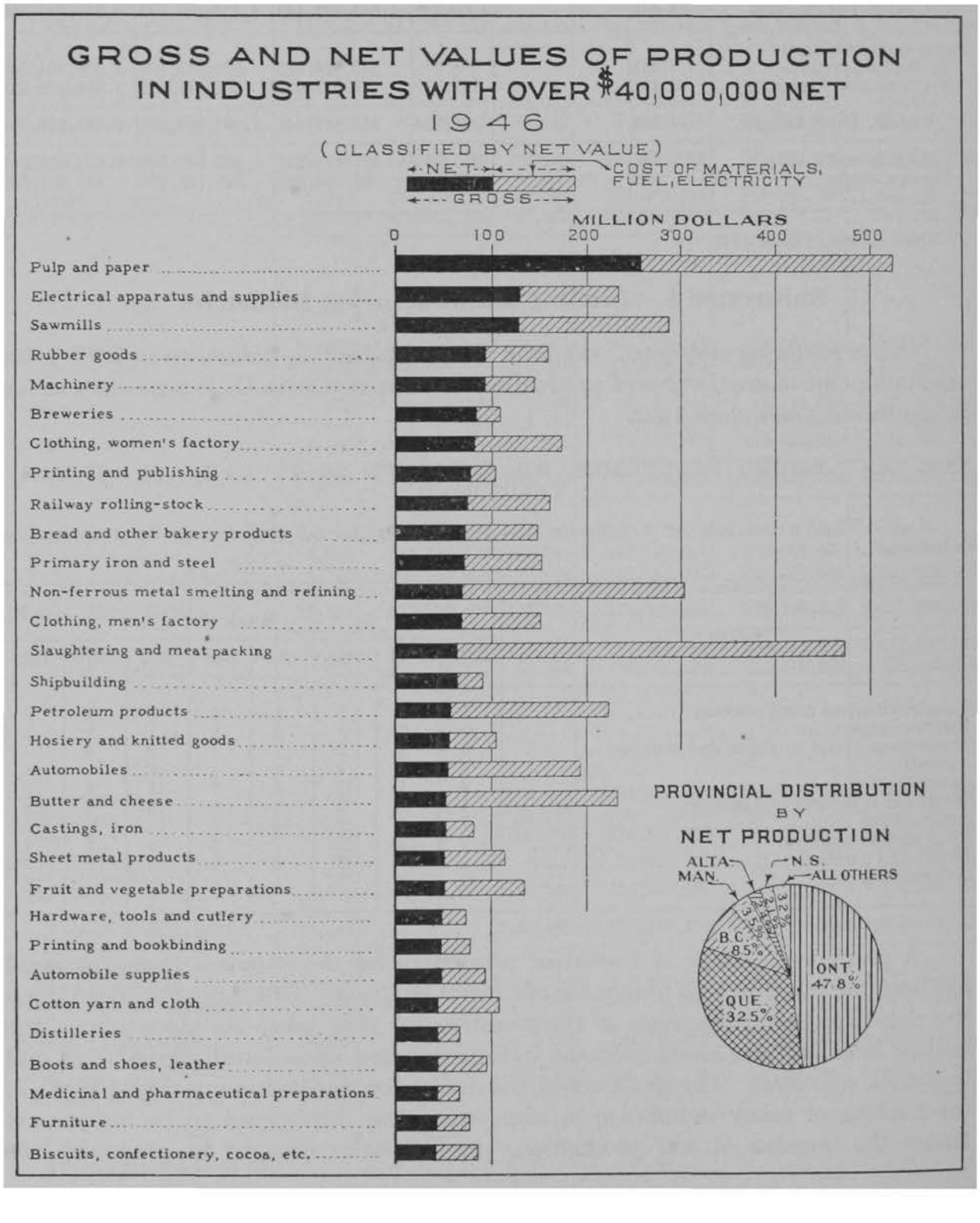
NOTE.—Where a dash is given it indicates that the industry did not rank among the forty leading industries.

Industry	Rank in							
	1945	1944	1943	1939	1937	1933	1929	1923
Slaughtering and meat packing	1	1	3	3	3	3	2	3
Pulp and paper	2	5	7	2	2	1	1	2
Non-ferrous metal smelting and refining	3	2	1	1	1	2	9	-
Aircraft	4	4	8	-	-	-	-	-
Sawmills	5	11	13	8	7	14	5	4
Electrical apparatus and supplies	6	8	9	9	8	16	8	17
Automobiles	7	7	6	5	4	11	4	6
Flour and feed mills	8	12	12	7	5	4	3	1
Butter and cheese	9	10	11	4	6	5	6	5
Shipbuilding	10	6	4	-	-	-	-	-

A prominent feature of Canadian manufacturing development in recent years has been the rapid growth of non-ferrous metal smelting. This industry, based upon the rich base metal resources of the country, has now taken its place among the leading manufactures along with the industries based upon forest, agricultural and live-stock resources. The incidence of the depression resulted in a rearrangement in the ranking of many industries; in some cases this has proved to be temporary. Under the impetus of war production, the industries engaged in producing the

equipment needed by the Armed Forces, such as shipbuilding, aircraft, automobiles, miscellaneous chemical products, and primary iron and steel, advanced to higher positions. With the decline in the production of war equipment during 1945, the food industries, by reason of the continuing demand for their products bettered

The solid portions of the bars according to which the industries below are arranged show the values added by them, respectively, to the raw materials they purchase to work on. This value, actually added by the industry, is the criterion by which its importance can best be measured. To take a few examples, i.e., judging on gross value of production (shaded plus solid portion), slaughtering and meat packing, non-ferrous metal smelting and refining, or the automobile manufacturing industry would rank higher than many industries whose individual contributions to the manufacturing process are substantially greater.



their position. Slaughtering and meat packing maintained its premier position while flour and feed mills advanced from twelfth to eighth place and butter and cheese from tenth to ninth place. Shipbuilding dropped from sixth to tenth place and non-ferrous metal smelting and refining from second to third place.

13.—Principal Statistics of the Forty Leading Industries of Canada, Ranked According to Gross Value of Products, 1945

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials	Value of Products	
						Net	Gross
		No.	No.	$	$	$	$
1	Slaughtering and meat packing	152	23,215	40,009,888	427,168,114	74,765,206	504,849,523
2	Pulp and paper	109	39,996	80,462,644	179,369,499	180,401,885	398,804,515
3	Non-ferrous smelting and refining	17	16,771	33,853,120	238,940,486	89,898,878	355,676,526
4	Aircraft	38	37,812	84,230,503	115,093,267	161,746,606	278,652,880
5	Sawmills	5,295	44,040	54,017,500	126,006,754	103,153,766	231,108,030
6	Electrical apparatus and supplies	247	44,129	76,468,795	92,041,030	135,919,899	230,531,874
7	Automobiles	6	17,915	43,623,220	164,963,785	61,987,025	228,695,109
8	Flour and feed mills	1,023	7,511	11,322,915	192,270,945	30,014,438	224,269,380
9	Butter and cheese	2,241	19,435	26,864,454	171,011,216	49,110,376	224,174,572
10	Shipbuilding	89	48,118	99,470,593	60,294,253	141,646,420	204,594,323
11	Petroleum	46	6,775	13,891,310	151,153,429	41,423,861	201,683,679
12	Primary iron and steel	63	29,378	57,862,489	86,417,375	89,859,343	192,279,159
13	Rubber goods	55	23,490	39,111,477	78,500,892	98,836,225	181,413,226
14	Railway rolling-stock	37	30,515	61,793,939	84,264,315	92,804,283	181,249,842
15	Miscellaneous chemical products	232	29,214	50,197,271	83,754,688	89,660,775	177,661,547
16	Clothing, women's factory	989	27,975	39,485,827	78,385,452	70,099,770	148,827,882
17	Iron and steel products, misc.	186	20,663	41,768,204	71,221,217	72,293,317	145,722,443
18	Clothing, men's factory	453	27,423	36,933,900	78,554,206	60,928,679	139,920,218
19	Machinery	267	26,285	46,982,376	44,817,319	91,624,455	138,192,090
20	Bread and other bakery products	2,860	29,045	38,328,474	62,829,434	65,580,825	132,518,212
21	Automobile supplies	108	17,390	33,115,867	65,897,750	58,727,677	126,562,829
22	Cotton yarn and cloth	41	21,646	28,020,333	66,528,980	45,126,175	114,682,802
23	Miscellaneous foods	267	7,106	9,652,137	79,653,383	29,682,189	109,931,480
24	Sheet metal products	196	17,121	27,736,555	58,242,909	46,632,971	106,257,719
25	Brass and copper products	161	13,267	25,680,949	53,655,695	49,403,675	105,150,750
26	Fruit and vegetable preparations	470	14,440	16,117,172	59,712,161	37,958,248	99,371,391
27	Breweries	60	7,593	15,323,200	20,493,465	71,952,408	93,872,904
28	Fish curing and packing	540	10,219	11,268,019	62,064,331	30,529,102	93,567,274
29	Printing and publishing	769	19,498	35,027,002	19,151,982	69,949,912	90,054,024
30	Hosiery and knitted goods	216	23,654	26,640,343	40,423,407	46,368,918	88,035,002
31	Biscuits, confectionery, cocoa, etc.	231	13,952	17,428,577	41,715,991	41,773,487	84,627,083
32	Boots and shoes, leather	263	20,096	24,668,874	45,685,629	38,419,106	84,523,621
33	Tobacco, cigars and cigarettes	72	10,619	13,844,074	43,839,561	37,981,339	82,111,234
34	Castings, iron	205	15,726	29,316,949	29,478,446	44,687,679	76,581,974
35	Scientific and professional equipment	49	7,226	13,964,073	52,605,810	17,404,946	70,323,034
36	Feeds, stock and poultry	222	3,486	5,563,756	57,914,289	11,703,901	70,250,739
37	Hardware and tools	244	14,901	26,025,726	20,238,543	47,410,504	68,945,881
38	Coke and gas products	34	4,757	9,013,108	37,746,482	24,213,270	68,483,305
39	Acids, alkalies and salts	35	7,022	14,527,508	22,351,361	36,517,138	67,467,062
40	Printing and bookbinding	1,331	16,847	25,279,944	23,702,464	39,520,894	63,881,768
	Totals, Forty Leading Industries	**19,919**	**816,271**	**1,384,893,065**	**3,488,160,315**	**2,627,719,571**	**6,285,506,906**
	Totals, All Industries	**29,050**	**1,119,372**	**1,845,773,449**	**4,473,668,847**	**3,564,315,899**	**8,250,368,866**
	Percentage of leading industries to all industries	68·6	72·8	75·0	78·0	73·4	7·62
	Primary textiles[1]	653	80,250	101,217,751	198,995,381	182,169,756	389,785,064

[1] On a broader classification basis, the primary textile industry, which includes the production of cottons, woollens, silk, hosiery and knitted goods, and the dyeing and finishing of textiles, ranks first in number of employees, first in salaries and wages paid and third in gross value of production.

14.—Principal Statistics of the Forty Leading Industries of Canada, Ranked According to Gross Value of Products, 1946

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials	Value of Products	
						Net	Gross
		No.	No.	$	$	$	$
1	Pulp and paper	113	44,967	101,364,636	223,448,338	258,164,578	527,814,916
2	Slaughtering and meat packing	147	22,536	40,313,025	408,033,456	64,868,839	475,953,154
3	Non-ferrous metal smelting and refining	15	14,546	30,648,361	212,865,030	69,565,922	304,718,524
4	Sawmills	6,001	49,352	63,811,260	156,107,527	129,408,392	287,910,057
5	Flour and feed mills	974	8,036	12,898,160	224,233,698	34,191,283	260,659,451
6	Butter and cheese	2,161	19,659	28,668,241	177,638,517	52,761,041	234,664,461
7	Electrical apparatus and supplies	266	43,998	74,510,479	101,939,272	129,968,926	234,572,653
8	Petroleum products	43	7,145	14,849,141	155,818,744	57,447,611	223,425,380
9	Automobiles	9	21,647	43,968,772	135,556,183	55,914,441	193,439,688
10	Clothing, women's factory	1,108	29,963	44,985,178	91,138,141	82,818,768	174,353,223
11	Railway rolling-stock	37	28,553	57,815,845	83,937,365	74,655,059	162,159,521
12	Rubber goods	60	22,055	37,813,363	62,135,578	93,451,248	159,408,113
13	Primary iron and steel	59	24,196	50,515,897	68,468,433	71,582,060	153,082,616
14	Clothing, men's factory	537	27,822	38,114,832	83,033,566	69,220,286	152,706,971
15	Bread and other bakery products	2,864	30,453	42,987,201	70,886,539	72,980,744	148,362,528
16	Machinery	299	27,003	50,246,824	50,760,795	93,031,472	145,638,248
17	Fruit and vegetable preparations	513	16,373	19,168,778	83,434,146	50,680,350	136,004,138
18	Sheet metal products	230	16,858	27,574,283	62,991,981	51,288,120	115,699,555
19	Miscellaneous foods, coffee, tea, etc	286	6,893	9,758,181	78,782,164	30,670,894	110,051,938
20	Cotton yarn and cloth	41	20,662	29,090,343	62,495,630	44,473,067	109,828,450
21	Breweries	61	8,644	17,743,749	23,416,499	84,270,490	109,299,587
22	Hosiery and knitted goods	247	24,941	30,210,507	47,270,879	56,681,420	105,208,699
23	Printing and publishing	775	21,462	39,846,308	24,578,088	78,689,074	104,305,064
24	Fish curing and packing	586	11,327	13,799,809	68,012,828	31,084,775	100,201,291
25	Boots and shoes, leather	294	22,334	29,023,596	52,340,814	43,612,607	96,435,251
26	Automobile supplies	124	15,348	27,808,618	43,519,483	48,250,348	93,428,899
27	Shipbuilding	79	20,246	40,975,731	25,915,348	64,535,796	91,851,460
28	Biscuits, confectionery, cocoa, etc	237	13,043	16,651,490	43,982,673	41,581,245	86,714,459
29	Feeds, stock and poultry	235	3,971	6,408,326	68,649,226	14,207,938	83,594,177
30	Castings, iron	219	16,925	31,381,935	27,446,850	52,484,740	82,278,070
31	Tobacco, cigars and cigarettes	78	9,532	12,711,360	45,455,773	36,048,133	81,799,967
32	Planing mills, sash and door factories	1,078	14,012	19,628,779	47,501,520	31,424,769	79,920,764
33	Printing and bookbinding	1,406	19,376	30,219,639	29,038,267	48,873,014	78,647,105
34	Furniture	824	19,217	28,213,893	34,719,631	42,546,833	78,241,125
35	Boxes and bags, paper	160	11,975	16,476,657	41,169,182	32,759,600	74,500,862
36	Hardware, tools and cultery	276	15,868	27,259,296	22,823,598	48,915,105	73,059,549
37	Brass and copper products	162	10,252	18,425,724	39,983,930	30,874,312	72,056,922
38	Distilleries	18	4,075	7,122,533	21,437,733	44,326,434	67,119,358
39	Medicinal and pharmaceutical preparations	201	7,670	12,832,173	23,163,222	43,446,027	67,049,834
40	Silk and artificial silk goods	36	13,100	18,890,121	24,099,473	39,550,662	65,521,067
	Totals, Forty Leading Industries	**22,859**	**766,035**	**1,264,733,044**	**3,348,230,120**	**2,501,306,423**	**6,001,687,695**
	Totals, All Industries	**31,249**	**1,058,156**	**1,740,687,254**	**4,358,234,766**	**3,467,004,980**	**8,035,692,471**
	Percentage of leading industries to all industries	73·2	72·4	72·7	76·8	72·2	74·7

Section 4.—Principal Factors in Manufacturing Production

The subjects treated under this Section, in as much detail as limitations of space permit, include capital, employment, salaries and wages, and size of establishments.

Subsection 1.—Capital Employed

The collection of statistics on capital invested in manufacturing industries was discontinued in 1944. However, figures for each year from 1917 to 1943 are given in Table 1 of this Chapter, and by provinces for significant years of the same period in Table 2. A table showing the forms of capital employed for certain years from 1924 to 1943 is given at p. 417 of the 1946 Year Book.

Subsection 2.—Employment in Manufactures

Using a base and taking the percentages of the wage-earners and the total employees in each year, and dividing these percentages into the corresponding volumes of manufacturing production, tentative conclusions are arrived at regarding the efficiency of production per wage-earner and per employee. These indexes of the efficiency of production are, of course, affected by the changes in the method of computing the number of wage-earners adopted in 1925, and then again in 1931. Inasmuch as the change increased the apparent number of employees between 1925 and 1930, it proportionately decreased the index of the efficiency of production. Comparability exists, however, between the figures prior to 1925 and subsequent to 1930. Table **15** shows only the latter period. Unfortunately, the period covered is rather limited for the purpose in view, but it is suggested that the reader compare these data with the comparable figures for 1917-30 at p. 421 of the 1939 Canada Year Book. Up to the beginning of the Second World War the indexes may be considered as supplying satisfactory evidence of a general gain in volume of production per person employed. With the outbreak of war unemployed skilled workers were first absorbed into industry, with the result that the efficiency of production was slightly bettered. As the War progressed, however, manufacturers were forced more and more to employ unskilled workers. The decline in the efficiency of production during the war years may, therefore, be attributed to this cause as well as to absenteeism for various causes.

15.—Salaried Employees and Wage-Earners in Manufacturing Industries, with Volume of Manufacturing Production and Comparative Efficiency of Production, 1931-45.

(1935-39=100)

NOTE.—Figures, with qualifications as to comparability, for 1917 to 1930 are published at p. 421 of the 1939 Canada Year Book.

Year	Salaried Employees	Wage-Earners	Total Employees	Percentages Relative to 1935-39		Index Number of Volume of Mf'd. Products	Indexes of Efficiency of Production	
				Of Wage-Earners	Of Total Employees		Per Wage-Earner	Per Employee
	No.	No.	No.	p.c.	p.c.			
1931	91,491	437,149	528,640	85·8	84·9	79·9	93·1	94·1
1932	87,050	381,783	468,833	74·9	75·3	67·6	90·3	89·8
1933	86,636	382,022	468,658	75·0	75·3	67·7	90·3	89·9
1934	92,095	427,717	519,812	83·9	83·5	79·6	94·9	95·3
1935	97,930	458,734	556,664	90·0	89·5	87·9	97·7	98·2
1936	104,417	489,942	594,359	96·1	95·5	96·2	100·1	100·7
1937	115,827	544,624	660,451	106·9	106·1	108·9	101·9	102·6
1938	120,589	521,427	642,016	102·3	103·2	100·8	98·5	97·7
1939	124,772	533,342	658,114	104·7	105·8	106·3	101·5	100·5
1940	135,760	626,484	762,244	122·9	122·5	125·2	101·9	102·2
1941	158,944	802,234	961,178	157·4	154·5	155·9	99·0	100·9
1942	177,187	974,904	1,152,091	191·3	185·1	179·9	94·0	97·2
1943	193,195	1,047,873	1,241,068	205·6	199·4	187·7	91·3	94·1
1944	192,558	1,030,324	1,222,882	202·2	196·5	180·8	89·4	92·0
1945	190,707	928,665	1,119,372	182·2	180·0	165·3	90·7	91·8

Monthly Record of Employment in Manufactures.—Ordinarily, manufacturing employment in Canada reaches its highest point during the summer months. Some of the seasonal industries, such as canning, are most active then, textile industries are preparing winter goods, and industry generally feels the active demand of the agricultural purchasing power resulting from the prospect of the season's harvest. After the setback of 1929, employment in 1930, 1931, 1932 and

the first half of 1933 declined steadily, the monthly employment figures in each case being lower than the corresponding month of the previous year. The peak of employment in June, 1929, when 575,693 wage-earners were on the payrolls, was surpassed in September, 1937, with 582,305 wage-earners. With the outbreak of war the improvement in employment became increasingly rapid. A new high record was attained in August, 1943, when 1,067,890 wage-earners were employed, an increase of 96·4 p.c. over the same month in 1939. The highest employment during 1944 was attained in June when 1,049,557 wage-earners were employed. From then on employment declined steadily to the end of 1945 when 819,619 wage-earners were reported. This compares with an employment of 961,820 wage-earners in December 1944 and 1,021,630 wage-earners in December 1943.

16.—Wage-Earners Employed in the Manufacturing Industries of Canada, by Months and Sex, Significant Years, 1922-45

Month	1922	1929	1933	1939	1942	1943	1944	1945
	Total Wage-Earners							
January	324,257	502,644	340,027	490,337	892,366	1,023,261	1,026,066	976,768
February	336,729	519,423	347,777	496,160	914,395	1,030,878	1,024,951	979,604
March	349,110	536,866	355,888	503,475	930,043	1,036,648	1,024,820	976,531
April	360,248	555,711	358,759	509,739	946,291	1,033,748	1,022,100	974,254
May	382,504	574,905	377,659	530,864	967,551	983,058	1,032,946	977,472
June	393,935	575,693	392,196	531,245	985,796	1,058,645	1,049,557	970,001
July	391,186	573,554	393,464	529,575	997,670	1,056,975	1,047,811	949,792
August	389,511	567,022	402,249	543,605	1,011,341	1,067,890	1,048,686	918,271
September	392,423	564,796	410,954	562,355	1,014,030	1,066,595	1,029,965	874,373
October	385,262	553,338	405,757	568,564	1,005,830	1,053,486	1,011,340	856,767
November	378,992	527,213	396,384	563,117	1,009,262	1,049,738	998,940	848,057
December	367,724	499,893	380,612	544,817	992,880	1,021,630	961,820	819,619
	Male							
January	243,682	397,459	257,445	381,997	683,455	751,269	738,764	708,008
February	253,178	410,865	260,728	385,955	698,435	755,181	737,647	709,563
March	263,849	426,713	267,259	391,623	708,845	757,702	737,761	708,642
April	274,821	443,560	271,348	398,982	720,285	755,888	737,913	709,043
May	294,095	459,783	285,705	416,963	736,499	764,158	747,746	714,926
June	304,395	460,294	296,937	417,975	750,012	776,003	762,126	714,892
July	304,020	459,051	300,329	417,987	756,047	779,687	762,939	704,868
August	301,234	449,721	302,969	421,895	753,663	777,733	757,135	677,102
September	298,918	441,510	304,908	431,509	748,193	767,043	737,347	638,286
October	291,973	432,576	301,315	437,220	739,884	754,484	724,084	627,566
November	286,511	412,114	294,945	432,920	739,471	753,211	717,179	622,762
December	277,854	391,903	285,690	422,538	731,647	738,073	698,990	609,035

Hours Worked by Wage-Earners.—From 1932, the first year for which figures on hours worked per week by wage-earners are available, to 1945, each firm was required to report the number of hours worked by all its wage-earners during the month in which the greatest number had been employed, the only exception being the years 1938 and 1939 when one week in a month of normal employment was reported. In 1938 the number of hours worked per week were compiled by sex, and a change was also made in the analysis of the weekly hours worked. Since 1940 the hours worked per week include overtime while prior to that overtime was excluded. These changes make it impossible to measure accurately the changes in the number of hours worked per week. In any case, the figures in Tables **17** to **20** do not refer to any particular month, since the month of highest employment might be May for one firm and October for another; they represent the summation of the different months of highest employment as reported by all firms. For a given industry, however, the month of highest employment is more significant as in this case it coincides for a great number of firms engaged in the same industry.

For all wage-earners, the hours worked per week declined from 48·9 in 1932 to 47·2 in 1939, and reached 50·6 in 1941, some of the increase no doubt being due to the inclusion of overtime. Since then there was a counter movement in the hours worked, especially among females, due to the employment of many workers on a part-time basis. Whereas in 1939 there were only 2·8 p.c. of male and 5·3 p.c. of female wage-earners working under 30 hours per week, in 1944 these percentages rose to 5·3 and 12·5 respectively. Since the end of the War the normal working week has been dropping steadily. In 1945 average hours per week for male wage-earners totalled 47·6 and for females 42·7. Female wage-earners worked on an average 4·9 hours less than their male co-workers. Table 1 of the Labour Chapter, p. 631, shows the changes that have taken place in the employment of women in industry and certain services from 1942 to 1947.

17.—Wage-Earners in Manufacturing, Working Specified Numbers of Hours[1] per Week in the Month of Highest Employment, 1938-45

NOTE.—Hours worked per week in 1932-37 are given at p. 386 of the 1942 edition of the Canada Year Book; in 1940 at p. 392 of the 1943-44 edition.

Hours Worked per Week	1938	1939	1942	1943	1944	1945
	TOTAL WAGE-EARNERS					
	No.	No.	No.	No.	No.	No.
30 or less	24,073	19,849	48,714	74,406	87,817	79,398
31–43	99,125	85,597	98,200	128,755	151,280	174,378
44	83,763	81,128	88,049	88,964	112,840	130,536
45–47	66,268	64,031	80,613	100,861	108,585	116,431
48	121,625	130,506	244,899	248,083	245,024	230,175
49–50	62,294	65,822	105,434	115,606	116,473	105,331
51–54	39,596	46,165	147,229	151,231	128,580	90,411
55	20,575	24,316	63,702	62,701	51,965	34,748
56–64	60,755	61,067	193,297	176,730	140,295	81,517
65 or over	8,755	8,478	73,590	60,665	46,046	33,571
Totals, Wage-Earners	**586,829**	**586,959**	**1,143,727**	**1,208,002**	**1,188,905**	**1,076,496**
Average Hours per Week	**46·7**	**47·2**	**50·2**	**48·8**	**47·5**	**46·2**
	MALE					
	No.	No.	No.	No.	No.	No.
30 or less	15,439	12,868	30,166	39,985	45,414	41,111
31–43	75,842	64,780	59,146	68,530	83,293	100,446
44	59,983	57,667	58,342	53,563	76,141	89,623
45–47	47,877	45,703	47,403	62,701	67,306	75,391
48	97,287	103,636	182,783	185,913	182,798	175,116
49–50	45,981	48,378	70,870	75,975	80,878	77,019
51–54	33,744	37,439	106,657	114,739	100,621	72,781
55	16,493	19,766	48,996	49,194	42,214	28,910
56–64	56,171	56,837	171,775	158,657	128,751	74,043
65 and over	8,224	8,036	67,776	56,837	42,618	31,311
Totals, Male Wage-Earners	**457,041**	**455,110**	**843,914**	**866,094**	**850,034**	**765,751**
Average Hours per Week	**47·3**	**48·1**	**51·3**	**50·4**	**49·1**	**47·6**

[1]For 1938 and 1939, the hours worked do not include overtime, while for 1942 to 1945 overtime is included.

18.—Wage-Earners Working Specified Weekly Hours[1] in Month of Highest Employment, by Sex, Province and Industrial Group, 1945

Province or Industrial Group	Hours Worked per Week										Total Wage-Earners	Average Hours Worked per Week
	30 or Less	31-43	44	45-47	48	49-50	51-54	55	56-64	65 or Over		
	MALE											
Province	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	24	33	26	18	297	81	107	14	92	54	746	50·6
Nova Scotia	1,773	4,064	3,656	956	6,316	925	1,700	316	4,332	1,275	25,313	47·6
New Brunswick	669	1,606	1,936	631	1,688	1,497	1,699	243	2,098	1,602	13,669	50·2
Quebec	10,782	28,969	18,482	21,909	49,206	29,406	33,908	17,874	36,848	16,739	264,123	49·7
Ontario	22,070	46,205	34,225	42,964	96,725	40,102	29,878	9,360	25,555	9,945	357,029	46·7
Manitoba	1,336	3,193	6,908	2,870	5,249	2,128	2,227	500	1,773	461	26,645	46·1
Saskatchewan	562	833	846	812	1,427	774	743	207	639	164	7,007	46·6
Alberta	863	2,086	2,496	1,659	3,684	1,109	1,197	155	850	376	14,475	46·0
British Columbia	3,032	13,456	21,048	3,570	10,489	996	1,318	241	1,850	695	56,695	43·4
Yukon and Northwest Territories	Nil	1	Nil	2	35	1	4	Nil	6	Nil	49	49·6
Canada[2]	**41,111**	**100,446**	**89,623**	**75,391**	**175,116**	**77,019**	**72,781**	**28,910**	**74,043**	**31,311**	**765,751**	**47·6**
Industrial Group												
Vegetable products	8,079	8,457	4,759	6,244	16,904	7,631	11,652	3,953	12,937	6,984	87,600	49·0
Animal products[3]	2,833	7,166	2,957	6,750	6,232	5,712	5,127	2,086	2,535	546	41,944	46·1
Textiles and textile products	2,445	7,888	6,443	4,341	10,899	12,599	4,501	3,684	4,312	1,482	58,594	47·5
Wood and paper products[4]	7,101	14,580	13,371	11,831	22,068	9,411	10,435	6,692	13,941	5,397	114,827	47·9
Iron and its products	13,646	45,184	44,700	32,209	70,057	32,727	24,220	9,787	28,990	13,364	314,884	47·4
Non-ferrous metal products	2,264	6,694	6,814	6,347	24,156	4,262	4,772	933	4,452	1,042	61,736	47·1
Non-metallic mineral products	1,340	3,338	4,660	1,745	7,959	1,455	2,372	713	2,809	1,028	27,419	47·4
Chemicals and allied products	2,510	5,364	3,616	3,271	14,175	2,071	8,303	649	3,401	1,172	44,532	47·4
Miscellaneous industries	893	1,775	2,303	2,653	2,666	1,151	1,399	413	666	296	14,215	45·9

[1] Including overtime. [2] Exclusive of dairy factories, fish-curing and -packing plants, and sawmills. [3] Exclusive of dairy factories and fish-curing and -packing plants. [4] Exclusive of sawmills.

18.—Wage-Earners Working Specified Weekly Hours[1] in Month of Highest Employment, by Sex, Province and Industrial Group, 1945—conc.

Province or Industrial Group	Hours Worked per Week										Total Wage-Earners	Average Hours Worked per Week
	30 or Less	31 43	44	45-47	48	49-50	51-54	55	56-64	65 or Over		
	FEMALE											
Province	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	17	23	10	24	87	40	28	9	115	-	353	50·5
Nova Scotia	456	689	602	491	590	838	446	107	490	71	4,780	45·9
New Brunswick	419	789	245	386	862	649	197	38	174	42	3,801	44·1
Quebec	9,035	25,520	12,767	15,229	22,371	12,875	9,977	3,909	2,837	482	115,002	44·2
Ontario	24,729	37,992	19,202	21,186	26,527	12,853	5,904	1,549	3,231	1,309	154,482	41·6
Manitoba	861	2,538	3,066	1,150	1,492	565	577	85	115	13	10,462	42·6
Saskatchewan	202	268	300	311	527	100	58	10	34	3	1,813	43·4
Alberta	454	851	1,161	513	906	137	68	11	79	41	4,221	42·5
British Columbia	2,112	5,260	3,560	1,750	1,695	255	375	120	399	299	15,825	41·1
Yukon and Northwest Territories	2	2	Nil	Nil	2	Nil	Nil	Nil	Nil	Nil	6	36·7
Canada[2]	**38,287**	**73,932**	**40,913**	**41,040**	**55,059**	**28,312**	**17,630**	**5,838**	**7,474**	**2,260**	**310,745**	**42·7**
Industrial Group												
Vegetable products	12,043	11,444	4,805	7,005	7,523	4,123	3,594	1,159	3,485	1,640	56,821	42·3
Animal products[3]	2,557	6,004	2,674	4,212	2,505	2,275	1,310	597	314	43	22,491	42·4
Textiles and textile products	9,743	24,937	15,814	11,657	16,465	11,417	3,338	1,875	735	143	96,124	42·5
Wood and paper products[4]	4,285	6,352	4,450	3,808	3,804	1,868	1,387	653	689	159	27,455	41·9
Iron and its products	3,414	9,650	4,140	5,453	9,696	5,466	2,271	804	1,490	165	42,549	44·1
Non-ferrous metal products	2,413	5,416	4,050	4,519	5,392	1,882	1,586	187	390	49	25,884	43·2
Non-metallic mineral products	300	859	426	396	1,340	212	136	32	43	1	3,745	43·4
Chemicals and allied products	2,284	7,069	2,595	2,076	7,333	611	3,682	349	236	23	26,258	43·3
Miscellaneous industries	1,248	2,201	1,959	1,914	1,001	458	326	182	92	37	9,418	41·7

[1] Including overtime. [2] Exclusive of dairy factories, fish-curing and -packing plants, and sawmills. [3] Exclusive of dairy factories and fish-curing and -packing plants. [4] Exclusive of sawmills.

19.—Male Wage-Earners in the Forty Leading Industries Working Specified Weekly Hours[1] in Month of Highest Employment, 1945

NOTE.—Industries ranked according to the annual number of male wage-earners employed.

	Industry	Hours Worked per Week										Total Wage-Earners	Average Hours Worked per Week	
		30 or Less	31-43	44	45-47	48	49-50	51-54	55	56-64	65 or Over			
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
1	Shipbuilding and repairs	3,174	10,487	15,667	4,751	5,579	4,401	2,535	711	6,020	4,708	58,033	46·9	1
2	Pulp and paper	1,737	3,431	978	1,416	12,528	1,941	3,968	703	6,563	3,282	36,547	50·5	2
3	Railway rolling-stock	546	3,826	13,440	2,685	5,652	1,665	1,304	418	1,156	581	31,273	45·6	3
4	Primary iron and steel	1,216	3,794	1,325	1,977	10,350	1,132	2,642	563	4,887	1,066	28,952	48·7	4
5	Aircraft and parts	1,280	8,223	2,570	2,825	12,581	4,953	1,612	226	2,137	1,498	37,905	46·4	5
6	Electrical apparatus and supplies	728	2,406	4,571	3,430	5,440	2,253	2,631	482	1,411	504	23,856	47·0	6
7	Machinery	773	2,012	2,031	1,961	3,373	3,698	3,289	1,398	2,071	815	21,421	49·0	7
8	Bread and other bakery products	872	667	603	1,007	5,019	1,950	4,006	1,178	2,783	241	18,326	50·0	8
9	Miscellaneous chemical products	1,347	2,963	1,491	1,648	8,467	1,094	7,361	422	1,505	523	26,821	47·8	9
10	Slaughtering and meat packing	1,553	3,290	792	3,084	2,199	2,000	3,062	812	1,421	285	18,498	46·1	10
11	Automobiles	808	2,972	1,194	2,938	9,255	568	787	112	518	43	19,195	45·4	11
12	Rubber goods, including footwear	951	3,115	569	1,537	2,872	1,940	1,573	386	1,518	241	14,702	46·3	12
13	Miscellaneous iron and steel products	1,112	3,456	1,358	2,052	4,998	2,285	1,665	554	3,159	1,269	21,908	48·3	13
14	Castings, iron	659	1,763	936	1,717	2,628	2,081	1,864	1,655	1,644	532	15,479	48·8	14
15	Non-ferrous smelting and refining	388	901	189	848	11,105	205	575	93	1,351	116	15,771	48·1	15
16	Automobile supplies	907	1,701	755	2,037	1,462	2,884	1,905	622	1,783	494	14,550	48·2	16
17	Furniture	725	1,557	1,512	4,099	1,145	1,375	820	2,144	337	167	13,881	46·5	17
18	Cotton yarn and cloth	198	224	44	148	3,501	6,645	328	649	307	227	12,271	49·4	18
19	Sheet metal products	813	1,731	1,482	1,635	2,200	2,269	1,372	388	1,135	468	13,493	47·2	19
20	Agriculture implements	291	749	295	2,404	4,647	805	1,310	413	654	104	11,672	47·9	20
21	Hardware, tools and cutlery	483	1,096	817	1,409	2,305	1,740	1,180	649	1,338	344	11,361	48·6	21
22	Boots and shoes, leather	535	1,579	839	2,023	1,620	1,928	871	654	414	57	10,520	46·1	22
23	Planing mills, sash and door factories	726	924	1,587	822	1,362	1,734	1,116	689	2,047	276	11,283	48·7	23
24	Brass and copper products	658	1,920	905	893	4,804	991	941	225	1,336	361	13,034	47·2	24
25	Printing and publishing	698	2,978	1,452	1,172	1,455	361	322	63	299	139	8,939	42·6	25
26	Printing and bookbinding	548	1,229	3,571	1,076	1,073	353	441	90	356	208	8,945	44·6	26
27	Clothing, men's factory	221	1,923	2,898	506	1,031	229	155	21	50	16	7,050	42·8	27
28	Hosiery and knitted goods	284	610	281	955	1,731	1,306	489	990	388	112	7,146	48·3	28
29	Fruit and vegetable preparations	3,716	1,494	360	572	433	703	1,042	507	2,955	3,587	15,369	49·2	29
30	Silk and artificial silk	271	609	172	329	856	1,341	1,227	528	1,163	289	6,785	50·5	30
31	Heating and cooking apparatus	362	901	293	767	1,328	1,225	503	475	478	275	6,607	47·6	31
32	Breweries	239	300	1,095	505	679	398	728	412	1,238	516	6,110	51·1	32
33	Bridge and structural steel	360	712	1,078	1,052	317	1,570	746	218	853	164	7,070	47·8	33
34	Acids, alkalies and salts	232	403	342	374	3,260	258	287	34	812	124	6,126	48·4	34
35	Petroleum products	154	1,011	2,849	163	763	94	189	29	212	190	5,654	44·7	35
36	Clothing, women's factory	404	2,167	1,552	456	672	169	137	10	71	5	5,643	41·2	36
37	Flour and feed mills	294	220	93	149	2,442	301	694	170	848	377	5,588	50·4	37
38	Machine shops	439	677	776	617	888	883	695	271	520	645	6,411	48·8	38
39	Biscuits, confectionery, cocoa, etc	491	393	233	689	820	680	649	179	494	171	4,799	47·4	39
40	Boxes, wooden	538	473	323	395	627	534	652	1,057	990	151	5,740	49·3	40
	Totals, Forty Leading Industries[2]	**31,731**	**80,887**	**73,318**	**59,123**	**143,467**	**62,942**	**57,673**	**21,200**	**59,222**	**25,171**	**614,734**	**47·6**	
	Totals, All Industries[2]	**41,111**	**100,446**	**89,623**	**75,391**	**175,116**	**77,019**	**72,781**	**28,910**	**74,043**	**31,311**	**765,751**	**47·6**	

[1] Includes overtime. [2] Figures are exclusive of those for butter and cheese factories, fish-curing and -packing plants and sawmill operations which are among the leading industries. Figures for these industries are not available.

20.—Female Wage-Earners in the Forty Leading Industries Working Specified Weekly Hours[1] in Month of Highest Employment, 1945

NOTE.—Industries ranked according to the annual number of female wage-earners employed.

	Industry	Hours Worked per Week										Total Wage-Earners	Average Hours Worked per Week	
		30 or Less	31-43	44	45-47	48	49-50	51-54	55	56-64	65 or Over			
		No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
1	Clothing, women's factory	2,803	8,659	4,864	2,188	2,238	290	176	5	31	1	21,255	39·4	1
2	Clothing, men's factory	1,212	4,761	6,125	1,852	3,628	702	435	29	38	27	18,809	42·5	2
3	Hosiery and knitted goods	1,756	3,653	1,103	2,783	2,762	2,318	550	674	74	34	15,707	43·0	3
4	Electrical apparatus and supplies	1,414	3,299	3,006	3,446	2,260	1,341	1,361	101	202	18	16,448	43·4	4
5	Miscellaneous chemical products	1,430	4,302	917	1,215	6,627	469	3,459	331	128	9	18,887	44·5	5
6	Cotton yarn and cloth	624	588	69	368	3,044	4,571	147	259	12	-	9,682	46·7	6
7	Boots and shoes, leather	699	2,011	853	1,892	1,070	1,051	480	466	55	2	8,579	43·6	7
8	Bread and other bakery products	1,554	982	1,067	891	2,403	358	542	213	136	37	8,183	42·4	8
9	Biscuits, confectionery, cocoa, etc	1,878	1,602	735	1,616	1,003	835	334	111	75	8	8,197	40·4	9
10	Fruit and vegetable preparations	5,206	2,995	802	1,101	776	1,079	1,227	527	2,508	1,537	17,758	43·3	10
11	Tobacco, cigars and cigarettes	596	1,653	456	893	1,643	477	398	28	47	-	6,191	42·8	11
12	Aircraft and parts	442	3,295	785	961	4,099	2,210	375	58	168	95	12,488	44·6	12
13	Rubber goods, including footwear	996	1,744	330	915	635	834	386	70	231	17	6,158	41·7	13
14	Boxes and bags, paper	809	1,174	629	975	821	715	345	61	130	14	5,673	42·6	14
15	Printing and bookbinding	1,253	1,335	1,628	495	586	127	186	22	119	48	5,799	39·8	15
16	Silk and artificial silk goods	375	710	307	477	581	1,162	522	300	120	1	4,555	45·6	16
17	Slaughtering and meat packing	428	1,370	370	963	479	444	307	63	52	2	4,478	42·4	17
18	Woollen cloth	467	631	218	449	596	979	441	236	60	10	4,087	43·9	18
19	Sheet metal products	507	939	406	718	640	775	339	160	37	1	4,522	44·7	19
20	Miscellaneous iron and steel products	781	1,391	240	1,299	1,996	587	233	98	652	34	7,311	44·5	20
21	Medicinal and pharmaceutical preparations	366	1,500	1,015	480	218	46	90	7	22	5	3,749	40·3	21
22	Miscellaneous foods	1,011	969	659	712	443	53	249	11	71	7	4,185	39·5	22
23	Miscellaneous paper products	505	822	388	542	618	267	240	54	60	4	3,500	42·1	23
24	Hardware, tools and cutlery	354	642	319	673	464	625	192	75	190	24	3,558	44·4	24
25	Automobile supplies	455	1,181	317	493	309	397	451	98	251	-	3,952	43·1	25
26	Hats and caps	361	1,474	381	281	329	92	28	5	7	-	2,958	39·1	26
27	Miscellaneous leather goods	339	898	593	474	258	112	100	6	1	-	2,781	40·7	27
28	Clothing contractors, men's	201	571	714	286	545	71	54	74	8	-	2,524	42·7	28
29	Fur goods	244	791	382	168	253	179	198	41	178	15	2,449	43·0	29
30	Brass and copper products	193	637	260	362	1,440	129	85	78	119	1	3,304	44·8	30
31	Jewellery, electro-plated ware, etc	199	780	529	297	215	206	59	4	27	5	2,321	41·6	31
32	Printing and publishing	452	456	456	196	301	93	59	9	65	7	2,094	40·3	32
33	Scientific and professional equipment	138	410	573	720	251	135	140	43	27	3	2,440	43·9	33
34	Corsets	115	372	272	810	386	1	-	-	106	-	2,062	44·0	34
35	Woollen yarn	263	360	88	333	361	453	148	28	6	-	2,040	43·4	35
36	Gloves and mittens, leather	489	409	269	285	205	248	50	4	4	-	1,963	39·5	36
37	Furniture	213	475	300	657	113	68	46	70	8	18	1,968	42·2	37
38	Glass products	160	493	140	264	592	155	81	25	12	1	1,923	43·2	38
39	Machinery	188	374	247	164	492	184	349	46	44	-	2,088	44·6	39
40	Cotton textiles, miscellaneous	167	550	381	322	244	38	14	-	2	-	1,718	41·1	40
	Totals, Forty Leading Industries[2]	**31,643**	**61,258**	**33,193**	**34,016**	**45,924**	**24,876**	**14,876**	**4,490**	**6,083**	**1,985**	**258,344**	**42·8**	
	Totals, All Industries[2]	**38,287**	**73,932**	**40,913**	**41,040**	**55,059**	**28,312**	**17,630**	**5,838**	**7,474**	**2,260**	**310,745**	**42·7**	

[1] Includes overtime. [2] Figures are exclusive of those for butter and cheese factories and fish -curing and -packing plants which are among the leading industries. Figures for these industries are not available.

Subsection 3.—Salaries and Wages in Manufacturing Industries

In 1945 the 29,050 establishments covered employed 190,707 salaried employees and 928,665 wage-earners, a total of 1,119,372 persons. Out of every 1,000 persons employed in manufacturing 170 were classed as salary-earners and 830 as wage-earners; the former earned 22·6 p.c. and the latter 77·4 p.c. of the total amount paid out as remuneration for services.

A notable feature during the past few years was the reduction in the disparity between average annual salaries and wages. Whereas in 1939 average annual wages were only 55·8 p.c. of average annual salaries, in 1943 the percentage rose to 75·8 and declined to 70·0 in 1945. This tendency towards equalization was, in part, due to the controls adopted by the Government which tended to stabilize salaries more than wages. The increase in average wages was also influenced by the fact that large numbers of wage-earners were employed in the highly paid iron and steel industries, and by the increase in number of hours worked, some of it at overtime pay.

Ontario has a larger proportion of females among its salaried employees than the other provinces. The same situation prevails in Quebec with regard to wage-earners, due, no doubt, to the textile industries of the Province. The importance of the textile industries in providing employment to females is strikingly illustrated by the fact that of all female wage-earners engaged in the manufacturing industries of Canada in 1945, 34·8 p.c. were found in the textile group. Normally, the percentage is much higher. During the War large numbers of female wage-earners were employed in the aircraft and miscellaneous chemical industries. For this reason the percentage employed in the textile industries declined.

The average salary in 1945 amounted to $2,191 which was $445 or 25·5 p.c. higher than in 1939. Salaried employees in Ontario with $2,273 received the highest salary. Quebec was second with $2,190, British Columbia third with $2,170 and Manitoba fourth with $2,026. The fact that head offices of many large corporations are located at Montreal, Toronto, Winnipeg and Vancouver tends to raise the average salaries in the provinces in which these cities are located.

21.—Salaries and Wages Paid in Manufacturing Industries, by Provinces and Industrial Groups, 1945, with Totals for Significant Years, 1933-45

Year	Salaries				Wages			
	Salaried Employees		Total Salaries	Average Salaries	Wage-Earners		Total Wages	Average Wages
	Male	Female			Male	Female		
	No.	No.	$	$	No.	No.	$	$
1933	67,875	18,761	139,317,946	1,608	287,266	94,756	296,929,878	777
1934	71,963	20,132	148,760,126	1,615	326,598	101,119	355,090,929	830
1935	76,213	21,717	160,455,080	1,638	353,790	104,944	399,012,697	870
1936	81,409	23,008	173,198,057	1,659	379,977	109,965	438,873,377	896
1937	91,092	24,735	195,983,475	1,692	427,285	117,339	525,743,562	965
1938	95,270	25,319	207,386,381	1,719	409,172	112,255	498,282,208	956
1939	98,165	26,607	217,839,334	1,746	415,488	117,854	519,971,819	975
1940	104,267	31,493	241,599,761	1,780	491,439	135,045	679,273,104	1,084
1941	117,251	41,693	286,336,861	1,801	626,825	175,409	978,525,782	1,220
1942	123,125	54,062	334,870,793	1,890	732,319	242,585	1,347,934,049	1,383
1943	128,679	64,516	388,857,505	2,013	762,854	285,019	1,598,434,879	1,525
1944	126,858	65,700	418,065,594	2,171	744,635	285,689	1,611,555,776	1,564

21.—Salaries and Wages Paid in Manufacturing Industries, by Provinces and Industrial Groups, 1945, with Totals for Significant Years, 1933-45—concluded

Year, Province and Industrial Group	Salaries				Wages			
	Salaried Employees		Total Salaries	Average Salaries	Wage-Earners		Total Wages	Average Wages
	Male	Female			Male	Female		
PROVINCES, 1945[1]	No.	No.	$	$	No.	No.	$	$
Prince Edward Island	273	89	363,407	1,004	929	560	1,315,805	884
Nova Scotia	2,909	1,133	7,059,034	1,746	25,176	4,205	44,644,211	1,519
New Brunswick	2,330	895	6,142,204	1,905	15,458	3,820	26,265,844	1,362
Quebec	44,171	18,507	137,286,894	2,190	226,611	94,742	470,186,549	1,463
Ontario	60,389	33,898	214,287,890	2,273	304,570	119,199	668,195,497	1,577
Manitoba	4,588	1,910	13,166,228	2,026	23,267	8,602	46,647,881	1,464
Saskatchewan	1,946	794	4,344,729	1,586	7,216	1,661	12,560,877	1,415
Alberta	2,904	1,225	7,550,914	1,829	13,692	3,665	25,209,412	1,452
British Columbia	9,072	3,653	27,615,891	2,170	63,664	11,585	132,803,242	1,765
Yukon and Northwest Territories	19	2	40,428	1,925	37	6	86,512	2,012
Canada, 1945	**128,601**	**62,106**	**417,857,619**	**2,191**	**680,620**	**248,045**	**1,427,915,830**	**1,538**
INDUSTRIAL GROUP, 1945[1]								
Vegetable products	17,954	7,917	53,261,638	2,059	69,783	39,657	142,749,050	1,304
Animal products	12,637	5,247	33,456,720	1,871	55,734	24,649	104,948,543	1,306
Textiles and textile products	11,773	7,246	48,084,146	2,528	52,897	86,232	159,545,325	1,467
Wood and paper products	28,787	10,655	76,793,176	1,947	135,313	24,618	229,386,240	1,434
Iron and its products	30,590	16,154	109,849,265	2,348	248,276	26,699	527,486,725	1,918
Non-ferrous metal products	10,950	6,080	39,857,520	2,340	51,540	19,780	118,501,217	1,662
Non-metallic mineral products	3,964	1,539	12,603,916	2,290	23,851	3,171	44,589,763	1,650
Chemicals and allied products	8,388	5,243	31,375,553	2,302	31,569	15,523	74,642,432	1,585
Miscellaneous industries	3,558	2,025	12,575,685	2,252	11,657	7,716	26,066,535	1,345

[1] For statistics of annual earnings of wage-earners, by sex, see Table 24.

The average wage in 1945 amounted to $1,538 which was $563 or 57·7 p.c. higher than in 1939. The manufacturing industries of British Columbia paid the highest average wages of $1,765 per annum, followed by Ontario with $1,577, Nova Scotia $1,519, Manitoba $1,464, Quebec $1,463, Alberta $1,452, etc. The high figures shown for Yukon and the Northwest Territories in regard to average wages are due to the unusual conditions under which industry is carried on in these regions and are not representative. Statistics of the distribution of employees by provinces and groups as well as average annual earnings are given in Table **21,** and for a subdivision of wage-earners by sex, see Table **24.**

Average Annual Earnings in the Forty Leading Industries.—In only eleven industries did average salaries exceed $2,500 in 1945; breweries, pulp and paper, automobiles, primary iron and steel, men's factory clothing, petroleum products, acids, alkalies and salts, brass and copper products, silk and artificial silk, women's factory clothing, and railway rolling-stock. In twenty-three they ranged between $2,000 and $2,500, in four they ranged between $1,500 and $2,000 and in the remaining two they were below $1,500. The lowest salaries were reported by the sawmilling, butter and cheese and bread industries, each of which includes a large proportion of small establishments.

The highest annual wages, those above $1,900, were paid in ten industries, in all of which the proportion of skilled workers is high and the proportion of female workers is low. The automobile industry with $2,365 was the highest in this group, followed by aircraft with $2,211, bridge and structural steel $2,062, shipbuilding $2,046, railway rolling-stock $1,986, acids, alkalies and salts $1,946, miscellaneous iron and steel products $1,943, non-ferrous metal smelting and refining $1,928, petroleum products $1,918, and primary iron and steel $1,907. In twelve other industries average wages ranged between $1,600 and $1,900 in all of which the proportion of female workers is low. In fourteen other industries average wages ranged between $1,100 and $1,600, while in the remaining four they were below $1,100. The latter group includes industries made up of a large number of small establishments, in these the proportion of female workers is high. Fruit and vegetable preparations, hosiery and knitted goods, biscuits, confectionery, cocoa, etc., and leather boots and shoes are the industries included in this group. Employment by sex and average annual earnings in the forty leading industries is given in Table **22**, and the annual earnings by sex in Tables **25** and **26**.

22.—Salaries and Wages Paid in the Forty Leading Industries, 1945, with Comparative Figures of Average Salaries and Wages Paid in 1944

NOTE.—Industries ranked according to the aggregate salaries and wages paid. For a subdivision of annual earnings of wage-earners, by sex, see Tables **25** and **26**.

	Industry	Salaries					Wages				
		Salaried Employees		Total Salaries	Average Salaries		Wage-Earners		Total Wages	Average Wages	
		Male	Female		1945	1944	Male	Female		1945	1944
		No.	No.	$	$	$	No.	No.	$	$	$
1	Shipbuilding and repairs	2,673	1,157	8,848,958	2,310	2,301	43,019	1,269	90,621,635	2,046	2,055
2	Aircraft	5,432	3,419	20,201,157	2,282	2,144	23,179	5,782	64,029,346	2,211	1,998
3	Pulp and paper	4,360	1,621	16,766,154	2,803	2,846	32,867	1,148	63,696,490	1,873	1,858
4	Electrical apparatus and supplies	6,151	3,835	22,665,855	2,270	2,253	21,074	13,069	53,802,940	1,576	1,548
5	Railway rolling-stock	1,824	435	5,681,369	2,515	2,588	27,840	416	56,112,570	1,986	2,010
6	Primary iron and steel	1,499	923	6,464,082	2,669	2,499	25,970	986	51,398,407	1,907	1,930
7	Sawmills	6,897	560	7,182,144	963	950	35,623	960	46,835,356	1,280	1,233
8	Misc. chemical products	2,407	1,393	8,815,220	2,320	2,205	16,110	9,304	41,382,051	1,628	1,556
9	Machinery	3,632	1,928	11,898,163	2,140	2,242	19,152	1,573	35,084,213	1,693	1,803
10	Automobiles	2,074	1,105	8,779,380	2,762	2,668	14,495	241	34,843,840	2,365	2,347
11	Misc. iron and steel products	2,254	1,311	8,544,421	2,397	2,319	13,562	3,536	33,223,783	1,943	1,983
12	Slaughtering and meat packing	2,993	1,400	9,328,341	2,123	2,126	14,728	4,094	30,681,547	1,630	1,514
13	Clothing, women's factory	2,742	1,674	11,235,917	2,544	2,445	5,087	18,472	28,249,910	1,199	1,143
14	Rubber goods, incl. rubber footwear	2,628	1,462	8,886,047	2,173	2,211	13,628	5,772	30,225,430	1,558	1,575
15	Bread and other bakery products	3,457	1,294	7,351,376	1,547	1,477	16,868	7,426	30,977,098	1,275	1,239
16	Clothing, men's factory	2,442	1,283	9,985,649	2,681	2,596	6,608	17,090	26,948,251	1,137	1,105
17	Printing and publishing	5,938	3,389	17,687,080	1,896	1,797	8,248	1,923	17,339,922	1,705	1,657
18	Non-ferrous metal smelting and refining	2,117	632	6,812,501	2,478	2,319	13,281	741	27,040,619	1,928	1,786
19	Automobile supplies	1,461	953	5,899,753	2,444	2,302	12,206	2,770	27,216,114	1,817	1,844
20	Castings, iron	1,105	571	4,027,320	2,403	2,361	13,430	620	25,289,629	1,800	1,804
21	Cotton yarn and cloth	769	552	3,165,270	2,396	2,561	11,207	9,118	24,855,063	1,223	1,197
22	Sheet metal products	1,663	922	5,746,464	2,223	2,225	10,974	3,562	21,990,091	1,513	1,521
23	Butter and cheese	3,939	1,664	7,171,748	1,280	1,295	12,311	1,521	19,692,706	1,424	1,387

22.—Salaries and Wages Paid in the Forty Leading Industries, 1945, with Comparative Figures of Average Salaries and Wages Paid in 1944—concluded

	Industry	Salaries					Wages				
		Salaried Employees		Total Salaries	Average Salaries		Wage-Earners		Total Wages	Average Wages	
		Male	Female		1945	1944	Male	Female		1945	1944
		No.	No.	$	$	$	No.	No.	$	$	$
24	Hosiery and knitted goods	1,264	995	5,196,938	2,301	2,414	6,462	14,933	21,443,405	1,002	983
25	Hardware, tools and cutlery	1,350	892	5,427,541	2,421	2,393	9,795	2,864	20,598,185	1,627	1,725
26	Brass and copper products	1,238	687	4,940,963	2,567	2,473	9,324	2,018	20,739,986	1,829	1,821
27	Printing and bookbinding	2,960	1,283	8,616,479	2,031	1,960	7,874	4,730	16,663,465	1,322	1,286
28	Boots and shoes, leather	1,637	740	5,577,296	2,346	2,322	9,676	8,043	19,091,578	1,077	1,072
29	Agricultural implements	1,510	796	4,851,144	2,104	2,112	10,219	1,029	19,558,382	1,739	1,762
30	Furniture	1,613	580	4,543,720	2,072	2,145	11,817	1,719	17,346,039	1,281	1,284
31	Biscuits, confectionery, cocoa, etc	1,856	740	5,928,768	2,284	2,301	4,426	6,930	11,499,809	1,013	973
32	Silk and artificial silk	763	504	3,241,263	2,558	2,578	6,275	4,408	12,946,178	1,212	1,186
33	Fruit and vegetable preparations	1,335	702	3,697,146	1,815	1,865	6,391	6,012	12,420,026	1,001	960
34	Planing mills, sash and door factories	1,638	446	3,521,935	1,690	1,707	9,350	355	12,169,478	1,253	1,229
35	Breweries	1,175	349	4,472,739	2,935	2,813	5,515	554	10,850,461	1,787	1,760
36	Bridge and structural steel	1,088	360	3,517,754	2,429	2,824	5,470	139	11,569,376	2,062	2,111
37	Acids, alkalies and salts	919	375	3,380,476	2,612	2,493	5,446	282	11,147,032	1,946	1,864
38	Boxes and bags, paper	896	582	3,674,890	2,486	2,404	4,320	4,964	10,314,474	1,111	1,072
39	Scientific and professional equipment	1,313	809	4,864,848	2,293	2,244	3,234	1,870	9,099,225	1,783	1,923
40	Petroleum products	1,001	277	3,347,333	2,619	2,662	5,343	154	10,543,977	1,918	1,953
	Totals, Forty Leading Industries	**94,013**	**44,600**	**301,945,602**	**2,178**	**2,152**	**532,404**	**172,397**	**1,129,538,087**	**1,603**	**1,637**
	Grand Totals, All Industries	**128,601**	**62,106**	**417,857,619**	**2,191**	**2,171**	**680,620**	**248,045**	**1,427,915,830**	**1,838**	**1,564**

Average Annual, Weekly and Hourly Earnings.—In comparing earnings by provinces or groups, consideration should be given to the type of industries in each case since the distribution of industries has very definitely a regional significance. In some industries a labour force possessing deftness and speed or the ability to exercise muscular strength is necessary, in others the labour force must exercise craftsmanship or possess a high degree of technical knowledge. Workers in these latter industries naturally command relatively higher wages than those employed in industries whose employees are routine workers.

The ranking of provinces and industries as regards annual earnings is in many cases different from that of weekly or hourly earnings since the factors of number of weeks worked per year and number of hours worked per week enter into the picture. So that, while in general the same observations apply, a close study of the differences between the averages shown in Tables **21** and **22** will be of value to the student.

The figures given in Tables **23** to **26** are based on an analysis of a pay-list covering one week in the month of highest employment. For this reason the figures do not refer to any particular month, since the month of highest employment might be May for one firm and October for another; they represent the summation of the

different months of highest employment as reported by all the firms. For a particular industry, however, the month of highest employment is more significant as in such case it coincides for a great number of firms engaged in the same industry.

Average weekly earnings of male wage-earners for manufacturing as a whole amounted to $35·04 in 1945, an increase of $12·81 or 57·6 p.c. as compared with 1939. Average hourly earnings advanced from 46·2 cents in 1939 to 73·6 cents in 1945, an increase of 59·3 p.c. Annual earnings at $1,739 were 61·6 p.c. higher.

Female wage-earners received on an average $19·84 per week in 1945, an increase of $7·06 or 55·2 p.c. as compared with 1939. Hourly earnings at 46·5 cents were 64·3 p.c. higher, while annual earnings at $984 were 59·0 p.c. higher.

23.—Average Annual, Weekly and Hourly Earnings of Male and Female Wage-Earners, 1934-45[1]

Year	Average Earnings			Hours Worked per week
	Annual	Weekly	Hourly	
	ALL WAGE-EARNERS			
	$	$	$	No.
1934	830	18·30	0·372	49·2
1935	870	18·50	0·380	48·7
1936	896	18·96	0·389	48·7
1937	965	[2]	[2]	48·8
1938	956	19·49	0·417	46·7
1939	975	20·14	0·427	47·2
1940	1,084	22·35	0·446	50·1
1941	1,220	24·95	0·494	50·5
1942	1,383	28·18	0·561	50·2
1943	1,525	29·87	0·612	48·8
1944	1,564	31·05	0·654	47·5
1945	1,538	30·98	0·669	46·3
	MALE			
1934	930	20·31	0·407	49·9[3]
1935	966	20·41	0·413	49·4[3]
1936	995	20·92	0·423	49·4[3]
1937	[2]	[2]	[2]	[2]
1938	1,055	21·49	0·454	47·3
1939	1,076	22·23	0·462	48·1
1940	1,202	24·83	0·488	50·9
1941	1,355	27·72	0·538	51·5
1942	1,558	31·75	0·619	51·3
1943	1,726	33·80	0·671	50·4
1944	1,761	34·95	0·712	49·1
1945[1]	1,739	35·04	0·736	47·6
	FEMALE			
1934	539	11·80	0·251	46·9[3]
1935	570	12·04	0·259	46·5[3]
1936	577	12·20	0·262	46·5[3]
1937	[2]	[2]	[2]	[2]
1938	594	12·10	0·271	44·6
1939	619	12·78	0·283	45·2
1940	655	13·52	0·286	47·3
1941	736	15·05	0·316	47·6
1942	854	17·41	0·371	46·9
1943	987	19·33	0·431	44·8
1944	1,051	20·89	0·479	43·6
1945	984	19·84	0·465	42·7

[1] Butter and cheese factories and fish-curing and -packing plants are excluded in the years 1938 to 1945, while sawmills are also excluded in 1945. By including sawmills, weekly earnings in 1945 would have been about $34·35 for male wage-earners. [2] Not available. [3] Estimated on the basis of hours worked by female wage-earners in 1938 and 1939 as compared with those worked by male wage-earners in those years.

24.—Average Annual, Weekly and Hourly Earnings of Wage-Earners, Classified by Sex, Province and Industrial Group, 1945

Province or Industrial Group	Average Earnings			Hours Worked per Week	Average Earnings			Hours Worked per Week
	Annual	Weekly	Hourly		Annual	Weekly	Hourly	
	MALE				FEMALE			
	$	$	cts.	No.	$	$	cts.	No.
Prince Edward Island	1,080	30·00	59·3	50·6	557	15·49	30·7	50·5
Nova Scotia	1,640	34·67	72·8	47·6	799	16·89	36·8	45·9
New Brunswick	1,515	31·67	63·1	50·2	744	15·54	35·2	44·1
Quebec	1,684	34·13	68·7	49·7	935	18·97	42·9	44·2
Ontario	1,790	36·02	77·1	46·7	1,024	20·61	49·5	41·6
Manitoba	1,667	32·88	71·3	46·1	914	18·03	42·3	42·6
Saskatchewan	1,526	32·36	69·4	46·6	934	19·81	45·6	43·4
Alberta	1,599	32·54	70·7	46·0	961	19·55	46·0	42·5
British Columbia	1,879	36·21	83·4	43·4	1,139	21·96	53·4	41·1
Yukon and Northwest Territories	2,110	48·96	98·7	49·6	–	–	–	–
Canada	**1,739**	**35·04**	**73·6**	**47·6**	**984**	**19·84**	**46·5**	**42·7**
Vegetable products	1,563	30·49	62·2	49·0	850	16·59	39·2	42·3
Animal products[1]	1,490	30·73	66·7	46·1	890	18·34	43·3	42·4
Textiles and textile products	1,519	30·25	63·7	47·5	919	18·32	43·1	42·5
Wood and paper products[2]	1,547	32·34	67·5	47·9	815	17·03	40·6	41·9
Iron and its products	1,978	38·86	82·0	47·4	1,365	26·82	60·8	44·1
Non-ferrous metal products	1,841	36·64	77·8	47·1	1,193	23·76	55·0	43·2
Non-metallic mineral products	1,725	33·46	70·6	47·4	1,088	21·10	48·6	43·4
Chemicals and allied products	1,803	33·83	71·4	47·4	1,143	21·45	49·5	43·3
Miscellaneous industries	1,607	32·70	71·2	45·9	951	19·36	46·4	41·7

[1] Exclusive of butter and cheese and fish-curing and -packing plants. [2] Exclusive of sawmills.

25.—The Forty Industries Employing the Greatest Numbers of Male Wage-Earners, Ranked According to the Average Annual, Weekly and Hourly Earnings, 1945

NOTE.—For the rank of these industries as regards the annual employment of male wage-earners, see Table 19.

	Industry	Average Weekly Earnings		Average Hourly Earnings		Average Annual Earnings		Average Hours Worked per Week
		Amount	Rank	Amount	Rank	Amount	Rank	
		$		$		$		No.
1	Automobiles	48·53	1	1·069	1	2,385	1	45·4
2	Aircraft	44·13	2	0·951	2	2,295	2	46·4
3	Bridge and structural steel	41·23	3	0·862	6	2,078	3	47·8
4	Shipbuilding and repairs	39·54	4	0·843	7	2,063	4	46·9
5	Railway rolling-stock	39·51	5	0·866	5	1,996	6	45·6
6	Primary iron and steel	39·50	6	0·811	13	1,930	11	48·7
7	Miscellaneous iron and steel products	39·20	7	0·812	11	2,056	5	48·3
8	Automobile supplies	39·14	8	0·812	12	1,945	9	48·2
9	Brass and copper products	38·50	9	0·816	10	1,927	12	47·2
10	Clothing, women's factory	38·15	10	0·926	3	1,918	13	41·2
11	Machine shops	37·88	11	0·776	17	1,833	18	48·8
12	Non-ferrous metal smelting and refining	37·76	12	0·785	14	1,953	8	48·1
13	Agricultural implements	37·49	13	0·783	15	1,783	23	47·9
14	Printing and publishing	37·31	14	0·876	4	1,913	14	42·6
15	Acids, alkalies and salts	37·16	15	0·768	18	1,964	7	48·4
16	Pulp and paper	37·05	16	0·734	24	1,892	15	50·5
17	Petroleum products	36·95	17	0·827	8	1,934	10	44·7
18	Castings, iron	36·31	18	0·744	21	1,828	19	48·8
19	Machinery	36·09	19	0·737	23	1,743	26	49·0
20	Rubber goods, including rubber footwear	36·05	20	0·779	16	1,802	22	46·3
21	Hardware, tools and cutlery	36·00	21	0·741	22	1,809	20	48·6
22	Electrical apparatus and supplies	35·83	22	0·762	19	1,803	21	47·0

25.—The Forty Industries Employing the Greatest Numbers of Male Wage-Earners, Ranked According to the Average Annual, Weekly and Hourly Earnings, 1945 —concluded.

	Industry	Average Weekly Earnings		Average Hourly Earnings		Average Annual Earnings		Average Hours Worked per Week
		Amount	Rank	Amount	Rank	Amount	Rank	
		$		$		$		No.
23	Clothing, men's factory	35·12	23	0·821	9	1,747	25	42·8
24	Breweries	34·64	24	0·678	29	1,846	17	51·1
25	Miscellaneous chemical products	34·23	25	0·716	25	1,851	16	47·8
26	Sheet metal products	33·65	26	0·713	26	1,662	27	47·2
27	Printing and bookbinding	33·52	27	0·752	20	1,661	28	44·6
28	Heating and cooking apparatus	32·97	28	0·693	28	1,620	29	47·6
29	Slaughtering and meat packing	32·74	29	0·710	27	1,765	24	46·1
30	Bread and other bakery products	29·65	30	0·593	32	1,518	30	50·0
31	Silk and artificial silk	29·11	31	0·576	34	1,428	34	50·5
32	Hosiery and knitted goods	28·98	32	0·600	31	1,460	32	48·3
33	Flour and feed mills	28·46	33	0·565	36	1,498	31	50·4
34	Furniture	28·08	34	0·604	30	1,340	36	46·5
35	Cotton yarn and cloth	27·43	35	0·556	37	1,303	37	49·3
36	Biscuits, confectionery, cocoa, etc	27·17	36	0·589	33	1,299	38	46·1
37	Planing mills, sash and door factories	27·11	37	0·549	38	1,432	33	49·4
38	Boxes, wooden	26·84	38	0·566	35	1,410	35	47·4
39	Boots and shoes, leather	26·05	39	0·535	39	1,270	39	48·7
40	Fruit and vegetable preparations	25·69	40	0·522	40	1,214	40	49·2
	Average, Forty Leading Industries	**35·92**	–	**0·755**	–	**1,822**	–	**47·6**
	Average, All Industries[1]	**35·04**	–	**0·736**	–	**1,739**	–	**47·6**

[1] Exclusive of sawmills, butter and cheese and fish-curing and -packing plants.

26.—The Forty Industries Employing the Greatest Numbers of Female Wage-Earners, Ranked According to the Average Annual, Weekly and Hourly Earnings, 1945

NOTE.—For the rank of these industries as regards the annual employment of female wage-earners, see Table 20.

	Industry	Average Weekly Earnings		Average Hourly Earnings		Average Annual Earnings		Average Hours Worked per Week
		Amount	Rank	Amount	Rank	Amount	Rank	
		$		cents		$		No.
1	Aircraft	36·02	1	80·8	1	1,873	1	44·6
2	Miscellaneous iron and steel products	28·76	2	64·6	2	1,509	2	44·5
3	Brass and copper products	27·47	3	61·3	3	1,376	3	44·8
4	Scientific and professional equipment	26·37	4	60·1	4	1,298	4	43·9
5	Automobile supplies	25·30	5	58·7	5	1,257	5	43·1
6	Electrical apparatus and supplies	24·05	6	55·4	6	1,210	7	43·4
7	Fur goods	23·57	7	54·8	7	1,091	10	43·0
8	Miscellaneous chemical products	22·98	8	51·6	8	1,242	6	44·5
9	Machinery	22·38	9	50·2	11	1,081	11	44·6
10	Sheet metal products	21·35	10	47·8	15	1,054	12	44·7
11	Slaughtering and meat packing	21·25	11	50·1	12	1,145	8	42·4
12	Glass products	21·18	12	49·0	13	1,095	9	43·2
13	Clothing contractors, men's	20·55	13	48·1	14	897	23	42·7
14	Hats and caps	20·18	14	51·6	9	930	18	39·1
15	Hardware, tools and cutlery	20·00	15	45·0	17	1,006	13	44·4
16	Clothing, women's factory	19·91	16	50·5	10	1,001	14	39·4
17	Rubber goods, including rubber footwear	19·63	17	47·1	16	982	15	41·7
18	Tobacco, cigars and cigarettes	19·00	18	44·4	18	941	17	42·8
19	Silk and artificial silk	18·42	19	40·4	24	904	20	45·6
20	Furniture	18·42	20	43·6	20	879	25	42·2
21	Cotton yarn and cloth	18·27	21	39·1	29	965	16	46·7
22	Miscellaneous cotton textiles	18·17	22	44·2	19	826	28	41·1
23	Jewellery and silverware	18·14	23	43·6	21	888	24	41·6

26.—The Forty Industries Employing the Greatest Numbers of Female Wage-Earners, Ranked According to the Average Annual, Weekly and Hourly Earnings, 1945 —concluded.

	Industry	Average Weekly Earnings		Average Hourly Earnings		Average Annual Earnings		Average Pours Worked per Week
		Amount	Rank	Amount	Rank	Amount	Rank	
		$		cents		$		No.
24	Clothing, men's factory	18·13	24	42·7	22	901	21	42·5
25	Woollen cloth	18·08	25	41·2	23	923	19	43·9
26	Boots and shoes, leather	16·95	26	38·9	31	811	30	43·6
27	Woollen yarns	16·85	27	38·8	32	853	27	43·4
28	Miscellaneous paper products	16·67	28	39·6	27	857	26	42·1
29	Fruit and vegetable preparations	16·41	29	37·9	35	776	33	43·3
30	Miscellaneous leather goods	16·39	30	40·3	25	773	34	40·7
31	Medicinal and pharmaceutical preparations	16·24	31	40·3	26	899	22	40·3
32	Boxes and bags, paper	16·20	32	38·0	34	810	31	42·6
33	Corsets	16·00	33	36·4	37	749	38	44·0
34	Hosiery and knitted goods	15·98	34	37·2	36	804	32	43·0
35	Printing and publishing	15·84	35	39·3	28	813	29	40·3
36	Printing and bookbinding	15·54	36	39·0	30	771	35	39·8
37	Gloves and mittens, leather	15·20	37	38·5	33	713	40	39·5
38	Biscuits, confectionery, cocoa, etc	14·44	38	35·7	39	759	36	40·4
39	Miscellaneous food	14·13	39	35·8	38	755	37	39·5
40	Bread and other bakery products	14·11	40	33·3	40	723	39	42·4
	Average, Forty Leading Industries	**19·79**	–	**46·2**	–	**1,001**	–	**42·8**
	Average, All Industries[1]	**19·84**	–	**46·5**	–	**984**	–	**42·7**

[1] Exclusive of sawmills, butter and cheese and fish-curing and -packing plants.

Real Earnings of Employees in Recent Years.—When the index number representing the average yearly wages is divided by the index number of the cost of living, on the same base, a measure of "real" wages is obtained. Index numbers for 1934 to 1945 are given in Table **27.** In 1933, the height of the depression, real wages were 88·3 on the 1935-39 base. From then on they rose steadily and stood at 141·1 in 1944, an increase of about 60 p.c. In 1945 real wages dropped to 138·1.

27.—Average Yearly Earnings, and Index Numbers of Earnings, Cost of Living and Real Wages of Wage-Earners, in Manufacturing Industries, 1934-45

NOTE.—Figures on the 1917 base, with qualifications as to comparability, for 1917 to 1933 are published at p. 421 of the 1939 Canada Year Book.

Year	Wages Paid	Average Wage-Earners	Average Yearly Earnings	Index Numbers (1935-39=100)		
				Average Yearly Earnings	Cost of Living	Real Value of Average Yearly Earnings
	$	No.	$			
1934	355,090,929	427,717	830	89·1	95·7	93·1
1935	399,012,697	458,734	870	93·3	96·2	97·0
1936	438,873,377	489,942	896	96·1	98·1	98·0
1937	525,743,562	544,624	965	103·5	101·2	102·3
1938	498,282,208	521,427	956	102·6	102·2	100·4
1939	519,971,819	533,342	975	104·6	101·5	103·1
1940	679,273,104	626,484	1,084	116·3	105·6	110·1
1941	978,525,782	802,234	1,220	130·9	111·7	117·2
1942	1,347,934,049	974,904	1,383	148·4	117·0	126·8
1943	1,598,434,879	1,047,873	1,525	163·6	118·4	138·2
1944	1,611,555,776	1,030,324	1,564	167·8	118·9	141·1
1945	1,427,915,830	928,665	1,538	165·0	119·5	138·1

Percentages of Salaries and Wages to Net Value of Products.—Table 28 shows the relation between salaries and wages paid by manufacturers and the total net value of production. Figures of gross production are often used in such calculations, but the values out of which the wages of employees must come in the long run are the values added to the raw materials while they are in the factory. Such added values constitute the real production of the manufacturing plant and are alone available for payment of salaries and wages, interest, rent, taxes, repairs, and all other overhead charges that ordinarily must be met. The percentage declined steadily with the increasing manufacturing production from 1924 to 1929, while from 1931 to 1935 and again in 1938 and 1939, due to decreased industrial activity, the percentage of salaries to value added was above normal. It should be borne in mind, however, that salaried employees increased 172 p.c. during the period 1924-45 while wage-earners increased 122 p.c. The percentage of wages has fluctuated much less than that of salaries. The number of wage-earning employees may be more rapidly adjusted to the activity of the industry and wage levels likewise may be more readily adjusted to the price levels of the products. Of the increase in the net value of production amounting to $2,033,263,998 since 1939, $1,107,962,296 or 54·5 p.c. was passed along in increased salaries and wages.

28.—Percentages of Salaries and Wages Paid to the Total Net Values of Manufacturing Production, 1933-45

Year	Value Added by Processes of Manufacture[1]	Salaries Paid	Wages Paid	Percentages— of Salaries to Value Added	Percentages— of Wages to Value Added	Percentages— of Total Salaries and Wages to Value Added
	$	$	$	p.c.	p.c.	p.c.
1933	919,671,181	139,317,946	296,929,878	15·1	32·3	47·4
1934	1,087,301,742	148,760,126	355,090,929	13·7	32·7	46·4
1935	1,153,485,104	160,455,080	399,012,697	13·9	34·6	48·5
1936	1,289,592,672	173,198,057	438,873,377	13·4	34·0	47·4
1937	1,508,924,867	195,983,475	525,743,562	13·0	34·8	47·8
1938	1,428,286,778	207,386,381	498,282,208	14·5	34·9	49·4
1939	1,531,051,901	217,839,334	519,971,819	14·2	34·0	48·2
1940	1,942,471,238	241,599,761	679,273,104	12·0	35·0	47·0
1941	2,605,119,788	286,336,861	978,525,782	11·0	37·6	48·6
1942	3,309,973,758	334,870,793	1,347,934,049	10·1	40·7	50·8
1943	3,816,413,541	388,857,505	1,598,434,879	10·2	42·0	52·2
1944	4,015,776,010	418,065,594	1,611,555,776	10·4	40·2	50·6
1945	3,564,315,899	417,857,619	1,427,915,830	11·7	40·1	51·8

[1] Equivalent to "net value of products"; Table 1, p. 522, see footnote 1.

Subsection 4.—Size of Manufacturing Establishments

The size of the manufacturing establishment is generally measured either by the value of product, or by the number of employees, but each of these methods has its limitations. The latter takes no account of the differences in capital equipment at different times or in various industries and obviously the increased use of machinery, as in the flour-milling industry, may lead to an increase in production concurrently with a decrease in the number of employees. The former measure has to be adjusted for changes in the price level; and, as between industries, it makes those in which the cost of raw materials is relatively high, appear to operate on a larger scale.

Size as Measured by Gross Value of Products.—While in 1922 the 420 establishments each producing over $1,000,000 had an aggregate value of products of $1,268,056,129 or 51 p.c. of the total production of all manufacturing industries, the 719 establishments producing over $1,000,000 each in 1929 had an aggregate value of products of $2,516,064,954, or 62 p.c. of the grand total for all manufacturing establishments—a very significant change in the short period of eight years. In 1931, however, the number of plants with a production of over $1,000,000 dropped again to 482, their output being valued at $1,451,658,954, or 53 p.c. of the total. With the increased production resulting from war needs, the number of plants with a production of $1,000,000 or over jumped to 1,376 in 1944 and their output was about 75 p.c. of the total value of manufactures. With the end of the War and the consequent decline in production of the huge war plants the number of establishments with a production of $1,000,000 or over, although increasing to 1,384 in 1945, nevertheless saw a decline in the proportion of their output to 71 p.c. of the total.

29.—Manufacturing Establishments, Grouped According to Gross Value of Products, with Totals and Average Values of Products in each Class, for Canada, 1929, 1939, 1944 and 1945.

Group of Gross Values	1929[1]			1939[2]		
	Establishments	Total Production	Average per Establishment	Establishments	Total Production	Average per Establishment
	No.	$	$	No.	$	$
Under $25,000	14,024	106,735,470	7,611	15,623	120,903,054	7,738
$ 25,000 but under $ 50,000	2,802	99,529,725	35,521	2,803	99,558,383	35,519
50,000 " 100,000	2,209	156,308,744	70,760	2,215	156,410,769	70,614
100,000 " 200,000	1,688	237,532,492	140,718	1,584	225,582,130	142,413
200,000 " 500,000	1,519	504,218,217	331,941	1,285	390,626,844	303,990
500,000 " 1,000,000	636	443,597,677	697,481	689	466,441,130	676,983
1,000,000 " 5,000,000	601	1,217,866,089	2,026,400	520	1,091,293,939	2,098,642
5,000,000 and over	118	1,298,198,865	11,001,685	81	923,724,311	11,404,004
Totals and Averages	**23,597**	**4,063,987,279**	**172,225**	**24,800**	**3,474,540,560**	**140,102**
	1944			1945		
Under $25,000	13,942	128,782,147	9,237	13,715	128,803,172	9,392
$ 25,000 but under $ 50,000	4,011	143,023,914	35,658	4,220	151,887,857	35,992
50,000 " 100,000	3,442	245,273,500	71,259	3,611	257,256,629	71,242
100,000 " 200,000	2,513	355,235,489	141,359	2,741	386,049,931	140,843
200,000 " 500,000	2,256	714,546,348	316,731	2,363	742,817,414	314,354
500,000 " 1,000,000	943	661,670,696	701,666	1,016	709,212,751	698,044
1,000,000 " 5,000,000	1,089	2,294,546,053	2,107,021	1,118	2,310,055,058	2,066,239
5,000,000 and over	287	4,530,614,372	15,786,113	266	3,564,286,054	13,399,572
Totals and Averages	**28,483**	**9,073,692,519**	**318,565**	**29,050**	**8,250,368,866**	**284,006**

[1] Includes central electric stations and dyeing, cleaning and laundry establishments. [2] Exclusive of Yukon and the Northwest Territories.

Size as Measured by Number of Employees.—In 1923, establishments employing 501 hands or over accounted for 21·4 p.c. of the total number of employees engaged in manufacturing. By 1929 the proportion had increased to 27·3 p.c. of the total, thereby showing the increasing concentration of production into larger units. This tendency, however, was checked by the depression, the percentage

having dropped in 1933 to 20·5 (central electric stations included). With the recovery in production since 1933 the percentage has risen again, and in 1939 stood at 25·6. The same also holds true for establishments employing 101 hands or over. In 1923 they employed 58·6 p.c. of the total, in 1929, 61·9 p.c., in 1933, 55·7 p.c., in 1939, 61·5 p.c.

The impact of the War on the concentration of war industries into large units is illustrated by the increase in the number of establishments employing 500 hands or over. In 1939 such establishments numbered 172 and employed 25·6 p.c. of the total number of employees engaged in manufacturing. By 1944 the number had increased to 383 and the percentage of total employees to 47·0. In a further subdivision of this group in 1944 it was found that 226 establishments employed between 500 and 999 persons, 56 between 1,000 and 1,499, and 101 employed over 1,500. All told there were twelve plants employing over 7,000 persons. The largest one had an employment of a little over 13,000 with the next three largest employing between 9,000 and 10,000. Three other plants employed between 8,000 and 9,000 persons while the lowest five plants in this group employed between 7,000 and 8,000 workers.

In 1945 the size of manufacturing establishments declined. The largest ones, viz., those employing 1,500 and over, numbered only 80 as compared with 100 in 1944. Also the largest manufacturing plant in Canada which employed over 13,000 persons in 1944 employed slightly over 9,000 employees in 1945. The second largest establishment had 7,000 employees; other plants ranged as follows:—

No. of Employees	*No. of Establishments*
5,000 to 6,000	5
4,000 to 5,000	6
3,000 to 4,000	15
1,500 to 3,000	52

30.—Manufacturing Establishments, Classified by Number of Employees, by Provinces, 1945

Province	Up to 500	500 to 799	800 to 999	1,000 to 1,499	1,500 and over	Total
Prince Edward Island	234	Nil	Nil	Nil	Nil	234
Nova Scotia	1,285	9	1	"	2	1,297
New Brunswick	882	3	2	1	1	889
Quebec	9,912	57	19	20	30	10,038
Ontario	10,694	84	24	31	36	10,869
Manitoba	1,294	1	Nil	4	3	1,302
Saskatchewan	923	3	Nil	Nil	Nil	926
Alberta	1,151	5	1	"	"	1,157
British Columbia	2,307	7	2	2	8	2,326
Yukon and Northwest Territories	12	Nil	Nil	Nil	Nil	12
Canada	**28,694**	**169**	**49**	**58**	**80**	**29,050**

31.—Establishments and Employees in Canadian Manufactures, Grouped According to Number of Employees per Establishment, 1929, 1939, 1944 and 1945

Group	1929[1]			1939[2]		
	Establishments	Employees	Average per Establishment	Establishments	Employees	Average per Establishment
	No.	No.	No.	No.	No.	No.
Under 5 employees	12,273	30,446	2·5	13,002	28,020	2·2
5 to 20 employees	6,160	62,310	10·1	6,985	68,151	9·8
21 " 50 "	2,531	81,846	32·3	2,330	75,324	32·3
51 " 100 "	1,262	90,238	71·5	1,158	81,646	70·5
101 " 200 "	745	103,944	139·5	695	97,063	139·7
201 " 500 "	444	136,397	307·2	458	139,687	305·0
501 and over	182	189,253	1,040·0	172	168,168	977·7
Totals and Averages	**23,597**	**694,434**	**29·4**	**24,800**	**658,059**	**26·5**
	1944			1945		
	No.	No.	No.	No.	No.	No.
Under 5 employees	13,208	29,958	2·3	12,959	30,052	2·3
5 to 14 employees	7,111	58,404	8·2	7,483	61,995	8·3
15 " 49 "	4,615	124,408	27·0	4,972	133,801	26·9
50 " 99 "	1,622	113,869	70·2	1,666	116,422	69·9
100 " 199 "	900	126,192	140·2	982	136,961	139·5
200 " 499 "	644	196,707	305·4	632	193,122	305·6
500 and over	383	573,344	1,497·0	356	447,019	1,255·2
Totals and Averages	**28,483**	**1,222,882**	**42·9**	**29,050**	**1,119,372**	**38·5**

[1] Includes central electric stations, dyeing, cleaning and laundry establishments. [2] Exclusive of Yukon and the Northwest Territories.

Size of Establishment in Leading Industries.—Table 32 summarizes the degree of concentration in some of the leading industries of Canada. Concentration is extremely marked in the case of automobiles, railway rolling-stock, aircraft, cotton yarn and cloth, shipbuilding and repairs, miscellaneous chemical products, non-ferrous metal smelting and refining, and pulp and paper; whereas in the case of bread and other bakery products, women's factory clothing, butter and cheese, and sawmills, the degree of concentration is low.

32.—Percentage Importance of Establishments, each Employing 200 or more Persons in the Twenty-Five Leading Industries, 1945

	Industry	Number of Such Establishments	Percentage of Total Number in the Industry	Percentage of Total Production in the Industry
1	Slaughtering and meat packing	28	18·4	77·3
2	Pulp and paper	55	50·5	90·5
3	Non-ferrous smelting and refining	13	76·5	97·4
4	Aircraft	20	52·6	98·7
5	Sawmills	22	0·4	22·8
6	Electrical apparatus and supplies	43	17·4	77·8
7	Automobiles	4	66·7	99·5
8	Flour and feed mills	8	0·8	42·1
9	Butter and cheese	12	0·5	13·7
10	Shipbuilding and repairs	29	32·6	93·5
11	Petroleum products	9	19·6	66·3
12	Primary iron and steel	33	52·4	91·1
13	Rubber goods	20	36·4	95·5
14	Railway rolling-stock	23	62·2	96·9
15	Miscellaneous chemical products	15	6·4	75·6
16	Clothing, women's factory	8	0·8	7·3
17	Iron and steel products, misc	25	13·4	86·8
18	Clothing, men's factory	31	6·8	39·8
19	Machinery	33	12·4	61·1
20	Bread and other bakery products	20	0·7	25·7
21	Automobile supplies	23	21·3	77·5
22	Cotton yarn and cloth	26	63·4	94·9
23	Miscellaneous foods	7	2·6	28·8
24	Sheet metal products	25	12·8	68·8
25	Brass and copper products	16	9·9	60·7

PART II.—PROVINCIAL AND LOCAL DISTRIBUTION OF MANUFACTURING PRODUCTION

This part of the Chapter is introduced by a general analysis of the concentration of the manufacturing industries in the provinces. In the sections that follow, the principal features of the manufactures of each province are brought out and finally the distribution of manufacturing throughout the principal cities and towns of the Dominion is shown.

Ontario and Quebec are by far the most important manufacturing provinces of Canada. Their combined production in 1945 amounted to $6,496,973,000 or 80 p.c. of the gross value of manufactured products of the Dominion. The proximity of Ontario to the coalfields of Pennsylvania, the water power and other varied resources of the two provinces, and their nearness to the larger markets of Canada and the United States have all contributed to the above result.

Table 1 shows the outstanding predominance of Ontario and Quebec in each industrial group. Quebec leads in the manufacture of textiles, but in each of the other groups Ontario has the greater production. The standing of these two provinces is most nearly approached by British Columbia in the case of the wood and paper products group, where the latter province accounts for 16·4 p.c. of the gross production compared with 35·6 p.c. for Ontario and 34·8 p.c. for Quebec; in each of the other groups the positions of Ontario and Quebec lead by a wide margin.

1.—Summary Statistics of Manufactures of Each Province, Classified by Industrial Groups, 1945

Province and Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
Canada	No.	No.	$	$	$	$
Vegetable products	5,862	135,311	196,010,688	802,367,469	529,112,219	1,352,986,147
Animal products	4,470	98,267	138,405,263	839,885,434	261,069,677	1,111,929,735
Textiles and textile products	2,740	158,148	207,629,471	429,208,436	367,980,705	807,722,241
Wood and paper products	10,653	199,373	306,179,416	551,143,890	586,057,023	1,184,650,720
Iron and its products	2,188	321,719	637,335,990	887,425,621	1,046,097,484	1,975,310,083
Non-ferrous metal products	683	88,350	158,358,737	429,913,071	316,572,975	779,384,900
Non-metallic mineral products	789	32,525	57,193,679	231,341,920	145,197,043	405,736,477
Chemicals and chemical products	973	60,723	106,017,985	212,197,636	249,701,603	478,532,689
Miscellaneous industries	692	24,956	38,642,220	90,185,370	62,527,170	154,115,874
Totals	**29,050**	**1,119,372**	**1,845,773,449**	**4,473,668,847**	**3,564,315,899**	**8,250,368,866**
Prince Edward Island						
Vegetable products	33	331	316,276	1,032,065	728,001	1,809,291
Animal products	100	836	680,971	5,684,333	1,214,890	6,975,251
Wood and paper products	90	371	259,696	369,385	512,523	901,201
Iron and its products	7	224	304,805	225,389	319,758	566,318
All other groups[1]	4	89	117,464	931,777	403,262	1,340,692
Totals	**234**	**1,851**	**1,679,212**	**8,242,949**	**3,178,434**	**11,592,753**

[1] Includes textiles, non-metallic minerals and chemicals.

1.—Summary Statistics of Manufactures of Each Province, Classified by Industrial Groups, 1945—continued

Province and Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	$	$	$	$
Nova Scotia						
Vegetable products	159	3,151	3,874,928	10,419,546	8,565,020	19,466,381
Animal products	220	3,923	4,445,632	25,399,156	10,531,431	36,333,363
Textiles and textile products	28	2,439	2,560,556	5,551,216	4,770,436	10,524,187
Wood and paper products	771	6,145	6,925,946	13,255,828	12,709,355	27,166,180
Iron and its products	78	16,000	30,675,797	31,665,579	40,531,647	75,706,067
Non-metallic mineral products	21	1,325	2,559,533	19,018,066	5,275,170	25,952,948
Chemicals and chemical products	15	393	604,328	2,475,320	1,894,341	4,466,716
Miscellaneous industries	5	47	56,525	75,828	80,789	159,335
Totals	**1,297**	**33,423**	**51,703,245**	**107,860,539**	**84,358,189**	**199,775,177**
New Brunswick						
Vegetable products	152	3,157	4,079,682	26,703,583	10,065,193	37,485,690
Animal products	176	3,017	2,926,420	16,568,272	6,444,579	23,337,762
Textiles and textile products	19	1,875	2,074,724	3,357,807	3,775,379	7,319,349
Wood and paper products	472	8,611	12,549,366	32,163,621	25,763,227	61,915,277
Iron and its products	35	4,372	8,498,184	3,561,587	12,683,683	16,703,161
Non-metallic mineral products	20	306	430,348	709,819	1,148,660	2,062,677
Chemicals and chemical products	9	308	516,874	3,002,980	1,621,014	4,669,382
Miscellaneous industries[1]	6	857	1,332,450	1,167,678	1,878,340	3,130,080
Totals	**889**	**22,503**	**32,408,048**	**87,235,347**	**63,380,075**	**156,623,378**
Quebec						
Vegetable products	1,822	40,759	56,583,993	195,333,338	144,518,966	345,016,091
Animal products	1,817	32,613	41,145,706	189,485,820	69,882,403	261,891,709
Textiles and textile products	1,507	87,138	113,140,537	238,235,148	206,341,435	450,393,106
Wood and paper products	3,510	64,883	96,996,239	195,261,915	193,993,415	412,696,856
Iron and its products	474	89,382	179,693,454	195,698,240	283,706,158	489,010,669
Non-ferrous metal products	171	25,185	45,804,177	138,406,136	99,425,297	251,066,236
Non-metallic mineral products	198	8,226	14,160,986	62,338,579	34,164,368	105,368,067
Chemicals and chemical products	323	29,967	51,840,402	80,421,057	101,976,975	188,403,106
Miscellaneous industries	216	5,878	8,107,949	12,353,960	15,381,902	28,057,990
Totals	**10,038**	**384,031**	**607,473,443**	**1,307,534,193**	**1,149,390,919**	**2,531,903,830**
Ontario						
Vegetable products	2,510	67,436	101,868,388	400,819,048	273,404,628	685,590,383
Animal products	1,524	33,511	51,626,181	287,865,972	87,678,403	380,202,219
Textiles and textile products	987	59,721	81,438,877	156,672,002	138,739,534	299,520,873
Wood and paper products	3,017	74,607	117,524,616	191,121,330	217,607,003	422,071,993
Iron and its products	1,151	166,406	327,818,322	589,049,644	571,687,625	1,185,566,783
Non-ferrous metal products	434	57,896	102,268,168	242,322,267	199,387,977	456,734,685
Non-metallic mineral products	382	17,204	30,695,908	100,378,003	78,610,495	193,064,892
Chemicals and chemical products	511	25,276	43,423,000	108,038,521	114,592,595	230,267,807
Miscellaneous industries	353	15,999	25,819,927	72,023,816	39,229,939	112,049,386
Totals	**10,869**	**518,056**	**882,483,387**	**2,148,290,603**	**1,720,938,199**	**3,965,069,021**

[1] Includes non-ferrous metals.

1.—Summary Statistics of Manufactures of Each Province, Classified by Industrial Groups, 1945—concluded

Province and Group	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
	No.	No.	$	$	$	$
Manitoba						
Vegetable products	258	5,270	7,379,148	44,793,270	22,449,936	68,338,232
Animal products	207	7,925	12,368,207	103,346,997	27,928,202	132,051,384
Textiles and textile products	102	4,393	5,123,253	16,647,155	8,503,872	25,270,701
Wood and paper products	504	6,037	8,761,004	12,202,918	17,395,652	30,490,049
Iron and its products	95	10,186	18,498,989	16,804,111	25,912,274	43,873,398
Non-ferrous metal products	25	673	1,051,581	8,244,720	2,612,473	11,099,927
Non-metallic mineral products	38	1,087	1,708,110	4,935,182	4,615,086	10,532,495
Chemicals and chemical products	36	1,995	3,688,319	6,791,831	6,008,865	13,393,992
Miscellaneous industries	37	801	1,235,498	2,348,392	2,348,766	4,771,105
Totals	**1,302**	**38,367**	**59,814,109**	**216,114,576**	**117,775,126**	**339,821,283**
Saskatchewan						
Vegetable products	170	2,423	3,552,959	33,875,237	10,383,048	44,934,956
Animal products	98	3,730	5,618,385	51,451,063	11,500,399	63,486,320
Textiles and textile products	5	55	62,331	1,097,972	175,477	1,275,079
Wood and paper products	567	3,089	3,411,516	4,809,884	6,620,757	11,667,725
Iron and its products	39	1,035	1,779,191	5,802,694	2,648,202	8,581,359
Non-metallic mineral products	29	725	1,384,025	14,082,230	4,369,355	19,346,870
Chemicals and chemical products	10	123	175,592	405,539	423,713	841,537
Miscellaneous industries[1]	8	437	921,607	14,754,583	2,154,176	17,554,287
Totals	**926**	**11,617**	**16,905,606**	**126,279,202**	**38,275,127**	**167,688,133**
Alberta						
Vegetable products	273	4,100	5,915,351	38,302,114	22,716,441	61,674,533
Animal products	149	5,741	8,923,166	93,608,667	20,435,876	114,710,920
Textiles and textile products	28	834	1,085,430	1,945,966	1,475,506	3,439,686
Wood and paper products	565	4,741	6,082,791	11,156,417	11,401,806	22,884,055
Iron and its products	67	3,387	6,339,062	5,437,408	7,759,509	13,524,096
Non-ferrous metal products	6	83	137,861	312,579	252,125	573,185
Non-metallic mineral products	43	1,932	3,047,243	14,197,771	9,956,715	25,133,911
Chemicals and chemical products	14	464	917,693	895,410	3,915,202	5,356,245
Miscellaneous industries	12	204	311,729	341,804	634,446	990,873
Totals	**1,157**	**21,486**	**32,760,326**	**166,198,136**	**78,547,626**	**248,287,504**
British Columbia						
Vegetable products	482	8,676	12,428,973	51,068,809	36,263,604	88,627,977
Animal products	179	6,971	10,670,595	66,475,154	25,453,494	92,940,807
Textiles and textile products	62	1,642	2,096,172	5,165,163	4,036,916	9,277,222
Wood and paper products	1,152	30,876	53,655,481	90,784,742	100,031,442	194,814,486
Iron and its products	241	30,700	63,660,813	39,175,134	100,781,255	141,695,474
Non-ferrous metal products	43	3,709	7,540,178	25,597,579	12,135,027	41,434,461
Non-metallic mineral products	56	1,699	3,155,391	15,571,001	6,626,813	23,717,201
Chemicals and chemical products	54	2,169	4,804,857	9,782,436	19,057,043	30,535,922
Miscellaneous industries	57	1,532	2,406,673	2,139,818	3,568,925	5,859,574
Totals	**2,326**	**87,974**	**160,419,133**	**305,759,836**	**307,954,519**	**628,903,124**
Yukon and N.W.T.						
Vegetable products	3	8	10,990	20,459	17,382	42,613
Wood and paper products	5	13	12,761	17,850	21,843	42,898
All other groups[2]	4	43	103,189	115,157	478,460	619,152
Totals	**12**	**64**	**126,940**	**153,466**	**517,685**	**704,663**

[1] Includes non-ferrous metals. [2] Includes iron and its products, non-ferrous metal products, non-metallic mineral products, and miscellaneous industries.

The degree of concentration of manufacturing production in large units is illustrated in Table 2. In the Province of Quebec 44·0 p.c. of all persons engaged in manufacturing were employed in establishments having 500 or more employees as compared with 39·9 p.c. for Canada as a whole. Ontario ranked second with 40·5 p.c., followed by Nova Scotia with 37·7 p.c., British Columbia 36·5 p.c., Manitoba 28·7 p.c., New Brunswick 28·4 p.c., Alberta 20·1 p.c., and Saskatchewan 14·8 p.c. There were no plants in Prince Edward Island with an employment of 500 persons.

2.—Concentration of Manufacturing Production in Each Province, 1945

Province	Number of Establishments Employing 500 or More Persons	Percentage of Total Number of Establishments in Province	Provincial Percentage of Number of Employees Accounted for by these Establishments
Prince Edward Island	Nil	–	–
Nova Scotia	12	0·9	37·7
New Brunswick	7	0·8	28·4
Quebec	126	1·3	44·0
Ontario	175	1·6	40·5
Manitoba	8	0·6	28·7
Saskatchewan	3	0·3	14·8
Alberta	6	0·5	20·1
British Columbia	19	0·8	36·5
Totals	**356**	**1·2**	**39·9**

Section 1.—The Manufactures of the Maritime Provinces, 1945

In Prince Edward Island the predominant agricultural and fishery resources make butter and cheese, fish-curing and -packing, and slaughtering and meat packing the leading manufactures of the Province. Nova Scotia is renowned for its coal mines and its fisheries, as well as extensive forests and agricultural lands and is favoured with easy access by sea to the high-grade iron-ore supply of Newfoundland. On these resources are based the leading manufactures of primary iron and steel, shipbuilding and repairs, fish-curing and -packing, sawmills, pulp and paper, and butter and cheese. In addition to this, important petroleum refineries and coke and gas plants add to the diversification of manufacturing in the Province. The forests of New Brunswick give a leading place to its pulp and paper and sawmilling industries, although fish and agricultural products add to the varied output. Sugar refining and the production of railway rolling-stock are also important branches.

3.—Statistics of the Leading Industries of the Maritime Provinces, 1945

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
		PRINCE EDWARD ISLAND					
		No.	No.	$	$	$	$
1	Fish-curing and -packing	68	597	382,901	2,794,782	738,556	3,566,949
2	Butter and cheese	29	145	148,269	1,717,924	323,051	2,069,968
3	Fruit and vegetable preparations	5	181	173,987	678,157	434,990	1,143,137
4	Castings, iron	3	170	240,929	149,920	253,845	418,886
5	Sawmills	71	163	55,627	208,938	193,685	407,865
6	Bread and other bakery products	12	85	72,225	164,443	137,179	312,333
7	Printing and publishing	4	125	135,586	43,652	202,752	254,060
8	Aerated waters	4	20	24,222	26,915	77,420	106,135
9	All other leading industries[1]	5	174	238,494	2,161,771	500,332	2,680,245
	Totals, Leading Industries	**201**	**1,660**	**1,472,240**	**7,946,502**	**2,861,810**	**10,959,578**
	Totals, All Industries	**234**	**1,851**	**1,679,212**	**8,242,949**	**3,178,434**	**11,592,753**

[1] Individual statistics cannot be given because there are fewer than three establishments in each industry.

3.—Statistics of the Leading Industries of the Maritime Provinces, 1945—concluded

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
		NOVA SCOTIA					
		No.	No.	$	$	$	$
1	Fish-curing and -packing	172	3,108	3,412,546	19,237,558	8,305,521	27,800,121
2	Shipbuilding	31	6,349	12,631,648	8,138,542	18,098,171	26,666,505
3	Primary iron and steel	6	5,421	9,985,430	13,123,112	8,799,121	24,418,793
4	Sawmills	564	2,956	2,226,527	6,605,700	4,700,732	11,395,270
5	Railway rolling-stock	3	1,172	2,161,294	6,193,013	3,720,573	10,160,615
6	Butter and cheese	27	556	710,650	4,293,478	1,677,806	6,081,739
7	Pulp and paper	5	724	1,480,349	2,396,777	2,500,424	5,838,613
8	Fruit and vegetable preparations	23	849	933,015	3,350,644	1,573,120	5,111,605
9	Bread and other bakery products	85	768	958,510	2,331,093	1,815,103	4,288,062
10	Biscuits, confectionery, cocoa, etc.	8	772	931,388	1,954,632	1,646,675	3,655,225
11	Planing mills, sash and door factories	38	625	853,477	2,024,747	1,084,603	3,161,967
12	Hosiery and knitted goods	4	803	855,370	1,508,278	1,501,459	3,065,046
13	Printing and publishing	33	777	1,195,337	507,924	2,459,921	3,020,757
14	Aerated waters	29	341	464,944	783,058	1,826,337	2,657,661
15	Clothing, men's factory	6	474	466,747	1,186,539	860,039	2,060,490
16	All other leading industries[1]	8	2,898	5,379,169	22,077,723	11,140,765	34,912,095
	Totals, Leading Industries	**1,042**	**28,593**	**44,646,401**	**95,712,818**	**71,710,370**	**174,294,564**
	Totals, All Industries	**1,297**	**33,423**	**51,703,245**	**107,860,539**	**84,358,189**	**199,775,177**
		NEW BRUNSWICK					
		No.	No.	$	$	$	$
1	Pulp and paper	6	3,272	6,426,543	17,882,030	14,104,900	35,684,065
2	Sawmills	342	2,901	2,887,204	8,653,165	5,888,461	14,640,642
3	Fish-curing and -packing	120	1,896	1,448,790	8,096,371	3,345,516	11,628,680
4	Foods, miscellaneous	8	407	543,947	7,306,992	1,415,922	8,740,673
5	Shipbuilding	3	1,597	3,513,100	828,028	6,073,610	7,032,809
6	Slaughtering and meat packing	3	331	509,268	3,920,564	1,216,853	5,168,867
7	Butter and cheese	35	388	491,609	3,522,757	1,025,127	4,637,373
8	Bread and other bakery products	77	711	874,321	1,917,124	1,623,368	3,661,843
9	Fertilizers	3	186	313,127	2,471,615	1,066,973	3,550,907
10	Planing mills, sash and door factories	29	741	920,858	1,779,239	1,273,506	3,094,187
11	Biscuits, confectionery, cocoa, etc.	8	600	667,205	1,270,662	1,421,962	2,741,230
12	Foods, stock and poultry	7	121	182,140	2,368,650	301,191	2,692,148
13	Heating and cooking apparatus	3	553	864,484	642,665	1,875,585	2,561,322
14	All other leading industries[1]	6	3,475	5,546,212	15,219,299	9,813,634	25,789,046
	Totals, Leading Industries	**650**	**17,179**	**25,188,808**	**75,879,161**	**50,446,608**	**131,623,792**
	Totals, All Industries	**889**	**22,503**	**32,408,048**	**87,235,347**	**63,380,075**	**156,623,378**

[1] Individual statistics cannot be given because there are fewer than three establishments in each industry. Such industries are: in Prince Edward Island: slaughtering and meat packing, planing mills, fertilizers, cotton and jute bags; in Nova Scotia: cotton yarn and cloth, aircraft, miscellaneous iron and steel products, wire, coke and gas, and petroleum; in New Brunswick: sugar refineries, railway rolling-stock, cotton yarn and cloth, silk and artificial silk goods and veneer and plywoods.

Section 2.—The Manufactures of Quebec, 1945

Among the assets of Quebec that have tended to develop manufacturing industries in the Province may be mentioned its natural resources of forests, water powers, minerals, and agricultural lands, and also its geographic position astride the St. Lawrence estuary permitting sea-going shipping to reach its main centres of population. Added to these natural advantages, there is a stable and industrious population, which is an important factor in industries such as textiles, clothing, boots and shoes, etc., where a large labour force is required.

The most notable change among the manufactures of Quebec in recent years has been the development of the non-ferrous metal smelting industry. This industry first appeared among the forty leading industries of the Province in nineteenth place in 1927. It has been in second place since 1935, with the exception of 1942 when it was in first place.

Quebec, with about 31 p.c. of the Dominion output in 1945, was the second largest manufacturing province. The production of pulp and paper again occupied the premier position which was held during 1943 and 1944 by miscellaneous chemical products and non-ferrous metal smelting and refining. In addition to accounting for about 8 p.c. of the gross value of Quebec manufactures in 1945, the pulp and paper industry furnished about 50 p.c. of the Dominion total for this industry. The value of tobacco products totalled approximately 89 p.c., cotton yarn and cloth 74 p.c., women's factory clothing 67 p.c., leather boots and shoes 66 p.c., men's factory clothing 60 p.c. and railway rolling-stock 53 p.c. of the Dominion totals of these products. Quebec is thus an outstanding manufacturing province by reason of her large individual industries and not so much on account of a great diversification of manufacturing activity.

4.—Statistics of the Leading Industries of the Province of Quebec, 1945

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
		No.	No.	$	$	$	$
1	Pulp and paper	49	19,824	38,934,914	88,056,690	89,884,983	199,172,142
2	Non-ferrous metal smelting and refining	8	6,234	12,519,068	79,769,166	40,186,056	131,570,344
3	Clothing, women's factory	611	18,427	25,225,844	53,483,921	46,727,353	100,420,371
4	Miscellaneous chemicals	76	19,105	33,331,370	37,866,981	58,450,107	98,958,463
5	Railway rolling-stock	10	14,833	31,086,860	43,102,775	50,109,205	95,360,595
6	Cotton yarn and cloth	16	14,905	19,525,386	50,835,478	32,045,805	85,187,647
7	Clothing, men's factory	266	14,848	19,433,697	47,483,461	35,539,364	83,252,216
8	Aircraft	16	17,354	38,322,958	22,070,104	54,231,615	77,090,671
9	Slaughtering and meat packing	32	3,361	5,755,421	65,206,046	10,252,087	75,983,490
10	Tobacco, cigars and cigarettes	46	9,243	12,110,295	39,448,456	33,463,931	73,166,256
11	Electrical apparatus and supplies	43	12,069	21,625,846	26,311,135	35,794,701	62,741,255
12	Shipbuilding	12	15,496	33,507,488	27,222,759	34,527,563	62,564,711
13	Iron and steel products, misc.	58	5,872	12,467,016	32,758,441	27,545,716	61,036,164
14	Butter and cheese	1,012	4,446	5,222,713	47,498,415	9,346,309	57,915,964
15	Sawmills	1,873	10,774	10,147,205	34,122,053	21,627,572	56,109,217
16	Boots and shoes, leather	167	13,401	15,674,940	30,689,894	24,787,696	55,727,621
17	Petroleum products	7	1,298	2,650,621	41,891,685	7,093,945	51,235,894
18	Machinery	45	7,609	13,180,813	15,078,724	29,909,222	45,613,301
19	Silk and artificial silk goods	24	7,926	10,392,527	13,697,721	22,088,169	36,835,222
20	Brass and copper products	40	3,932	7,370,937	19,710,899	14,618,228	35,097,505
21	Hosiery and knitted goods	83	9,370	10,768,100	16,077,442	18,335,210	34,877,258
22	Bread and other bakery products	1,951	7,621	9,802,309	16,012,070	16,380,770	33,568,292
23	Primary iron and steel	16	5,745	11,348,835	10,301,898	20,137,409	32,797,360
24	Breweries	8	2,979	6,049,955	7,532,493	21,543,061	29,619,718
25	Sheet metal products	40	5,394	8,570,744	14,314,718	13,176,142	27,838,520
26	Rubber goods, including footwear	17	6,074	8,016,565	13,671,606	13,131,313	27,277,995
27	Medicinal and pharmaceutical preparations	84	3,620	5,839,515	10,620,892	14,797,689	25,659,846
28	Foods, miscellaneous	72	1,531	2,268,911	15,990,458	8,514,084	24,714,359
29	Sugar refineries	3	772	1,422,668	18,998,103	4,494,433	24,017,311
30	Fur goods	241	2,729	4,231,779	17,046,775	6,759,955	23,863,379
31	Flour and feed mills	165	1,022	1,712,994	18,530,177	4,877,189	23,627,541
32	Hardware, tools and cutlery	53	4,528	7,622,391	6,168,962	16,412,654	22,957,221
33	Biscuits, confectionery, cocoa, etc.	62	3,548	4,144,199	12,191,934	9,352,696	21,868,339
34	Printing and publishing	75	4,857	8,639,592	4,822,726	16,614,913	21,643,692
35	Foods, stock and poultry	53	714	1,131,171	18,619,369	2,512,025	21,260,565
36	Castings, iron	53	4,011	7,375,449	9,430,299	10,815,596	20,726,506
37	Furniture	198	5,241	7,064,666	9,475,452	10,873,851	20,596,930
38	Acids, alkalies, salts, etc	10	2,516	4,881,888	9,921,273	7,728,275	20,228,837
39	Distilleries	7	1,414	2,483,303	8,624,499	10,778,725	19,928,203
40	Planing mills, sash and door factories	422	3,763	4,511,047	11,880,707	7,064,990	19,196,818
	Totals, Leading Industries	**7,124**	**298,406**	**486,372,000**	**1,066,536,657**	**912,530,607**	**2,041,307,739**
	Totals, All Industries	**10,038**	**384,031**	**607,473,443**	**1,307,534,193**	**1,149,390,919**	**2,531,903,830**
	Percentage of Leading Industries to All Industries	71·0	77·7	80·1	81·6	79·4	80·6

Section 3.—The Manufactures of Ontario, 1945

The gross value of the manufactured products of Ontario in 1945 represented about 48 p.c. of the total for the whole Dominion, while that of Quebec amounted to about 31 p.c. This premier position in manufacturing has been fairly uniformly maintained by Ontario, as the following percentages show: 1926, 52 p.c.; 1918, 53 p.c.; 1910, 50 p.c.; 1900, 50 p.c.; 1890, 51 p.c.; and 1880, 51 p.c. In spite of the rapid industrial development in recent years in other provinces, such as Quebec, British Columbia and Manitoba, Ontario is maintaining a manufacturing production roughly equal to that of the remainder of the Dominion.

The geographic position of Ontario on the Great Lakes waterway system, by means of which the iron ore of Minnesota and the coal of Pennsylvania, U.S.A. are readily accessible; the wide range of natural resources of forests, minerals, water powers, and agriculture; a large population and excellent water and rail transportation facilities to other parts of the country, have all encouraged industrial development. Other factors have been proximity to one of the most densely populated sections of the United States and the establishment within the Province of branch factories of United States industries, as in automobile manufacturing.

Industries producing capital or durable goods, which constitute an important factor in the manufactures of Ontario, were particularly hard hit during the early years of the depression preceding the Second World War. Thus, production was disproportionately curtailed in such important industries as automobiles, electrical equipment, machinery, agricultural implements, primary iron and steel, etc. This resulted in a lowering of the manufacturing production of the whole Province relatively to that of other provinces less affected by these influences. With the recovery since 1933 and the expansion in production resulting from the Second World War these industries in general have made good recovery, and Ontario, which accounted for 49 p.c. of the gross value of all products manufactured in the Dominion in 1933, had by 1942 increased the relative value to 50·5 p.c. In 1945, the percentage dropped again to 48·2, thus indicating a relatively greater expansion of war production in other provinces.

Ontario also has the greatest diversification of manufacturing production of any province. Outstanding among the industries in which this Province is pre-eminent are those of automobiles, agricultural implements, starch, bicycles and carpet manufacture which are carried on practically in this Province alone. Other important industries in which Ontario leads, with the percentage which the production of each bears to that of the Dominion total, in 1945, are as follows: abrasives 89, leather tanneries 86, rubber goods 85, miscellaneous non-ferrous metal products 83, cordage, rope and twine 80, soaps and washing compounds 80, woollen yarn 76, salt 73, clay products from imported clay 72, electrical apparatus and supplies 71, primary iron and steel 68, aluminum products 67, toilet preparations 65, coke and gas products 62, iron castings 61, fruit and vegetable preparations 57, flour and feed mills 56, medicinal and pharmaceutical preparations 55, glass and glass products 55, monumental and ornamental stone 54, acids, alkalies and salts 54, hosiery and knitted goods 54, and furniture 53.

5.—Principal Statistics of the Leading Industries of the Province of Ontario, 1945

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials	Net Value of Products	Gross Value of Products
		No.	No.	$	$	$	$
1	Automobiles	5	17,803	43,421,132	164,768,163	61,443,813	227,952,315
2	Aircraft	17	16,083	35,211,924	90,437,042	93,540,281	184,740,970
3	Electrical apparatus and supplies	175	31,437	53,938,253	64,121,596	98,146,320	164,152,400
4	Non-ferrous metal smelting and refining	7	7,144	14,132,261	114,646,696	37,171,103	162,606,005
5	Rubber goods	32	17,361	30,998,159	64,808,212	85,584,164	153,979,169
6	Slaughtering and meat packing	69	7,474	13,516,934	133,447,033	18,513,948	153,058,002
7	Primary iron and steel	27	17,007	34,447,216	61,499,625	57,614,863	129,796,623
8	Flour and feed mills	680	4,040	5,892,797	109,029,435	15,167,860	125,158,165
9	Automobile supplies	68	16,379	31,471,962	63,363,746	55,355,739	120,588,375
10	Pulp and paper	40	11,712	24,022,401	55,689,480	51,954,748	117,797,559
11	Butter and cheese	833	8,220	12,079,364	64,765,074	19,557,993	86,000,958
12	Machinery	173	15,142	28,577,522	24,840,303	52,454,696	78,262,192
13	Petroleum products	16	3,171	6,579,079	53,309,218	19,596,248	77,042,532
14	Miscellaneous chemical products	127	8,558	13,743,360	41,366,218	27,542,260	69,969,765
15	Scientific and professional equipment	26	6,588	12,840,833	51,813,715	16,074,366	68,178,475
16	Miscellaneous iron and steel products	95	11,631	23,287,643	28,701,894	36,589,155	66,508,082
17	Brass and copper products	97	8,412	16,639,815	32,223,202	32,479,493	65,912,656
18	Sheet metal products	108	9,888	16,115,354	35,750,876	27,760,209	64,397,424
19	Bread and other bakery products	1,054	13,799	18,399,792	27,727,401	30,469,183	60,076,898
20	Fruit and vegetable preparations	191	7,892	9,047,036	32,229,332	23,158,016	56,310,477
21	Agricultural implements	24	13,024	23,680,039	25,288,092	28,866,915	55,191,394
22	Hosiery and knitted goods	117	12,768	14,234,051	21,500,103	25,378,776	47,568,149
23	Castings and forgings	92	9,214	17,539,349	17,599,975	27,437,780	46,738,836
24	Biscuits, confectionery, cocoa, etc.	87	7,411	9,762,375	22,085,406	23,857,323	46,518,405
25	Railway rolling-stock	15	6,304	12,947,173	22,250,327	23,274,252	46,397,923
26	Printing and publishing	294	8,804	16,564,221	9,939,944	33,571,462	43,925,917
27	Hardware tools and cutlery	168	9,886	17,622,553	13,220,715	29,552,615	43,647,260
28	Miscellaneous foods	114	3,465	4,792,958	28,923,974	13,320,935	42,482,190
29	Coke and gas products	18	2,970	5,388,380	25,086,610	14,043,783	42,190,328
30	Clothing, men's factory	123	9,100	13,703,320	22,607,116	19,438,312	42,185,312
31	Leather tanneries	28	3,969	6,682,250	25,712,180	14,068,628	40,531,336
32	Clothing, women's factory	312	7,574	11,759,063	19,344,356	19,226,257	38,670,506
33	Tobacco processing and packing	9	1,187	1,593,870	33,465,844	4,430,880	37,975,292
34	Acids, alkalies and salts	20	3,811	7,922,574	10,935,622	20,694,168	36,546,373
35	Printing and bookbinding	574	8,872	13,365,898	14,585,227	21,470,213	36,375,677
36	Miscellaneous paper products	100	4,594	6,984,798	18,826,138	15,467,600	34,652,290
37	Boxes and bags, paper	82	6,046	8,262,337	18,540,730	15,024,873	33,836,895
38	Medicinal and pharmaceutical preparations	103	4,469	6,559,875	11,673,889	21,060,316	32,891,737
39	Breweries	21	2,319	5,058,111	6,734,118	25,271,814	32,413,856
40	Furniture	241	8,512	12,166,620	12,666,503	17,866,644	31,004,250
	Totals, Leading Industries	**6,382**	**374,040**	**660,952,652**	**1,695,525,130**	**1,273,498,004**	**3,044,232,968**
	Totals, All Industries	**10,869**	**518,056**	**882,483,387**	**2,148,290,603**	**1,720,938,199**	**3,965,069,021**
	Percentage of Leading Industries to All Industries	58·7	72·2	74·9	78·9	74·0	76·8

Section 4.—The Manufactures of the Prairie Provinces, 1945

The leading industries of these Provinces are those based on their agricultural resources—their grain-growing, cattle-raising, and dairying areas. Next in importance, generally, are industries providing for the more necessary needs of the resident population, such as the baking of bread, printing and publishing, etc. The extensive railway services require large shops for the maintenance of rolling-stock, especially in the Winnipeg area. The widespread use of motor-vehicles and power machinery on farms has given rise to petroleum refineries in each province. The greatly increased production of crude petroleum in Alberta seems likely to lead to further development of the refining industry. Manitoba, as the early commercial centre of

the prairies, has had a greater industrial development than either of the other provinces. Its natural resources of accessible water powers, forests, and, more recently, minerals, have given rise to quite a diversification of industrial production.

Considering the Prairie Provinces as an economic unit, slaughtering and meat packing had the largest gross value of production in 1945, amounting to $240,746,043, followed by flour and feed mills with $74,977,845, butter and cheese $52,918,011 and petroleum products $39,976,131. These four industries accounted for about 54 p.c. of the total production of the Prairie Provinces. Other leading industries, in the order named, were: railway rolling-stock, breweries, miscellaneous foods, bread and other bakery products, sawmills, etc.

6.—Statistics of the Leading Industries of the Prairie Provinces, 1945

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials Used	Net Value of Products	Gross Value of Products
		MANITOBA					
		No.	No.	$	$	$	$
1	Slaughtering and meat packing....	12	4,640	7,799,077	84,423,302	19,900,428	104,751,650
2	Flour and feed mills.....	37	764	1,084,221	20,127,079	3,629,208	23,952,504
3	Railway rolling-stock.....	4	5,200	9,960,933	9,795,612	10,110,896	20,379,116
4	Butter and cheese.....	92	1,543	2,301,275	12,214,807	4,329,985	16,833,508
5	Foods, miscellaneous.....	19	502	624,935	9,248,367	2,105,550	11,394,156
6	Clothing, men's factory.....	35	1,889	2,029,005	4,699,234	3,162,603	7,896,712
7	Clothing, women's factory.....	34	1,345	1,744,803	4,524,977	2,963,871	7,512,673
8	Miscellaneous chemical products..	7	1,284	2,632,729	3,653,992	2,769,213	6,925,406
9	Bags, cotton and jute.....	5	264	377,422	5,944,550	908,411	6,870,703
10	Breweries.....	6	557	1,026,937	1,533,936	4,934,458	6,591,924
11	Bread and other bakery products.	126	1,396	1,860,956	3,058,278	3,156,055	6,426,935
12	Biscuits, confectionery, cocoa, etc.	14	857	995,107	2,383,458	3,290,457	5,752,354
13	Printing and publishing.....	78	1,065	1,758,393	877,247	3,861,442	4,803,112
14	Printing and bookbinding.....	80	1,302	1,922,438	1,560,181	2,930,893	4,546,041
15	Fur goods.....	53	649	910,834	2,775,648	1,635,167	4,421,638
16	All other leading industries[1].....	5	790	1,704,392	9,364,733	6,259,450	16,411,069
	Totals, Leading Industries.	**607**	**24,047**	**38,733,457**	**176,185,401**	**75,948,087**	**255,469,501**
	Totals, All Industries.....	**1,302**	**38,367**	**59,814,109**	**216,114,576**	**117,775,126**	**339,821,283**
		SASKATCHEWAN					
1	Slaughtering and meat packing...	8	2,112	3,529,583	36,496,842	7,048,016	43,802,202
2	Flour and feed mills.....	37	677	1,169,592	23,731,994	2,324,970	26,429,338
3	Butter and cheese.....	71	1,471	1,883,670	14,420,001	4,044,347	18,730,712
4	Petroleum products.....	7	553	1,088,958	13,718,277	3,624,929	18,172,753
5	Foods, miscellaneous.....	6	239	260,567	4,601,065	860,704	5,487,136
6	Breweries.....	5	318	554,977	843,061	4,067,952	5,007,391
7	Bread and other bakery products.	84	906	1,106,127	2,431,679	2,145,676	4,700,737
8	Sawmills.....	385	1,463	1,034,337	2,020,924	2,504,984	4,632,856
9	Printing and publishing.....	107	836	1,368,326	624,409	2,488,478	3,171,736
10	Feeds, stock and poultry.....	8	98	162,373	1,422,500	209,445	1,656,427
11	Planing mills, sash and door factories.....	19	283	380,003	696,802	611,358	1,336,741
12	All other leading industries[1].....	4	1,041	2,023,418	21,855,704	3,948,385	26,537,311
	Totals, Leading Industries.	**741**	**9,997**	**14,561,931**	**122,863,258**	**33,879,244**	**159,665,340**
	Totals, All Industries.....	**926**	**11,617**	**16,905,606**	**126,279,202**	**38,275,127**	**167,688,133**
		ALBERTA					
1	Slaughtering and meat packing...	11	3,927	6,473,278	76,868,818	14,938,754	92,192,191
2	Flour and feed mills.....	75	939	1,407,098	20,434,359	3,935,586	24,596,003
3	Petroleum products.....	4	558	1,099,153	12,000,140	5,354,572	17,902,009
4	Butter and cheese.....	106	1,469	2,017,574	13,259,157	3,849,021	17,353,791

For footnote, see end of table p. 595.

6.—Statistics of the Leading Industries of the Prairie Provinces, 1945—concluded

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials Used	Net Value of Products	Gross Value of Products
		ALBERTA—concluded					
		No.	No.	$	$	$	$
5	Breweries	5	449	871,060	1,643,017	7,358,453	9,075,310
6	Bread and other bakery products	117	1,240	1,637,333	3,390,910	3,503,103	7,014,952
7	Sawmills	327	1,893	1,716,502	3,078,720	3,507,757	6,729,682
8	Planing mills	43	742	1,031,133	2,881,729	1,650,573	4,578,586
9	Railway rolling-stock	3	1,304	2,475,081	1,917,389	2,426,569	4,511,641
10	Printing and publishing	82	826	1,409,010	625,817	3,161,283	3,832,664
11	Foods, miscellaneous	13	139	167,776	3,069.481	670,093	3,746,913
12	Feeds, stock and poultry	22	186	270,796	2,340,233	536,806	2,909,675
13	Glass products	3	406	617,043	1,162,388	1,364,426	2,594,208
14	Clothing, men's factory	7	533	725,731	1,486,494	950,268	2,445,136
15	Castings, iron	10	565	885,863	739,076	1,243,521	2,021,031
16	Fruit and vegetable preparations	7	263	263,387	1,117,660	876,352	2,014,155
17	Printing and publishing	52	474	757,596	473,294	1,105,366	1,598,986
18	Boxes, wooden	6	287	411,463	790,585	641,070	1,446,674
19	Clay products from domestic clay	11	553	652,042	34,694	1,333,255	1,401,875
20	Aerated and mineral waters	18	173	286,306	412,802	751,605	1,189,871
21	All other leading industries[1]	11	1,822	3,466,480	11,597,065	11,528,030	24,070,216
	Totals, Leading Industries	**933**	**18,748**	**28,641,705**	**159,323,828**	**70,686,463**	**233,225,569**
	Totals, All Industries	**1,157**	**21,486**	**32,760,326**	**166,198,136**	**78,547,626**	**248,287,504**

[1] Other leading industries, individual statistics for which cannot be given because there are fewer than three establishments in each industry are: Manitoba, bridge and structural steel, non-ferrous metal smelting and refining and pulp and paper; Saskatchewan, non-ferrous metal smelting and refining, miscellaneous iron and steel products, bags, cotton and jute, and wood preservation; Alberta, cement, miscellaneous iron and steel products, wood preservation, malt and malt products, sugar refineries, acids, alkalies and salts, and cheese processed.

Section 5.—The Manufactures of British Columbia, 1945

British Columbia with a gross value of production of $628,903,124 in 1945 was again the third most important manufacturing province in the Dominion. About 17 p.c.of this amount; viz., $104,972,850 was contributed by the sawmilling industry. Shipbuilding with a value of production of $82,125,280 was in second place. This industry, which occupied first place during the war years was an important factor in British Columbia's manufacturing operations. At the height of its productive effort in 1943 it employed 31,238 persons who were paid $64,939,484 in salaries and wages, while the value of production reached the unprecedented figure of $155,536,396. In spite of its decline, the shipbuilding industry in 1945 was still the largest employer of labour and also paid out the highest amount in salaries and wages. Emphasizing the importance of the forests in the industrial life of the Province, the sawmilling industry ranked first with a gross value of production of $104,972,850, and the pulp and paper industry fourth with $35,304,731. Third in importance was fish-curing and -packing, based principally on the estuarial salmon fisheries. British Columbia accounted for 47 p.c. of the total production of this industry in Canada. Other important industries are: slaughtering and meat packing, fruit and vegetable preparations, petroleum products, fertilizers, butter and cheese, etc. The varied resources on the Pacific Coast have resulted in a wide diversification of manufactures.

7.—Statistics of the Leading Industries of the Province of British Columbia, 1945

	Industry	Establishments	Employees	Salaries and Wages	Cost of Materials Used	Net Value of Products	Gross Value of Products
		No.	No.	$	$	$	$
1	Sawmills	618	16,575	28,568,039	53,326,451	50,752,936	104,972,850
2	Shipbuilding and repairs	22	19,100	40,570,215	16,797,130	64,423,369	82,125,280
3	Fish-curing and -packing	72	3,561	5,175,141	27,621,020	15,781,146	43,837,973
4	Pulp and paper	7	4,125	8,851,835	13,480,370	19,383,228	35,304,731
5	Slaughtering and meat packing	11	1,251	2,245,069	24,678,292	2,717,209	27,571,637
6	Fruit and vegetable preparations	62	2,062	2,577,098	11,031,096	5,184,517	16,430,054
7	Petroleum products	6	443	908,994	13,172,999	2,558,482	16,230,791
8	Fertilizers	5	1,040	2,408,527	5,017,158	9,865,704	15,901,652
9	Butter and cheese	36	1,197	2,009,330	9,319,603	4,956,737	14,550,559
10	Bread and other bakery products	251	2,511	3,605,911	5,775,977	6,333,006	12,425,547
11	Veneer and plywood	9	1,763	2,952,007	4,397,302	7,363,065	11,908,799
12	Machinery	29	2,929	4,232,331	4,008,595	7,780,233	11,888,930
13	Miscellaneous foods	30	628	741,764	9,292,791	2,204,782	11,542,986
14	Sheet metal products	17	910	1,656,997	5,747,829	3,583,027	9,416,240
15	Breweries	11	586	1,183,809	1,489,903	6,567,682	8,176,519
16	All other leading industries[1]	5	6,917	15,874,479	37,547,591	28,643,661	70,319,328
	Totals, Leading Industries	**1,191**	**65,598**	**123,561,546**	**242,704,107**	**238,098,784**	**492,603,876**
	Totals, All Industries	**2,326**	**87,974**	**160,419,133**	**305,759,836**	**307,954,519**	**628,903,124**

[1] Includes: aircraft, distilleries, non-ferrous metal smelting and sugar refining.

Section 6.—Manufacturing Industries in Urban Centres

The prosperity of most of the cities and towns of Canada, especially in the east, is intimately connected with their manufacturing industries, which provide employment for a large proportion of their gainfully occupied population. In the west the cities are more largely distributing centres, though manufactures are rapidly increasing there.

8.—Cities and Towns Each with a Gross Manufacturing Production of Over $1,000,000, Number of Establishments and Total Production in such Urban Centres as a Percentage of the Grand Total, by Provinces, 1945.

NOTE.—Statistics published in this table are in some cases higher than the figures published in Table 10, since, in the table below are included statistics of towns with less than three establishments and production of over $1,000,000 each. It was not possible to publish this information, except in summary form, in Table 10 without disclosing the operations of individual establishments.

Province	Urban Centres with a Gross Production of over $1,000,000 each	Establishments Reporting in Urban Centres Producing over $1,000,000 each	Total Production in Urban Centres Producing over $1,000,000 each	Total Production in each Province	Production in Urban Centres as a Percentage of Total Production in each Province
	No.	No.	$	$	p.c.
Prince Edward Island	2	53	5,876,714	11,592,753	50·7
Nova Scotia	19	375	142,432,709	199,775,177	71·3
New Brunswick	14	292	110,965,521	156,623,378	70·8
Quebec	105	5,546	2,316,864,733	2,531,903,830	91·5
Ontario	141	7,708	3,564,301,555	3,965,069,021	89·9
Manitoba	7	835	306,551,235	339,821,283	90·2
Saskatchewan	7	304	132,972,918	167,688,133	79·3
Alberta	7	485	210,617,900	248,287,504	84·8
British Columbia	16	1,545	479,114,856	628,903,124	76·2
Yukon and Northwest Territories	Nil	–	–	704,663	–
Canada	**318**	**17,143**	**7,269,698,141**	**8,250,368,866**	**88·1**

Table 9, indicating the extent to which the manufacturing industries of Canada are concentrated in urban centres, shows by provinces the proportion of the gross manufacturing production contributed by cities and towns having a gross production of over $1,000,000 each. In the more highly industrialized provinces of Ontario and Quebec such cities and towns in 1945 accounted for 89·9 p.c. and 91·5 p.c., respectively, of the totals for those provinces, while in the Maritime Provinces and British Columbia, where sawmilling, fish-packing, and dairying are leading industries, the proportions fell to 70·4 p.c. and 76·2 p.c., respectively. In the Prairie Provinces manufacturing is confined largely to a few urban centres.

9.—Principal Statistics of the Manufacturing Industries of the Six Leading Manufacturing Cities of Canada, 1933-45

NOTE.—The dyeing, cleaning and laundry industry is included for the years prior to 1936.

City and Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products[1]
	No.	$	No.	$	$	$
Montreal 1933	2,226	363,342,078	80,212	74,150,933	148,504,215	300,636,197
1935	2,346	382,332,791	94,612	89,934,540	201,022,033	383,547,972
1937	2,474	415,816,451	105,931	112,652,112	281,407,645	511,481,054
1939	2,501	423,234,648	105,315	114,602,118	254,188,246	483,246,583
1940	2,519	475,575,804	118,774	138,118,813	334,350,566	604,806,394
1941	2,669	556,538,023	147,917	187,239,445	444,557,884	803,685,931
1942	3,007	629,809,985	169,987	240,888,491	541,625,660	976,767,738
1943	2,992	721,223,427	194,643	307,922,631	665,209,935	1,184,114,458
1944	3,109	[2]	185,708	308,396,358	650,618,563	1,215,988,014
1945	3,404	[2]	181,679	304,247,761	600,919,272	1,144,175,108
Toronto 1933	2,604	388,995,096	75,645	80,855,883	146,286,472	308,983,639
1935	2,689	386,898,652	86,226	97,144,947	190,370,255	385,883,455
1937	2,797	423,350,508	96,247	115,520,050	247,422,098	475,470,149
1939	2,885	447,009,768	98,702	122,553,435	240,532,281	482,532,331
1940	2,911	500,559,305	112,136	145,538,148	306,675,426	595,913,172
1941	3,045	554,317,600	133.099	184,267,132	391,328,916	756,923,939
1942	3,211	635,981,329	151,639	228,875,152	451,198,158	886,256,494
1943	3,238	647,907,281	156,459	259,307,913	481,504,056	961,923,997
1944	3,344	[2]	154,538	260,776,613	513,429,109	1,020,345,353
1945	3,482	[2]	146,335	244,055,112	496,204,721	961,736,716
Hamilton 1933	469	171,625,714	21,524	21,523,337	35,672,272	83,530,255
1935	484	176,246,963	26,769	30,162,244	53,740,074	114,691,789
1937	479	182,730,036	32,616	40,255,040	83,978,873	170,651,205
1939	461	206,584,330	31,512	39,563,423	70,829,034	152,746,340
1940	474	230,821,923	39,081	54,139,253	106,595,186	212,587,274
1941	491	255,862,917	45,421	72,845,604	136,403,197	283,670,019
1942	482	273,212,977	50,744	85,111,817	166,078,144	347,752,196
1943	485	315,896,136	54,671	95,576,332	164,271,139	362,743,019
1944	480	[2]	53,500	94,982,915	171,117,467	363,033,672
1945	482	[2]	50,520	89,639,262	166,349,884	351,676,308
Windsor 1933	247	66,398,372	10,212	10,719,819	25,752,258	49,359,245
1935	236	64,298,564	15,227	20,714,545	64,062,711	104,908,197
1937	228	77,750,511	18,650	26,919,449	78,667,058	136,896,194
1939	222	80,436,233	17,729	25,938,890	63,907,106	122,474,320
1940	215	102,896,682	20,916	37,260,970	112,991,063	194,174,159
1941	223	138,929,934	29,486	57,653,986	175,847,231	289,027,790
1942	233	206,556,146	37,057	76,276,589	240,384,518	383,323,348
1943	229	206,850,571	38,516	85,965,874	247,504,385	417,745,229
1944	231	[2]	35,912	80,667,573	232,102,240	387,603,874
1945	241	[2]	28,826	63,515,050	167,675,110	280,743,622
Vancouver 1933	746	74,209,271	12,094	11,754,124	28,588,106	55,160,883
1935	811	83,594,899	15,683	16,789,590	39,863,397	73,981,872
1937	824	85,851,189	17,641	20,783,032	53,139,109	95,717,017
1939	829	92,797,032	17,957	22,382,192	56,565,511	101,267,243
1940	849	101,429,495	20,767	26,502,084	70,468,864	120,981,388
1941	864	115,960,608	25,223	34,132,996	90,720,812	162,982,858
1942	897	136,336,017	37,858	60,779,827	116,153,100	223,295,187
1943	898	193,795,910	45,971	81,059,815	130,442,455	288.196,900
1944	933	[2]	43,473	79,141,407	142,416,371	289,390,718
1945	992	[2]	37,599	66,144,015	137,118,244	265,034,773

For footnotes, see end of table, p. 598.

9.—Principal Statistics of the Manufacturing Industries of the Six Leading Manufacturing Cities of Canada, 1933-45—concluded

City and Year	Establishments	Capital	Employees	Salaries and Wages	Cost of Materials	Gross Value of Products[1]
	No.	$	No.	$	$	$
Winnipeg.....1933	600	73,886,398	15,336	15,155,537	28,355,612	50,287,280
1935	616	71,837,683	16,649	17,568,803	36,825,174	67,217,042
1937	622	72,419,041	17,284	19,687,511	45,498,865	80,108,696
1939	648	73,255,368	17,571	20,717,273	44,873,043	81,024,272
1940	657	79,684,791	19,026	22,673,057	56,496,847	98,266,933
1941	677	105,406,381	23,831	30,169,726	73,427,543	127,913,351
1942	692	113,297,399	27,768	38,191,886	88,897,218	156,332,353
1943	688	100,511,565	24,898	35,807,283	106,485,838	174,523,234
1944	686	[2]	25,870	38,824,299	119,917,745	198,169,626
1945	716	[2]	26,206	40,115,513	117,453,819	197,523,922

[1] Net value is derived from gross value by deducting cost of materials, fuel, and electricity. For cost of fuel and electricity in 1945 see Table 10. [2] Information not collected.

10.—Statistics of Manufactures of Municipalities, each with a Gross Production of $1,000,000 or Over, and with Three or More Establishments, 1945

NOTE—Statistics for cities and towns with three or more establishments cannot be published when one establishment has 75 p.c. or two establishments 90 p.c. of the total production.

Province and Municipality	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products[1]
	No.	No.	$	$	$	$
Prince Edward Island—						
Charlottetown	34	606	752,076	61,698	2,337,535	3,617,229
Summerside	19	341	351,145	46,564	1,519,578	2,259,485
Nova Scotia—						
Amherst	26	1,615	2,529,656	205,078	2,015,486	6,203,636
Berwick	7	236	243,459	53,311	1,049,188	1,500,420
Dartmouth	13	217	309,673	39,190	709,053	1,412,611
Digby	9	256	295,494	14,239	744,915	1,166,836
Halifax	116	7,135	12,988,289	580,954	18,486,466	42,074,965
Kentville	9	249	283,544	55,703	855,591	1,375,243
Lockport	3	261	366,177	38,767	1,179,147	1,966,312
Lunenburg	14	710	1,215,327	82,478	2,498,790	4,464,846
Middleton	7	243	266,249	58,800	964,162	1,573,223
New Glasgow	25	709	1,146,384	120,247	757,320	2,339,949
North Sydney	12	345	502,610	27,161	1,820,412	3,158,839
Pictou	8	1,299	2,085,104	123,494	3,066,990	5,826,406
Sydney	42	6,125	11,186,166	3,133,271	17,620,091	34,272,316
Trenton	4	1,971	4,027,913	486,801	10,166,829	17,569,746
Truro	29	1,263	1,312,783	118,556	2,989,225	5,580,439
Windsor	10	318	333,024	31,584	1,490,145	2,132,463
Yarmouth	27	984	1,080,471	121,831	2,915,311	5,088,485
New Brunswick—						
Campbellton	13	363	548,615	41,970	530,404	1,282,581
Fredericton	27	691	874,834	84,742	2,521,184	4,203,434
Moncton	51	3,124	4,773,336	337,255	7,459,461	14,786,851
Newcastle	13	329	299,582	19,850	1,214,264	1,682,880
Sackville	8	555	847,185	42,149	722,783	2,422,662
Saint John	116	4,387	6,852,089	784,643	28,861,411	43,779,905
St. Stephen	14	532	666,717	66,692	1,659,774	3,262,550
Sussex	15	244	310,154	11,846	1,013,083	1,695,473
Quebec—						
Acton Vale	15	735	880,069	49,206	1,123,256	2,981,717
Asbestos	11	524	738,122	169,472	2,254,274	3,721,169
Beauharnois	12	1,384	2,564,509	872,451	3,896,694	9,663,734
Bedford	10	651	743,191	32,490	334,083	2,216,359
Berthier	16	728	829,859	141,479	1,831,667	4,110,642
Brownsburg	6	1,091	1,921,666	70,628	1,830,720	4,854,902

[1] Net value is derived from gross value by deducting the cost of materials, fuel and electricity.

10.—Statistics of Manufactures of Municipalities, each with a Gross Production of $1,000,000 or Over, and with Three or More Establishments, 1945—continued

Province and Municipality	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products[1]
	No.	No.	$	$	$	$
Quebec—continued						
Buckingham	13	935	1,589,016	617,079	4,192,854	9,062,895
Cabano	5	305	339,307	3,423	744,733	1,569,250
Cap de la Madeleine	20	1,662	2,301,524	203,518	4,372,389	10,429,926
Chambly Canton	6	432	606,404	68,381	804,763	1,855,636
Chicoutimi	23	357	454,143	34,442	764,223	1,616,350
Coaticook	23	935	1,020,625	73,070	2,772,597	4,884,548
Danville	11	166	193,762	66,623	698,721	1,030,970
Drummondville	31	6,768	8,933,747	1,066,289	11,206,342	31,847,944
Farnham	17	769	977,666	112,803	2,112,288	4,307,491
Granby	50	4,603	5,743,330	312,874	13,919,039	27,471,333
Grand'Mère	19	2,035	2,688,749	908,209	6,289,667	14,768,594
Hull	49	3,652	5,635,139	1,076,130	13,993,515	23,824,148
Huntingdon	10	547	870,783	54,263	2,548,396	4,609,579
Iberville	17	257	317,532	27,962	566,951	1,314,657
Joliette	47	1,703	2,031,902	199,925	3,882,130	7,46 ,117
Jonquière	15	391	687,925	110,323	1,805,391	3,277,625
Lachine	39	6,667	12,813,387	779,985	16,233,146	46,745,543
La Pérade (Ste. Anne de)	10	265	280,303	67,124	1,635,249	2,195,239
La Prairie	21	642	911,951	393,059	580,299	2,653,743
La Salle	18	1,857	2,982,065	549,162	12,973,900	27,962,148
L'Assomption	11	235	286,358	13,207	869,221	1,288,773
Lennoxville	9	297	425,797	98,349	791,680	1,624,088
L'Epiphanie	15	357	364,265	15,927	376,957	1,059,732
Lévis	24	331	440,999	18,569	1,049,827	1,774,494
Longueuil	19	5,093	11,632,555	334,221	14,818,235	51,194,326
Loretteville	27	729	664,045	17,544	1,492,152	2,699,622
Louiseville	15	1,012	1,093,538	121,188	2,271,728	5,307,771
Marieville	18	628	622,733	35,239	1,755,692	3,127,814
Matane	12	295	323,207	4,043	991,418	1,834,386
Mégantic (Lac)	14	521	547,520	13,421	553,290	1,266,673
Montmagny	32	1,187	1,391,845	68,747	2,649,648	5,077,087
Montmorency	4	1,598	2,200,846	176,733	4,769,251	9,666,838
Montreal	3,404	181,679	304,247,761	15,603,977	600,919,272	1,144,175,108
Montreal East	19	3,471	6,688,091	4,376,454	90,552,525	115,317,019
Nicolet	12	424	410,129	15,707	755,902	1,830,278
Outremont	19	1,058	1,844,431	66,518	4,263,999	8,291,155
Plessisville	13	775	933,218	47,210	1,348,002	2,694,857
Pointe aux Trembles	9	353	470,652	33,251	1,179,352	1,946,931
Pont Rouge	10	268	308,118	147,514	1,542,906	3,035,160
Portneuf Station	10	169	223,926	50,448	768,192	1,113,214
Princeville	10	246	295,348	36,285	2,175,925	2,608,868
Quebec	333	17,547	25,272,950	2,759,042	38,938,542	79,981,114
Richmond	10	568	593,830	25,710	1,275,288	2,302,093
Rimouski	21	679	918,205	25,112	2,907,796	4,860,173
Rivière du Loup	19	391	580,762	80,609	442,240	1,199,827
Roberval	9	276	193,630	13,263	678,415	1,192,280
Rock Island	11	699	1,192,209	63,224	822,695	3,741,429
St. Césaire	28	335	398,953	20,506	739,416	1,302,987
St. Félicien	19	136	195,224	19,134	693,929	1,002,060
St. Georges Est	11	381	461,578	39,415	697,565	1,316,460
St. Hyacinthe	70	5,064	5,956,313	369,897	14,872,895	25,690,358
St. Jean	58	4,328	5,870,390	544,491	9,917,739	20,154,821
St. Jérôme (Terrebonne)	37	3,787	4,552,470	331,695	9,650,331	18,161,900
St. Lambert	15	815	922,583	60,303	1,638,022	3,891,132
St. Laurent	16	2,473	4,186,512	243,703	6,895,633	12,561,677
Ste. Marie	16	352	382,932	18,009	774,756	1,250,262
St. Pie	12	186	203,341	14,893	704,179	1,065,775
St. Pierre	9	2,196	4,662,846	654,301	3,555,483	13,369,984
St. Rémi	12	324	328,799	27,387	1,204,395	2,057,802
Ste. Thérèse de Blainville	26	3,216	4,901,983	291,855	12,382,054	18,383,880
St. Tite	21	310	332,730	9,272	887,029	1,500,067
Sayabec (Saindon)	6	170	206,779	3,094	1,332,521	1,707,791
Shawinigan Falls	41	5,220	9,488,193	5,772,619	20,862,010	48,276,743
Sherbrooke	87	8,050	11,226,070	786,069	19,096,732	42,572,728
Sorel	33	2,534	4,954,791	625,653	3,832,176	13,527,329
Terrebonne	17	577	824,270	27,036	1,305,407	2,691,947
Three Rivers	73	6,989	11,150,709	4,334,307	25,039,851	51,430,644
Trois Pistoles	11	111	155,075	8,963	888,333	1,229,662
Valleyfield	40	3,724	4,597,988	418,915	6,882,946	14,309,583
Verdun	33	1,873	2,844,493	65,609	3,487,754	5,818,792
Victoriaville	34	1,910	2,256,834	77,877	3,965,824	7,812,849

[1] Net value is derived from gross value by deducting the cost of materials, fuel and electricity.

10.—Statistics of Manufactures of Municipalities, each with a Gross Production of $1,000,000 or Over, and with Three or More Establishments, 1945—continued

Province and Municipality	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products[1]
	No.	No.	$	$	$	$
Quebec—concluded						
Warwick	12	314	411,993	44,596	1,146,223	2,010,738
Waterloo	16	776	948,759	68,991	1,345,783	3,315,113
Westmount	14	1,753	3,102,986	219,739	4,447,834	10,713,687
Windsor (Mills)	8	826	1,368,385	544,708	3,554,508	6,946,436
Ontario—						
Acton	17	1,012	1,334,129	167,595	5,972,891	8,917,214
Almonte	12	357	444,722	53,543	1,875,525	2,820,854
Amherstburg	10	682	1,268,089	1,040,272	2,117,199	9,093,453
Arnprior	16	477	646,811	64,844	1,468,546	2,877,445
Aurora	8	465	682,937	42,627	2,680,914	4,595,987
Aylmer (West)	13	246	301,403	67,479	2,794,913	3,462,020
Barrie	16	544	776,846	64,020	3,758,078	5,171,792
Belleville	43	2,115	3,031,234	419,561	3,870,978	9,980,857
Bowmanville	13	913	1,463,781	133,015	3,044,983	6,523,039
Brampton	22	942	1,509,602	59,172	2,641,010	5,006,914
Brantford	123	12,245	19,812,302	1,101,805	27,093,154	58,688,808
Brockville	35	1,524	2,222,095	217,377	9,351,539	14,477,197
Burlington	9	344	497,524	53,481	1,926,283	3,001,392
Cache Bay	3	122	189,530	859	828,887	1,178,350
Caledonia	10	260	422,398	122,151	1,275,270	2,378,616
Campbellford	14	359	397,576	40,774	1,667,128	2,523,268
Carleton Place	10	858	1,132,903	86,727	1,842,835	3,582,564
Chatham	57	2,555	4,235,918	539,082	22,371,258	31,031,099
Chesley	12	973	1,742,392	62,659	1,627,827	4,123,152
Cobourg	24	634	916,548	114,739	2,098,927	4,053,243
Collingwood	17	1,331	2,220,978	72,102	1,698,341	5,046,720
Cornwall	47	5,789	8,557,896	1,913,927	12,959,131	30,317,955
Dryden	12	506	806,257	232,399	1,652,335	3,354,361
Dundas	23	863	1,236,261	53,539	1,309,856	3,601,760
Dunnville	20	757	1,004,506	69,006	2,261,997	4,149,387
Eastview	11	313	493,142	71,975	3,180,712	4,199,712
Elmira	19	502	792,369	72,731	2,011,152	3,906,405
Elora	7	310	449,146	19,608	460,315	1,059,856
Essex	10	316	367,795	39,040	791,007	1,471,898
Exeter	6	116	168,400	27,821	565,348	1,008,333
Fergus	12	809	1,406,498	70,154	2,207,807	3,913,341
Forest	10	202	244,375	31,136	764,097	1,300,648
Fort Erie	14	1,626	3,550,192	72,303	3,455,341	6,795,551
Fort William	45	5,690	11,375,159	1,467,932	13,647,340	28,592,228
Frankford	7	298	688,138	35,255	636,013	2,015,888
Galt	76	5,530	8,201,917	505,419	10,265,781	24,003,738
Gananoque	14	790	1,226,145	136,650	2,085,800	4,158,046
Georgetown	14	710	1,102,106	150,803	2,323,030	4,347,336
Goderich	15	464	629,542	196,417	5,676,008	7,622,857
Gravenhurst	8	382	519,634	14,255	896,934	1,936,487
Grimsby	14	442	534,786	35,163	807,738	1,770,182
Guelph	90	5,381	8,144,122	560,253	14,110,763	29,716,709
Hagersville	5	97	144,569	40,085	779,177	1,628,257
Hamilton	482	50,520	89,639,262	11,611,077	166,349,884	351,676,308
Hanover	17	974	1,263,564	49,196	2,162,152	4,035,850
Hespeler	13	1,472	2,022,050	180,513	4,579,923	7,953,798
Humberstone	11	628	962,517	64,542	5,501,690	8,159,448
Huntsville	16	430	580,831	55,200	2,875,592	4,371,412
Ingersoll	19	1,292	2,109,242	143,136	4,679,853	8,617,812
Kincardine	12	587	592,630	40,344	1,026,359	2,301,624
Kingston	49	5,630	9,818,107	847,491	14,489,444	34,209,137
Kingsville	12	275	372,605	28,136	6,077,606	6,765,597
Kitchener	156	13,344	20,807,035	1,107,018	52,644,963	97,598,675
Leamington	12	1,177	1,428,989	185,055	10,315,970	17,971,086
Leaside	47	9,963	19,583,457	527,166	63,106,280	89,888,595
Lindsay	29	1,204	2,136,191	247,601	2,983,359	5,248,641
Listowel	16	376	430,797	74,350	1,728,394	3,292,948
London	240	13,733	21,702,351	1,215,427	35,743,711	82,455,267
Long Branch	16	2,096	4,226,787	151,465	2,761,573	9,462,591
Lucknow	11	79	89,392	15,680	857,346	1,157,585
Meaford	15	314	388,761	29,103	813,943	1,485,059
Merritton	13	1,985	3,819,586	617,323	7,843,810	14,901,066
Midland	15	939	1,526,303	72,005	3,611,309	6,630,430
Milton	13	435	642,229	189,520	862,004	2,864,414
Mimico	18	394	781,159	48,874	827,136	2,170,924

[1] Net value is derived from gross value by deducting the cost of materials, fuel and electricity.

10.—Statistics of Manufactures of Municipalities, each with a Gross Production of $1,000,000 or Over, and with Three or More Establishments, 1945—continued

Province and Municipality	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products[1]
	No.	No.	$	$	$	$
Ontario—concluded						
Napanee	14	334	425,708	59,662	647,233	1,554,972
New Hamburg	12	238	282,159	21,967	760,991	1,236,517
New Liskeard	15	656	860,816	28,810	1,219,402	2,470,944
Newmarket	13	795	1,162,259	95,293	2,625,408	5,477,993
New Toronto	27	7,084	13,801,122	1,206,780	40,712,600	79,982,588
Niagara Falls	62	6,325	11,674,098	4,226,445	18,836,600	51,428,530
North Bay	21	399	596,299	53,112	1,057,454	2,245,859
Oakville	23	743	1,124,947	75,709	2,193,062	4,761,137
Orangeville	14	235	252,530	17,745	886,287	1,458,892
Orillia	36	2,168	3,283,650	181,815	3,064,120	9,429,210
Oshawa	51	7,962	16,174,863	874,655	54,077,488	80,262,272
Ottawa	203	9,413	15,029,886	1,003,197	21,249,504	50,362,303
Owen Sound	45	2,750	4,055,336	224,164	4,631,753	11,854,796
Paris	20	1,076	1,337,523	95,037	3,094,706	5,985,526
Pembroke	37	1,234	1,456,872	72,287	2,119,616	5,155,012
Penetanguishene	13	472	629,498	27,325	664,916	1,998,936
Perth	19	912	1,321,057	69,083	2,652,755	5,582,987
Peterborough	85	8,625	14,254,180	828,689	43,089,924	67,960,755
Port Arthur	37	2,797	5,468,094	1,062,677	6,495,464	16,630,934
Port Colborne	22	2,747	5,074,938	2,330,612	71,926,041	103,794,157
Port Hope	20	868	1,479,419	125,775	1,635,859	4,673,028
Prescott	15	894	1,135,570	32,135	946,106	2,561,527
Preston	31	2,492	3,760,881	182,037	5,668,374	12,256,383
Renfrew	23	1,020	1,448,441	113,498	2,837,053	5,801,114
Ridgetown	10	213	266,177	13,793	559,896	1,206,816
St. Catharines	94	9,351	16,630,392	1,003,074	32,277,338	61,830,037
St. Mary's	20	539	780,146	500,067	2,320,491	4,472,907
St. Thomas	37	1,422	2,031,562	124,850	3,767,659	7,446,490
Sarnia	43	6,297	12,760,287	5,217,496	47,868,020	88,985,552
Sault Ste. Marie	48	5,790	11,655,554	3,870,954	29,842,310	56,360,015
Seaforth	12	229	309,271	25,262	1,679,650	2,281,069
Simcoe	26	1,355	1,858,212	146,724	8,948,607	13,644,835
Smiths Falls	20	1,244	1,885,719	88,261	2,515,088	4,473,772
Southampton	5	327	507,088	22,055	695,014	1,563,446
Stratford	57	3,507	5,638,088	269,212	8,555,388	16,796,212
Strathroy	20	613	704,505	34,962	1,910,625	3,415,563
Streetsville	10	135	208,473	33,552	1,802,896	2,175,954
Sudbury	39	792	1,144,142	94,980	2,866,887	5,097,409
Swansea	6	606	1,020,180	133,415	1,299,112	3,676,245
Tavistock	13	225	263,258	24,334	1,634,207	2,204,776
Thorold	21	1,713	3,682,705	2,028,980	9,094,134	18,559,503
Tillsonburg	19	595	880,303	96,771	5,533,591	7,842,275
Timmins	24	454	579,775	49,479	1,093,680	2,378,717
Toronto	3,482	146,335	244,055,112	11,765,313	496,204,721	961,736,716
Trenton	22	1,568	1,997,560	311,534	11,617,385	16,113,465
Walkerton	15	439	519,020	21,329	784,429	1,635,782
Wallaceburg	20	2,514	3,901,127	649,850	5,530,424	12,677,040
Waterloo	48	2,578	4,083,187	245,312	6,368,609	16,929,728
Welland	51	8,518	15,726,147	3,731,515	27,616,432	64,345,427
Wellington	9	164	167,218	37,178	703,706	1,180,766
West Lorne	8	206	282,306	12,099	1,251,062	2,101,095
Weston	29	3,180	5,767,144	231,596	9,136,460	16,094,347
Whitby	14	397	504,117	32,745	954,689	1,691,108
Windsor	241	28,826	63,515,050	4,053,119	167,675,110	280,743,622
Wingham	12	310	404,574	29,923	1,395,614	2,226,285
Woodbridge	6	178	261,184	79,859	230,112	1,029,217
Woodstock	59	3,476	5,102,258	316,229	10,597,200	21,217,536
Manitoba—						
Brandon	30	683	957,352	118,132	5,360,718	7,220,847
Portage La Prairie	13	185	189,130	17,597	648,987	1,022,351
St. Boniface	55	3,453	5,950,529	478,351	61,805,269	80,034,359
Selkirk	8	634	1,041,518	301,615	1,050,641	2,931,653
The Pas	7	155	246,832	5,649	376,560	1,179,737
Transcona	6	3,278	6,450,408	748,869	9,163,025	16,638,366
Winnipeg	716	26,206	40,115,513	2,530,202	117,453,819	197,523,922
Saskatchewan—						
Melville	9	65	74,217	25,925	1,365,179	1,538,689
Moose Jaw	42	1,625	2,680,991	440,423	29,301,227	34,587,925
Prince Albert	32	1,132	1,665,207	156,450	11,102,700	15,239,233

[1] Net value is derived from gross value by deducting the cost of materials, fuel and electricity.

10.—Statistics of Manufactures of Municipalities, each with a Gross Production of $1,000,000 or Over, and with Three or More Establishments, 1945—concluded

Province and Municipality	Establishments	Employees	Salaries and Wages	Cost of Fuel and Electricity	Cost of Materials	Gross Value of Products[1]
	No.	No.	$	$	$	$
Saskatchewan—concluded						
Regina	108	3,150	5,278,125	976,595	26,482,645	39,912,106
Saskatoon	86	2,319	3,575,178	425,169	29,877,533	39,048,802
Swift Current	14	153	205,646	28,073	979,227	1,406,878
Yorkton	13	169	215,032	30,995	842,344	1,239,285
Alberta—						
Calgary	216	6,673	11,082,003	1,697,775	56,066,787	87,601,407
Edmonton	195	7,368	11,742,160	702,185	68,514,779	93,360,524
Lethbridge	30	717	1,037,697	88,890	3,477,238	7,866,855
Medicine Hat	25	1,087	1,476,802	90,480	10,390,061	13,619,427
Red Deer	12	105	159,833	27,892	1,213,969	1,669,585
British Columbia—						
Cranbrook	17	304	479,151	44,419	799,282	1,630,972
Kamloops	20	236	355,404	20,146	528,164	1,103,721
Kelowna	25	606	878,526	60,624	2,306,470	3,666,080
Mission	18	286	377,331	37,026	2,326,070	3,372,202
Nanaimo	26	483	767,730	41,570	778,511	2,668,660
Nelson	27	332	481,432	46,118	929,901	1,988,517
New Westminster	100	5,209	9,160,477	567,860	23,866,512	44,563,011
Port Alberni	14	1,097	2,114,578	34,534	3,641,381	9,093,511
Port Moody	4	421	744,742	2,400	1,404,498	2,586,594
Prince George	47	356	509,131	48,136	798,003	1,858,476
Prince Rupert	25	1,294	2,651,675	153,754	5,217,934	9,788,217
Trail	17	4,284	9,482,238	5,214,477	28,938,912	58,130,359
Vancouver	992	37,599	66,144,015	3,443,141	137,118,244	265,034,773
Vernon	23	402	580,734	95,535	1,179,073	2,106,508
Victoria	163	5,010	9,048,679	497,943	11,741,067	26,389,895

[1] Net value is derived from gross value by deducting the cost of materials, fuel and electricity.

CHAPTER XVII.—CONSTRUCTION

CONSPECTUS

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The purpose of this Chapter is to co-ordinate such official statistics on the construction industry as are available and to give, so far as possible, a complete picture of construction from year to year. Official statistics, although constantly undergoing improvement, have many gaps and it is necessary to try to bridge these by presenting data from outside sources. For instance, Section 3 carries official figures of building permits issued in leading cities. These figures are useful but have definite limitations and are supplemented by presenting data from outside sources. This Section also contains data from a private source on construction contracts awarded during specified years. These are in the nature of a forecast of the amount of construction work contemplated in a given year. It is usually some time after contracts are awarded that work actually starts and, in the case of contracts of large-scale undertakings, the work is seldom finished within one year.

On the other hand, the official statistics of the annual Census of Construction given in Section 4 cover work of all kinds actually completed in a given year but even the Census of Construction is not all-inclusive. Work done by farmers, which in the aggregate must be considerable, is not included nor is much of that done by railways and other public institutions. So far as the latter groups are concerned an attempt is made in Section 4 to calculate a net figure which, when added to the annual Census of Construction figure, will more nearly approximate total construction (except that done by farmers and other individuals for themselves).

Section 1.—The Government and the Construction Industry

Subsection 1.—Public Contracts

Previous to the Second World War, Federal Government contracts were let and put into execution by the Department of Public Works. During the War, the Department of Munitions and Supply was organized to co-ordinate the industrial effort and arrange priority for such industries as were engaged on important war work. After 1946, the Department of Munitions and Supply gave place to the Department of Reconstruction and Supply and since that date Government reconstruction programs, so far as they concern construction projects, have been screened by this body which works in close co-operation in this matter with the Department of Public Works and other Federal Departments concerned. This ensures the initiation of only those new projects which do not interfere with more necessary construction in progress or contemplated, and where availability of labour and materials permits.

Following the Government's announcement in November, 1947, of stringent measures for the conservation of its dollar resources, all Government Departments have been obliged to report in detail to the Department of Reconstruction and Supply their probable purchases of materials, machinery, or equipment from the United States.

Subsection 2.—Government Aid to Civil Housing*

Canada's supply of adequate housing in 1947 falls far short of actual needs. While this condition undoubtedly existed prior to 1930, it was not widely recognized. With the general depression of economic activity through the period 1929-36, residential construction fell to such a low level that already-existing overcrowding and obsolescence were further aggravated. The high vacancy rate in these years, particularly for apartment dwellings, was a product not of an over-supply of dwellings, but of enforced "doubling-up" of families whose incomes were not sufficient to provide separate living quarters.

The construction industry had not recovered from this slump when in 1939 war production began to drain off materials and labour required for wartime housing construction. During the war years, increased personal income allowed many families to expand into separate or larger dwelling units. These two factors, coupled with unprecedented high marriage rates during the war years and months immediately following, compounded an already critical shortage of living quarters throughout the Dominion.

The tempo of total residential construction, including Government projects, has increased steadily from 1945 to 1947. In 1947, for the first time since 1939, the number of new dwelling units exceeded the net increase in the number of households. Dwelling units constructed numbered about 77,000 as compared with a net increase of 64,000 in the number of families, leaving 13,000 units available to reduce over-crowding.

The Central Mortgage and Housing Corporation.—To provide co-ordination in the housing field, the Central Mortgage and Housing Corporation was incorporated by an Act of the Twentieth Parliament (December, 1945). Briefly, its purpose and functions are: (1) to administer the National Housing Act, 1944, and earlier housing legislation; (2) to provide facilities for the rediscounting of mortgages by lending institutions; and (3) to administer the Emergency Shelter Regulations.

In January, 1947, the Corporation assumed supervision of the activities of Wartime Housing Limited, a Crown Company formed in February, 1941 (see pp. 582-583, 1947 Year Book).

Up to the time of the transfer of the Wartime Housing Limited, to the Central Mortgage and Housing Corporation the number of houses completed during the years 1941-47, by the former, was 31,151.

By provinces the numbers were: Nova Scotia 2,336; New Brunswick 1,091; Quebec 4,172; Ontario 14,817; Manitoba 1,722; Saskatchewan 1,455; Alberta 1,439; and British Columbia 4,119.

* Revised under the direction of C. M. Isbister, Chief Economist, Central Research and Development Division, Dominion Bureau of Statistics, by A. B. McMorran, Chief, Housing Statistics.

In September, 1947, the Corporation also became responsible for the management of Housing Enterprises of Canada, Limited, and its operating companies. Thus, by the end of 1947, a single organization, the Central Mortgage and Housing Corporation, was administering most of the housing activities of the Federal Government.

Housing Legislation.—Since 1935, the Federal Government has administered legislation designed to assist in the financing and improvement of housing in Canada. This commenced with the Dominion Housing Act, 1935 (see pp. 473-474, 1938 Year Book), and has been followed by the Home Improvement Loans Guarantee Act, 1937 (see pp. 370-371, 1941 Year Book), the National Housing Act, 1938 (see pp. 469-470, 1940 Year Book) and the National Housing Act, 1944, under which current activity is authorized.

The following table shows the number of loans made, and the amounts approved under the housing legislation passed since 1935.

1.—Numbers and Amounts of Loans Approved Under Dominion Housing Legislation, by Provinces, 1935-47

NOTE.—This table is a combined statement of the net loans (cancellations and new loans) made under the three Acts named in the preceding text.

Province	1935-40	1941	1942	1943	1944	1945	1946	1947	Total
	LOANS								
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	18	Nil	Nil	Nil	Nil	Nil	4	10	32
Nova Scotia	656	72	14	4	6	59	100	248	1,159
New Brunswick	190	25	7	Nil	Nil	23	84	102	431
Quebec	1,798	425	91	246	−19	462	832	1,793	5,628
Ontario	8,016	2,458	686	1,170	772	2,067	3,253	3,442	21,864
Manitoba	851	602	61	164	218	634	1,004	1,188	4,722
Saskatchewan	61	22	1	Nil	18	94	215	146	557
Alberta	–	Nil	Nil	"	Nil	469	626	916	2,011
British Columbia	2,862	1,089	147	136	398	625	1,222	1,041	7,520
Totals	**14,452**	**4,693**	**1,007**	**1,720**	**1,393**	**4,433**	**7,340**	**8,886**	**43,924**
	AMOUNTS								
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Prince Edward Island	97	–	–	–	–	–	21	170	288
Nova Scotia	2,745	248	49	13	20	266	532	1,364	5,237
New Brunswick	841	90	23	–	–	101	1,001	562	2,618
Quebec	14,180	1,428	328	816	−4	2,992	8,964	14,422	43,126
Ontario	34,275	7,568	2,017	3,696	2,718	10,254	26,163	19,116	105,807
Manitoba	3,810	1,994	188	516	778	3,030	5,017	6,577	21,910
Saskatchewan	334	79	4	–	62	403	1,771	735	3,388
Alberta	–	–	–	–	–	2,099	4,028	4,960	11,087
British Columbia	9,588	3,266	421	411	1,280	3,119	8,449	5,325	31,859
Totals	**65,870**	**14,673**	**3,030**	**5,452**	**4,854**	**22,264**	**55,946**	**53,231**	**225,320**

National Housing Act, 1944.—The features of this Act as originally proclaimed appear on pp. 455-457 of the 1946 Year Book. During 1947, amendments were made to the Act for the purpose of assisting individuals with moderate and low incomes to purchase homes, encouraging the construction of rental housing, and assisting in the construction of rural housing. An outline of the present status of the Act is given on pp. 606-607.

Loans to Prospective Home Owners.—Loans are extended through approved lending institutions with the Federal Government advancing 25 p.c. of the total. The Act has been amended to provide for loans payable over a period up to thirty years with the amount based on a maximum of 95 p.c. of the first $3,000, 85 p.c. of the second $3,000, and 70 p.c. of the remainder of the lending value when the purchase price is predetermined and approved by the Central Mortgage and Housing Corporation. When the latter condition is not met a higher equity is payable. The maximum loan for a single family-dwelling has been increased from $7,000 to $8,500.

Integrated Housing.—This plan involves an agreement with a builder to build houses at a controlled sales price for veterans preference. The Central Mortgage and Housing Corporation gives priority assistance and undertakes to purchase houses not sold within six months of the completion date. The provisions governing the size of the loan are the same as for prospective home owners.

Co-operative Housing.—The terms under which loans are made to co-operative groups intending to build housing projects are unchanged (see p. 456, 1946 Year Book). There were no formal applications in 1947.

Rental Housing.—To encourage the construction of rental housing, the Act was amended in March, 1947, to provide depreciation for a period of ten years at double the rates normally allowed for income tax purposes for approved types of dwelling comprising four or more family dwelling units.

Direct Loans.—The Act was amended to enable the Central Mortgage and Housing Corporation to make direct loans for home ownership, rental housing, or rural housing, if, in its opinion, joint loans are not available.

Limited Dividend Companies.—The Act provides for loans to limited dividend companies for the construction of low rental housing. During 1947, one new project was approved. The high level of building costs has deterred the development of low rental housing. During 1947, Housing Enterprises of Canada, Limited, suspended operations because they could not meet the cost levels originally contemplated.

Loans to Primary Producers for Housing of Employees.—Terms remain the same for loans to companies building housing quarters for employees engaged in primary production (see p. 585, 1947 Year Book).

Land Assembly.—The Act was amended in 1947 for the purpose of authorizing approved lending institutions to acquire, improve and sell land for residential purposes. During 1947, four such projects were approved.

Slum Clearance.—Due to the extreme shortage of housing accommodation during 1947, slum clearance projects were not pressed.

Farm Housing.—The section of the Act providing for loans to assist in the construction of rural housing was proclaimed in June, 1947. If there is no existing mortgage or encumbrance upon the farm, the loan is limited to the least of $5,000, the cost of building the house, or two-thirds of the appraised value of the farm. If there is a mortgage or encumbrance, the loan is limited to the least of $8,000, the sum of the cost of building the house and liquidating existing indebtedness, or two-thirds of the appraised value of the farm. Loans for new farm housing are repayable, over a period of up to 20 years, at 4½ p.c. per annum calculated semi-annually.

Home Extension Loans.—The purpose of these loans is to enable the conversion of existing homes to create additional self-contained dwelling units. The terms of the loans are the same as in 1946 (see p. 586, 1947 Year Book).

Housing Research and Community Planning.—Research and community planning cover the fields of: economic and statistical inquiries; technical research in materials, equipment, standards, etc.; and design. In 1947, the National Research Council of the Federal Government formed a Division of Building Research to undertake the major portion of actual technical and laboratory research work regarding building methods and materials.

Emergency Shelter Regulations.—This legislation is intended to assist municipalities in converting unoccupied houses, barracks, or other suitable buildings for the accommodation of families suffering actual distress or hardship through lack of shelter. By the end of 1947, 9,618 units were completed or were nearing completion, and 548 were under construction. There are now very few suitable buildings available and activity in this field will be greatly reduced in 1948.

Veterans' Land Act.—A program, under the terms of this Act, includes construction of homes on small holdings outside urban areas. The project is the responsibility of the Minister of Veterans Affairs. (See also Chapter XXIX on Veterans Affairs.)

Farm Improvement Loans Act.—This legislation aims at the improvement of living conditions on farms by the provision of electrification, refrigeration, heating systems, water systems, etc. The Act is more fully dealt with in Chapter X on pp. 345-346.

Section 2.—Construction of Dwelling Units in Canada

It is estimated that 76,738 new dwelling units were completed during the calendar year 1947 an increase of 9,423 over the total for 1946. This brings completions during the years 1945-47 to almost 200,000 units. At the end of 1947 there were over 42,000 dwelling units under construction in Canada.

During 1947, about 33 p.c. of completed dwellings were built in metropolitan areas. Approximately 76 p.c. of all completions were single houses. The following tables summarize the results of surveys conducted by the Dominion Bureau of Statistics.

2.—New Dwelling Units, by Areas or Regions, Completed in 1945, 1946 and 1947

Area or Region	New Construction			Conversions			Total New Dwelling Units		
	1945	1946	1947	1945	1946	1947	1945	1946	1947
	No.	No.	No.	No.	No.	No.	No.	No.	No.
Municipalities—									
Metropolitan areas	15,585	19,702	22,847	2,280	3,095	2,332	17,865	22,797	25,179
Other urban	13,563	23,256	28,873	3,127	2,758	2,422	16,690	26,014	31,295
Other rural	11,844	14,818	17,518	534	836	494	12,378	15,654	18,012
Totals, Municipalities	40,992	57,776	69,238	5,941	6,689	5,248	46,933	64,465	74,486
Unorganized areas	1,501	2,683	2,050	36	46	74	1,537	2,729	2,124
Totals, Provinces	42,493	60,459	71,288	5,977	6,735	5,322	48,470	67,194	76,610
Yukon and N.W.T	124	116	128	5	5	Nil	129	121	128
Canada	**42,617**	**60,575**	**71,416**	**5,982**	**6,740**	**5,322**	**48,599**	**67,315**	**76,738**

3.—New Dwelling Units, by Type of Building, Completed in 1945, 1946 and 1947

Type of Building	1945	1946	1947	1945	1946	1947
	No.	No.	No.	p.c.	p.c.	p.c.
Single	33,513	50,457	58,282	69·0	74·9	76·0
Semi-detached or double	1,800	2,458	2,372	3·7	3·6	3·1
Row or terrace	235	510	606	0·5	0·8	0·8
Duplex	1,894	1,748	2,938	3·9	2·6	3·8
Triplex	1,044	690	1,017	2·1	1·0	1·3
Apartment or flat	2,965	2,208	3,392	6·1	3·3	4·4
Business premises with an apartment or flat	971	2,493	2,728	2·0	3·7	3·6
Conversions	5,982	6,740	5,322	12·3	10·0	6·9
Other and unclassified	195	11	81	0·4	0·1	0·1
Totals	**48,599**	**67,315**	**76,738**	**100·0**	**100·0**	**100·0**

4.—New Residential Buildings, by Type of Construction, Completed 1945-47

Type of Construction	1945	1946	1947	1945	1946	1947
	No.	No.	No.	p.c.	p.c.	p.c.
Wood frame with wood siding	23,857	37,510	40,882	64·3	68·3	63·9
Wood frame with brick veneer	4,011	4,807	6,533	10·8	8·8	10·2
Wood frame with stucco	4,387	6,559	9,011	11·8	11·9	14·1
Cinder or cement blocks with stucco	731	1,629	2,992	2·0	3·0	4·7
Solid brick	1,797	1,891	2,509	4·8	3·4	3·9
Solid masonry: brick facing	1,108	1,427	1,006	3·0	2·6	1·6
Solid masonry: stone facing	129	167	270	0·4	0·3	0·4
Other and unclassified	1,092	947	780	2·9	1·7	1·2
Totals	**37,112**	**54,937**	**63,983**	**100·0**	**100·0**	**100·0**

5.—Dwelling Units Uncompleted on Dec. 31, 1947, by Type of Dwelling, by Provinces

Province	Total	One Family Detached	Two Family Detached	Row or Terrace	Apartment or Flat	Other
	No.	No.	No.	No.	No.	No.
Prince Edward Island	209	189	Nil	Nil	20	Nil
Nova Scotia	2,161	2,016	"	"	145	"
New Brunswick	736	667	14	"	54	1
Quebec	9,076	3,639	1,226	776	3,390	45
Ontario	17,243	15,710	150	12	1,359	12
Manitoba	2,315	2,109	38	Nil	168	Nil
Saskatchewan	1,469	1,458	Nil	"	11	"
Alberta	2,310	2,086	26	"	198	"
British Columbia	6,696	6,278	46	3	368	1
Totals	**42,215**	**34,152**	**1,500**	**791**	**5,713**	**59**

6.—New Dwelling Units[1] in Metropolitan Areas, Completed in 1945, 1946 and 1947

Metropolitan Area	1945[1]	1946[1]	1947[1]	1945	1946	1947
	No.	No.	No.	p.c.	p.c.	p.c.
Halifax, N.S.	189	935	322	0·4	1·4	0·4
Saint John, N.B.	163	413	498	0·3	0·6	0·7
Quebec, Que.	1,054	1,179	945	2·2	1·8	1·2
Montreal, Que.	4,788	3,956	6,146	9·9	5·9	8·0
Ottawa, Ont.	1,497	1,608	1,418	3·1	2·4	1·8
Toronto, Ont.	3,533	4,447	4,018	7·3	6·6	5·2
Hamilton, Ont.	613	689	1,087	1·3	1·0	1·4
London, Ont.	446	852	978	0·9	1·3	1·3
Windsor, Ont.	747	814	876	1·5	1·2	1·1
Winnipeg, Man.	1,310	2,417	3,574	2·7	3·6	4·7
Vancouver, B.C.	2,875	4,523	4,271	5·9	6·7	5·6
Victoria, B.C.	650	964	1,046	1·3	1·4	1·4
Totals, Metropolitan Areas	**17,865**	**22,797**	**25,179**	**36·8**	**33·9**	**32·8**
Grand Totals	**48,599**	**67,315**	**76,738**	**100·0**	**100·0**	**100·0**

[1] Includes conversions.

Section 3.—Contracts Awarded and Building Permits Issued

In this Section, statistics are given of work actually in sight either as contracts awarded or as building permits. These figures are related to those of work performed during the year only so far as the work thus provided for is completed and duly reported in the Census of Construction. Further, values of contracts awarded, and especially of building permits, are estimates (more often underestimates) of work to be done. Obviously, these statistics and those of Section 3 cannot be expected to agree, since much work contracted for towards the end of any one year is often not commenced until the next and, especially as regards large contracts or contracts undertaken late in any year, extends into more than one year. The figures here given are, therefore, supplementary to those of Section 3 and are valuable as showing from year to year the work immediately contemplated during the period.

Construction Contracts.—The figures published by MacLean Building Reports, Limited, for construction contracts awarded during 1947 showed a total of $718,137,100. This amount represented an increase of 8·3 p.c. over the $663,355,100 reported for 1946 and 24·5 p.c. over the high pre-war level ($576,651,800) established in 1929.

Of the four main classes of construction shown in Table 8 business and engineering showed increases of 28·2 p.c. and 34·1 p.c., respectively, over those of 1946; residential and industrial classes on the other hand showed decreases of 7·4 p.c. and 18·0 p.c., respectively.

Regionally, Ontario accounted for the greatest volume with total awards of $258,709,300, or 36·0 p.c. of the total, followed by Quebec with 35·5 p.c. The greatest percentage increases over 1946 were shown by Prince Edward Island and Nova Scotia. British Columbia was the only province showing a decrease.

7.—Values of Construction Contracts Awarded, 1912-47

(From MacLean Building Reports, Ltd.)

Year	Value of Construction Contracts	Year	Value of Construction Contracts	Year	Value of Construction Contracts
	$		$		$
1912	463,083,000	1924	276,261,100	1936	162,588,000
1913	384,157,000	1925	297,973,000	1937	224,056,700
1914	241,952,000	1926	372,947,900	1938	187,277,900
1915	83,916,000	1927	418,951,600	1939	187,178,500
1916	99,311,000	1928	472,032,600	1940	346,009,800
1917	84,841,000	1929	576,651,800	1941	393,991,300
1918	99,842,000	1930	456,999,600	1942	281,594,100
1919	190,028,000	1931	315,482,000	1943	206,103,900
1920	255,605,000	1932	132,872,400	1944	291,961,800
1921	240,133,300	1933	97,289,800	1945	409,032,700
1922	331,843,800	1934	125,811,500	1946	663,355,100
1923	314,254,300	1935	160,305,000	1947	718,137,100

8.—Values of Construction Contracts Awarded, by Provinces and Types of Construction, 1942-47

(From MacLean Building Reports, Ltd.)

Province	1942	1943	1944	1945	1946	1947
	$	$	$	$	$	$
Prince Edward Island	566,100	719,300	657,900	904,900	650,200	3,991,900
Nova Scotia	19,780,500	7,535,500	9,157,200	14,681,900	13,489,400	28,855,000
New Brunswick	5,958,900	6,620,600	9,898,000	10,720,000	26,698,500	27,017,300
Quebec	92,235,500	61,816,700	89,884,800	121,943,400	226,809,500	255,202,400
Ontario	108,679,500	83,025,300	111,741,800	151,856,000	252,787,400	258,709,300
Manitoba	13,914,300	10,083,900	12,906,400	22,228,700	25,741,500	34,446,100
Saskatchewan	5,480,200	3,970,000	5,677,600	15,986,100	19,497,500	23,040,200
Alberta	14,401,100	18,529,300	19,501,900	32,677,800	38,971,900	47,425,100
British Columbia	20,578,000	13,803,300	32,536,200	38,033,900	58,709,200	39,449,800
Grand Totals	**281,594,100**	**206,103,900**	**291,961,800**	**409,032,700**	**663,355,100**	**718,137,100**
RESIDENTIAL—						
Apartments	868,200	913,400	8,856,600	6,282,800	18,998,800	12,049,600
Residences	78,411,600	78,195,700	122,386,500	189,740,400	194,051,700	185,146,700
TOTALS, RESIDENTIAL	79,279,800	79,109,100	131,243,100	196,023,200	213,050,500	197,196,300
BUSINESS—						
Churches	1,250,700	1,198,400	1,688,100	3,321,700	14,426,500	11,263,000
Public garages	959,200	1,269,900	1,940,100	3,245,400	16,859,900	15,789,200
Hospitals	5,037,600	6,144,600	18,529,300	22,061,300	23,863,700	40,298,900
Hotels and clubs	5,211,300	2,370,400	2,442,300	2,589,800	16,071,600	14,541,200
Office buildings	5,090,300	2,826,700	3,742,900	5,316,500	18,912,400	34,620,600
Public buildings	65,856,300	30,660,400	13,022,000	7,407,400	7,411,600	16,197,900
Schools	3,261,200	4,304,800	8,346,700	15,583,700	23,019,500	45,648,400
Stores	2,994,600	1,813,100	3,999,300	6,571,200	29,271,200	28,685,500
Theatres	302,200	244,200	322,500	401,400	8,921,500	7,823,200
Warehouses	8,201,400	10,185,400	14,590,700	19,798,500	28,047,600	24,662,300
TOTALS, BUSINESS	98,164,800	61,017,900	68,623,900	86,296,900	186,805,500	239,530,200
INDUSTRIAL	74,084,500	32,857,000	58,712,100	75,540,200	138,328,500	113,495,000
ENGINEERING—						
Bridges	1,351,200	2,059,200	1,519,000	2,099,300	5,279,200	7,037,400
Dams and wharves	6,950,900	3,708,200	5,718,400	2,467,000	10,379,700	41,663,700
Sewers and watermains	3,567,800	1,795,200	2,244,900	5,284,900	13,144,900	16,281,200
Roads and streets	12,414,200	11,222,600	14,428,100	20,231,300	56,941,600	53,707,800
General engineering	5,780,900	14,334,700	9,472,300	21,089,900	39,425,200	49,225,500
TOTALS, ENGINEERING	30,065,000	33,119,900	33,382,700	51,172,400	125,170,600	167,915,600

Building Permits.—Statistics of building permits were first collected in 1910, when the series covered 35 urban centres; in 1920 it was extended to cover 58 municipalities, including unincorporated suburban areas as, with the advent of the automobile, a growing percentage of persons working in cities were residing outside the municipal boundaries of the urban centres in which they earned their living. In 1940 the series was again extended to cover 204 municipalities. The number of urban centres included is being expanded further. However, until plans are advanced it is felt desirable in the Year Book to maintain comparability with earlier issues by retaining the '204' list.

Building permits issued in 1947 registered a decrease of 2·7 p.c. compared with 1946.

9.—Values of Building Permits Issued by 204 Municipalities, 1946 and 1947

NOTE.—Statistics for these series covering years previous to 1946 will be found in the corresponding table of earlier editions of the Year Book. For the 35 cities marked • the record goes back to 1910; the 23 places marked o were added in 1920.

Province and Municipality	1946	1947
	$	$
Prince Edward Island	**451,250**	**470,975**
o Charlottetown	451,250	470,975
Nova Scotia	**7,442,787**	**7,676,830**
Amherst	193,650	236,845
Bridgewater	123,650	258,750
Dartmouth	638,681	555,210
Glace Bay	555,099	436,833
• Halifax	3,003,850	3,650,839
Liverpool	70,500	69,300
o New Glasgow	221,710	351,185
New Waterford	158,345	69,800
North Sydney	170,650	120,500
• Sydney	1,162,037	753,583
Sydney Mines	186,300	76,210
Truro	783,725	894,500
Yarmouth	174,590	203,275
New Brunswick	**6,437,553**	**7,236,794**
Campbellton	295,135	705,745
Chatham	87,300	69,500
Dalhousie	90,970	125,460
o Fredericton	2,633,318	1,994,127
= Moncton	2,038,471	2,766,132
Newcastle	66,500	58,775
• Saint John	1,086,114	1,233,394
St. Stephen	139,745	283,661
Quebec	**111,815,328**	**97,730,827**
Cap-de-la-Madeleine	808,177	1,448,740
Chicoutimi	972,650	1,004,785
Coaticook	135,840	167,985
Drummondville	640,400	841,575
Granby	2,022,382	1,721,870
Grand'Mère	735,690	349,450
Hampstead	616,400	257,800
Hull	907,875	878,751
Iberville	137,130	153,730
Joliette	1,165,570	1,185,050
Jonquière	923,000	617,750
Lachine	5,718,446	1,978,498
Laprairie	104,350	192,937
La Tuque	272,545	239,325
Lévis	373,400	282,250
Longueuil	420,000	601,955
Mégantic	408,977	353,250
• Montreal (• Maisonneuve)	53,696,300	50,796,777
Montreal East	4,017,520	1,796,256
Montreal North	1,319,400	739,725
Montreal West	111,100	410,345
Mount Royal	2,211,291	1,716,290
Noranda	1,490,410	645,350
Outremont	1,742,000	828,850
Pointe-aux-Trembles	289,025	533,325
Pointe Claire	571,902	794,419
• Quebec	6,063,025	5,608,667
Rimouski	1,351,260	416,380
Rivière-du-Loup	248,020	397,445
Rouyn	859,945	1,428,540
Ste. Agathe-des-Monts	451,750	552,000
Ste. Anne-de-Bellevue	248,394	42,225
St. Hyacinthe	1,226,350	604,175
St. Jean	1,862,050	1,153,700
St. Jérôme	1,107,023	1,028,075
St. Joseph-de-Grantham	306,389	196,830
St. Lambert	482,483	557,805
St. Laurent	1,875,422	1,600,350
o Shawinigan Falls	1,455,660	4,480,050
• Sherbrooke	2,362,255	2,228,000
Sorel	1,270,921	474,630
• Three Rivers	2,883,155	1,260,078
Val d'Or	1,155,640	812,175
Valleyfield	1,320,856	874,174
Verdun	2,458,900	2,603,600
• Westmount	1,014,050	874,890
Ontario	**150,520,167**	**161,903,785**
Amherstburg	229,550	297,650
Barrie	784,442	554,407
o Belleville	1,061,110	1,712,590
Bowmanville	165,470	135,013
Bracebridge	134,960	290,163
Brampton	537,517	648,272
• Brantford	1,632,405	1,354,461
Brockville	283,670	721,450
Burlington	426,820	538,150
Campbellford	170,800	238,400
o Chatham	3,636,859	1,227,590
Cobourg	144,975	244,375
Cochrane	103,977	55,368
Collingwood	137,130	150,750
Cornwall	976,583	1,119,998
Dundas	188,900	345,219
Eastview	1,078,550	947,875
Etobicoke Twp	10,522,035	7,156,268
Forest Hill	2,440,800	1,059,102
Fort Erie	226,050	269,850
Fort Frances	313,215	236,209
• Fort William	2,740,082	3,006,190
o Galt	1,303,412	844,315
Gananoque	136,715	224,695
Gloucester Twp	1,087,800	2,363,239
Goderich	228,500	145,690
• Guelph	1,329,925	1,437,093
Haileybury	86,817	25,355
• Hamilton	6,467,892	7,945,553
Hanover	116,825	162,010
Hawkesbury	293,025	152,435
Huntsville	293,150	392,375
Ingersoll	138,242	99,355
Kapuskasing	703,475	501,390
Kenora	183,495	355,984
• Kingston	2,951,261	3,264,366
Kirkland Lake (Twp. of Teck)	392,488	255,208
• Kitchener	2,749,775	3,197,330
Leamington	302,045	229,980
Leaside	3,777,338	3,456,690
Lindsay	520,900	251,715
Listowel	89,395	46,975
• London	3,990,050	4,902,585
Long Branch	872,293	717,560
Mimico	557,860	540,110
Napanee	131,385	106,925
Nepean Twp	1,079,710	3,027,598
New Liskeard	199,169	235,911
Newmarket	313,525	342,900
New Toronto	1,719,121	843,655
o Niagara Falls	730,468	1,285,700
North Bay	868,280	986,556

9.—Values of Building Permits Issued by 204 Municipalities, 1946 and 1947—concluded

Province and Municipality	1946	1947	Province and Municipality	1946	1947
	$	$		$	$
Ontario—concluded					
North York Twp.	9,300,908	11,609,533	**Saskatchewan**	**18,014,947**	**12,924,669**
Oakville	1,105,396	542,800			
Orillia	643,105	578,990	Biggar	20,075	19,200
o Oshawa	1,695,286	1,263,515	Estevan	177,695	251,960
• Ottawa	7,049,495	8,148,284	Melville	242,925	476,150
o Owen Sound	849,834	769,222	• Moose Jaw	1,276,557	444,026
Paris	96,665	86,185	North Battleford	1,169,180	431,650
Parry Sound	97,305	21,070	Prince Albert	1,343,081	1,215,285
Pembroke	258,965	333,120	• Regina	6,024,876	3,298,532
Perth	108,100	104,150	• Saskatoon	6,341,790	5,591,815
• Peterborough	2,433,941	3,508,471	Swift Current	584,948	400,711
Petrolia	56,205	19,500	Weyburn	222,495	85,865
• Port Arthur	2,569,019	3,263,861	Yorkton	611,325	709,475
Port Colborne	241,666	273,858			
Preston	258,744	386,409			
Renfrew	542,025	175,775			
o Riverside	993,665	656,790	**Alberta**	**29,738,950**	**27,267,475**
• St. Catharines	2,025,405	1,941,520			
St. Marys	79,360	31,810	• Calgary	11,753,793	10,588,240
• St. Thomas	1,041,957	403,530	Drumheller	166,983	144,465
o Sarnia	1,239,873	1,183,645	• Edmonton	15,020,453	13,246,805
o Sault Ste. Marie	2,361,621	1,613,190	o Lethbridge	1,970,124	2,237,940
Scarboro Twp.	5,215,703	7,727,730	o Medicine Hat	827,600	1,050,025
Simcoe	352,750	491,360			
Smiths Falls	525,720	452,250			
• Stratford	1,045,907	559,450			
Sudbury	1,540,600	1,839,690	**British Columbia**	**42,866,375**	**36,547,232**
Swansea	380,643	491,964			
Tillsonburg	362,640	251,010	Chilliwack	645,395	649,800
Timmins	738,768	800,938	Cranbrook	174,121	127,666
• Toronto	22,144,661	31,818,097	Fernie	51,895	39,090
Trenton	499,919	382,507	o Kamloops	1,026,600	630,575
Wallaceburg	207,525	255,410	Kelowna	1,443,359	1,629,881
Waterloo	1,368,843	301,645	o Nanaimo	254,733	337,746
o Welland	430,735	837,175	Nelson	618,583	203,664
Weston	637,910	1,039,342	• New Westminster	2,709,230	2,722,786
Whitby	311,305	322,435	o North Vancouver	1,020,185	1,033,945
• Windsor	5,617,259	5,856,510	Prince George	547,845	914,825
o Woodstock	957,458	675,276	o Prince Rupert	229,812	210,511
o {York Twp.	7,576,400	6,483,200	Revelstoke	92,220	294,085
{York East Twp.	4,006,645	3,751,965	Rossland	37,520	77,110
			Trail	267,048	128,414
Manitoba	**16,309,341**	**21,472,662**	• Vancouver	28,136,963	21,877,675
			Vernon	700,430	1,131,617
• Brandon	1,044,665	745,305	• Victoria	4,910,436	4,537,842
Brooklands	115,645	68,420			
Dauphin	304,585	233,530	**Totals—**		
North Kildonan	184,135	129,275	**204 Municipalities**	**383,596,698**	**373,231,249**
Portage la Prairie	230,447	156,317			
o St. Boniface	2,047,175	2,123,855	**Totals—**		
Selkirk	188,560	181,000	**58 Municipalities (• o)**	**267,189,384**	**267,547,794**
The Pas	107,200	78,125			
Transcona	196,129	266,835	**Totals—**		
• Winnipeg	11,890,800	17,490,000	**35 Municipalities (=)**	**228,207,854**	**230,322,687**

The indexes given in Table **10** show, so far as possible, the fluctuations in building costs and their effect upon construction work and employment. The relative proportions of material and wage costs in general building are difficult to determine since such proportions vary with the type of building and the centres studied. Pre-war experience, the result of a special study made in 15 cities, indicates that the average proportions of materials to labour in all kinds of construction were about two-thirds for the former to one-third for the latter. The increase in the cost of building operations during the war years has probably been much more than is indicated by the increase in the indexes of wholesale prices and wages shown and the proportions of these items to total costs have, no doubt, undergone some variation due to changes in types and methods of construction and to the greater use of machinery.

Four of the largest cities, Montreal, Toronto, Winnipeg and Vancouver, accounted for $121,982,549 or 32·7 p.c. of this total. In 1929 the same cities showed a value of $126,387,555.

10.—Values of Building Permits Taken Out in 204 Cities and Index Numbers of the Building Construction Industries, 1940-47

NOTE.—These 204 cities are named in Table 9.

Year	Value of Building Permits 204 Cities	Average Index Numbers of— (1926=100)		
		Wholesale Prices of Building Materials	Wages in Construction Industries[1]	Employment in Building Construction[2]
	$			
1940	113,005,208	95·6	103·6	83·5
1941	135,301,519	107·3	110·6	139·5
1942	104,236,278	115·2	117·5	157·9
1943	80,190,123	121·2	126·6	160·2
1944	128,728,465	127·3	128·4	95·3
1945	197,187,160	127·3	129·9	101·8
1946	383,596,698	134·8	142·6	145·7
1947	373,231,249	166·4	153·6	190·6

[1] Compiled by the Department of Labour. [2] As reported by employers.

Trends of Employment and Aggregate Wages Paid in the Construction Industry.—In Tables 11 and 12 the employment figures, shown on a monthly basis, reflect the fact that the industry is not as decidedly seasonal as is sometimes thought. The month of highest employment in the industry as a whole, in 1946, was August with 195,793 wage-earners and the lowest was February with 112,176.

11.—Employment of Wage-Earners in the Construction Industry, by Months and Aggregate Annual Wages Paid, 1945 and 1946

Year and Month	General and Trade Contractors and Sub-contractors	Municipalities	Harbours Board	Provincial Government Departments	Federal Government Departments	Total
	No.	No.	No.	No.	No.	No.
1945						
January	62,645	6,313	423	5,881	3,389	78,651
February	63,087	6,483	449	4,986	3,162	78,167
March	65,525	6,918	465	6,932	3,411	83,251
April	68,798	8,291	516	12,796	4,076	94,477
May	75,535	9,617	551	16,556	4,452	106,711
June	85,600	10,361	584	21,113	4,579	122,237
July	93,410	11,041	608	21,634	4,536	131,229
August	100,258	11,492	627	22,202	5,112	139,691
September	103,614	11,140	627	24,947	4,832	145,160
October	107,528	10,887	666	25,150	4,663	148,894
November	105,402	10,077	591	25,118	4,434	145,622
December	93,270	8,192	491	10,913	3,657	116,523
Monthly Averages	**85,390**	**9,234**	**550**	**16,518**	**4,192**	**115,884**
Wages Paid During Year $	142,412,634	13,074,055	796,660	18,958,628	6,453,424	181,695,401
1946						
January	97,853	7,438	426	5,113	3,260	114,090
February	97,034	7,324	438	3,937	3,443	112,176
March	103,685	8,066	492	5,928	3,837	122,008
April	115,619	9,950	506	7,090	3,158	136,323
May	135,185	11,874	548	13,068	3,385	164,060
June	147,058	12,876	561	15,496	3,730	179,721
July	154,928	13,437	629	18,037	4,247	191,278
August	158,117	13,341	612	19,273	4,450	195,793
September	154,465	12,435	597	19,880	4,476	191,853
October	155,159	12,141	616	20,573	4,567	193,056
November	146,464	10,929	513	18,446	4,085	180,437
December	129,675	8,947	411	12,216	3,321	154,570
Monthly Averages	**132,937**	**10,730**	**529**	**13,254**	**3,830**	**161,280**
Wages Paid During Year $	232,792,135	16,061,265	874,434	17,148,634	6,738,374	273,614,842

12.—Average Wage-Earners Employed in the Construction Industry and Total Wages Paid, by Provinces, 1945 and 1946

Province	1945		1946	
	Monthly Average of Daily Figures of Wage-Earners Employed	Total Wages Paid During Year	Monthly Average of Daily Figures of Wage-Earners Employed	Total Wages Paid During Year
	No.	$	No.	$
Prince Edward Island	332	539,030	430	619,252
Nova Scotia	11,805	11,535,549	10,989	15,121,053
New Brunswick	3,824	5,647,849	6,514	9,740,076
Quebec	33,904	52,260,775	45,067	73,087,392
Ontario	42,125	70,498,131	60,787	107,582,229
Manitoba	4,483	7,616,571	7,013	11,910,215
Saskatchewan	3,077	5,046,616	4,742	7,896,487
Alberta	5,360	8,792,709	7,685	13,678,462
British Columbia	10,974	19,758,171	18,053	33,979,676
Totals	**115,884**	**181,695,401**	**161,280**	**273,614,842**

Section 4.—Annual Census of Construction

The annual Census of Construction as taken by the Dominion Bureau of Statistics covers all construction, maintenance and repair work undertaken throughout Canada by contractors, builders and all public bodies with the exception of smaller municipalities. It also includes work done by the maintenance and repair crews of industrial plants, mines, electric power companies and commissions, etc., in organized communities where building permits are required. However, construction and repair work done by farmers and other individuals on their own structures is not covered. Further, construction of railway-roadbed, maintenance and repair work on steam and electric railways, telegraph and telephone systems and the lesser public utilities is not included when such work is done by the employees of these concerns in the ordinary way. The following table shows the expenditures by steam and electric railways, telegraph and telephone systems with the elimination wherever possible of items which are not germane to construction, such as snow, ice, and sand removal, dismantling of property, depreciation and retirement charges. By subtracting the work sublet to contractors from the expenditures, duplication with the Census of Construction figures is eliminated. Finally, by adding to the figures the totals given by the Census of Construction a total is obtainable which closely approximates over-all construction with the sole exception of work undertaken by farmers and other individuals for themselves.

13.—Expenditures by Steam and Electric Railways, and Telegraph and Telephone Systems on Road Construction, Maintenance of Way and Structures and Maintenance of Equipment, Together with Totals of Annual Census of Construction, 1944-46.

Item	1944[1]	1945[1]	1946
	$	$	$
Steam Railways—			
Construction—			
New Lines: Road	Nil	2,793,751	3,376,385
Additions and betterments: Road	11,147,929	3,224,843	20,639,010
Maintenance of way and structures	113,009,130	110,758,551	108,513,380
Maintenance of equipment	101,879,476	103,067,682	107,093,059
Less: work done by contractors	[2]	*1,017,877*	*1,222,884*
Net Totals, Steam Railways	226,036,535	218,826,950	238,398,950
Electric Railways—			
Maintenance of way and structures	3,955,970	4,271,868	3,884,841
Maintenance of equipment	8,868,565	10,271,410	8,218,224
Less: work done by contractors	*196,057*	*574,209*	*845,797*
Net Totals, Electric Railways	12,628,478	13,969,069	11,257,268
Telegraph maintenance[3]	804,831	858,405	997,113
Telephone maintenance	16,468,760	18,070,846	22,261,863
Net Totals, Telegraph and Telephone	17,273,591	18,929,251	23,258,976
Combined Totals	**255,938,604**	**251,725,270**	**272,915,194**
Totals for Census of Construction	**449,838,059**	**543,579,833**	**868,661,403**
Grand Totals[4]	**705,776,663**	**795,305,103**	**1,141,576,597**

[1] Revised. [2] Not available. [3] Exclusive of railway-owned systems, included above. [4] Represents approximate total of all construction with the exception of work undertaken by farmers and other individuals for themselves.

Statistics of Construction.*—A census of construction was made by the Dominion Bureau of Statistics for 1934, but the basis of compilation was not standardized until 1935 so that, with the completion of the 1946 figures, comparable statistics are now available covering the years 1935-46. Returns are received from general trade and subcontractors, municipalities, the Harbours Board, and Federal and Provincial Government departments. The figures cover alterations, maintenance and repairs, as well as new construction. Summary statistics are given in Tables **14**, **15** and **16**.

No relationship exists between the total value of construction as shown in these tables, and the value of contracts awarded as indicated in Tables **7** and **8** of Section 3, pp. 609-610. In the latter case all values are included as soon as awards are made, irrespective of whether the contract is completed or even begun in that year, whereas, the following tables cover construction work carried on and actually performed in the calendar year.

* Revised under the direction of W. H. Losee, Director, Census of Industry and Merchandising Division, Dominion Bureau of Statistics, by F. J. Tanner, Chief, Construction Statistics Section.

14.—Principal Statistics of the Construction Industry, 1943-46

NOTE.—Comparable figures from 1935 are given in the corresponding table of previous Year Books beginning with the 1940 edition.

Item		1943	1944	1945	1946
Firms reporting	No.	12,600	16,121	19,025	23,793
Salaried employees	"	25,015	26,767	30,646	37,571
Salaries paid	$	43,726,277	44,285,139	52,296,053	71,278,215
Wage-earning employees (average)	No.	130,285	97,125	115,884	161,280
Wages paid	$	207,707,516	153,418,845	181,695,401	273,614,842
Total employees	No.	155,300	123,892	146,530	198,851
Salaries and wages paid	$	251,433,793	197,703,984	233,991,454	344,893,057
Cost of materials used	$	278,888,384	200,801,042	275,621,996	459,965,741
Value of work performed[1]	$	572,426,551	449,838,059	543,579,833	868,661,403
New construction[1]	$	*422,423,651*	*265,819,003*	*320,225,176*	*577,372,143*
Alterations, maintenance and repairs[1]	$	*150,002,900*	*184,019,056*	*223,354,657*	*291,289,260*
Subcontract work performed	$	97,800,007	74,214,349	92,817,170	143,980,517
New construction	$	*84,084,603*	*57,851,459*	*71,872,900*	*115,343,772*
Alterations, maintenance and repairs	$	*13,715,404*	*16,362,890*	*20,944,270*	*28,636,745*

[1] Includes subcontract work indicated in the lower part of the table.

15.—Value of Work Performed by the Construction Industry, by Provinces, Groups and Types of Construction, 1943-46

Province, Group or Type	1943	1944	1945	1946
	$	$	$	$
Province				
Prince Edward Island	1,645,660	1,961,471	1,876,857	2,381,620
Nova Scotia	40,667,401	29,832,726	29,324,769	40,858,319
New Brunswick	12,006,608	13,657,043	14,373,424	27,761,110
Quebec	159,875,335	131,064,232	150,166,258	225,582,288
Ontario	216,715,281	165,395,169	216,545,127	347,616,749
Manitoba	20,190,673	19,357,321	28,382,523	43,462,500
Saskatchewan	11,128,058	12,423,241	17,482,076	29,277,215
Alberta	25,142,003	27,569,213	32,013,693	51,573,396
British Columbia and Yukon	85,055,532	48,577,643	53,415,106	100,148,206
Totals	**572,426,551**	**449,838,059**	**543,579,833**	**868,661,403**
Group				
Contractors, builders, etc.	510,998,908	381,216,381	458,869,189	775,452,420
Municipalities	19,946,581	23,782,546	26,347,676	34,082,081
Harbour Commissions	1,139,984	1,304,594	1,646,552	1,797,187
Provincial Government Departments	34,109,733	36,520,088	43,135,675	43,943,196
Federal Government Departments	6,231,345	7,014,450	13,580,741	13,386,519
Type of Work Performed				
Building construction	301,884,888	220,299,940	288,092,582	490,407,540
Street, highway, power, water, etc., construction	186,913,006	142,431,180	146,216,938	220,549,198
Harbour and river construction	16,614,824	10,692,622	12,690,727	15,941,539
Trade construction	67,013,833	76,414,317	96,579,586	141,763,126

The value of work performed by the construction industry in 1946 amounted to $868,661,403 as compared with $543,579,833 in the preceding year, an increase of 59·8 p.c.

The value of building construction increased from $288,092,582 in 1945 to $490,407,540 in 1946. The construction of industrial buildings increased from $82,800,022 to $151,305,541 while the construction of armouries, barracks, hangars,

etc., was increased from $6,445,275 to $8,769,191. The value of residential building advanced from $125,524,346 to $193,626,880, institutional from $30,449,556 to $48,623,956, commercial from $42,873,383 to $88,081,972. Construction work involving engineering, harbours, rivers, etc., increased from $158,907,665 in 1945 to $236,490,737 in 1946.

In the industry as a whole, employment was provided for a total of 198,851 persons in 1946, recording an increase of 52,321 over the total for the preceding year, while the aggregate of salaries and wages at $344,893,057 was $110,901,603 higher. The cost of materials used in 1946 was $459,965,741, an increase in expenditure for this purpose of $184,343,745.

In 1946, reports received numbered 23,793 as compared with 19,025 in 1945. A good part of the increase was recorded in the number of reports received from owner-builders due, in all likelihood, to the number of persons, desperately in need of housing accommodation, who erected their own homes because they were unable to obtain the services of a contractor. These statistics are included in the tables showing the operations of general contractors, trade contractors and subcontractors. Although the increase in the number of reports was considerable, the comparatively small extent of their operations does not appreciably affect other totals.

16.—Principal Statistics of the Construction Industry, by Provinces and Groups, 1946

NOTE.—Comparable figures from 1935 are given in the corresponding table of previous Year Books beginning with the 1937 edition.

Province or Group	Employees	Salaries and Wages	Cost of Materials	Values of Work Performed		
				New Construction	Alterations and Repairs	Total
Province	No.	$	$	$	$	$
Prince Edward Island	541	833,789	1,415,018	1,664,349	717,271	2,381,620
Nova Scotia	12,577	18,118,652	19,104,088	22,894,469	17,963,850	40,858,319
New Brunswick	7,340	11,272,121	13,351,512	17,475,518	10,285,592	27,761,110
Quebec	53,892	90,661,720	124,253,737	157,186,288	68,396,000	225,582,288
Ontario	76,870	138,664,306	184,351,191	220,712,075	126,904,674	347,616,749
Manitoba	8,868	15,428,929	23,526,454	28,196,859	15,265,641	43,462,500
Saskatchewan	5,999	10,093,724	15,421,703	19,833,922	9,443,293	29,277,215
Alberta	10,207	18,068,674	26,402,440	37,478,408	14,094,988	51,573,396
British Columbia and Yukon	22,557	41,751,142	52,139,598	71,930,255	28,217,951	100,148,206
Totals	**198,851**	**344,893,057**	**459,965,741**	**577,372,143**	**291,289,260**	**868,661,403**
Group						
Contractors, builders, etc.	165,518	295,282,864	426,800,935	545,762,856	229,689,564	775,452,420
Municipalities	12,505	19,438,388	12,526,339	13,231,928	20,850,153	34,082,081
Harbour Commissions	660	1,139,705	532,777	173,022	1,624,165	1,797,187
Provincial Govt. Depts.	15,427	20,972,861	15,220,591	16,004,077	27,939,119	43,943,196
Federal Govt. Depts.	4,741	8,059,239	4,885,099	2,200,260	11,186,259	13,386,519
Totals	**198,851**	**344,893,057**	**459,965,741**	**577,372,143**	**291,289,260**	**868,661,403**

Table 17 classifies the various types of construction carried out in 1946. The item "Trade Construction" covers such items as bricklaying, carpentry, plumbing, heating, electrical work, etc., reported by contractors who confine themselves to

a specific type of work. Details by provinces and more complete information regarding the industry will be found in the reports of the Bureau of Statistics on the construction industry.

17.—Values of New and Other Construction Classified by Type, 1946

NOTE.—Comparable figures from 1935 are given in the corresponding table of previous Year Books beginning with the 1937 edition.

Type of Construction	New Construction	Repairs, Alterations and Maintenance	Total Value
	$	$	$
Building Construction—			
Dwellings and apartments	170,691,370	22,935,510	193,626,880
Hotels, clubs and restaurants	5,759,917	4,404,259	10,164,176
Churches, hospitals, etc.	37,745,863	10,878,093	48,623,956
Office buildings, stores, theatres and amusement halls	26,897,856	23,100,652	49,998,508
Grain elevators, factories, warehouses, farm and mine buildings	110,777,016	49,850,756	160,627,772
Garages and service stations	13,626,877	7,721,753	21,348,630
Radio stations	259,622	43,876	303,498
Armouries	793,711	2,723,788	3,517,499
Aeroplane hangars	–	24,254	24,254
All other building construction	647,016	1,525,351	2,172,367
Totals, Building Construction	**367,199,248**	**123,208,292**	**490,407,540**
Street, Highway, Power, Water, etc., Construction—			
Streets, highways and parks	64,546,963	47,345,468	111,892,431
Bridges, culverts, subways, etc.	6,447,272	6,076,652	12,523,924
Water, sewage and drainage systems	21,338,166	5,685,967	27,024,133
Electric power plants, including dams, reservoirs, transmission lines and underground conduit	47,029,252	11,921,487	58,950,739
Telephone and telegraph lines	329,604	317,064	646,668
Railway construction, steam and electric	923,905	800,453	1,724,358
Aerodromes or landing fields	1,728,713	258,846	1,987,559
All other construction, including installation of boilers and machinery	3,590,006	2,209,380	5,799,386
Totals, Street, etc., Construction	**145,933,881**	**74,615,317**	**220,549,198**
Harbour and River Construction	**10,051,408**	**5,890,131**	**15,941,539**
Trade Construction	**54,187,606**	**87,575,520**	**141,763,126**
Grand Totals	**577,372,143**	**291,289,260**	**868,661,403**

CHAPTER XVIII.—LABOUR*

CONSPECTUS

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Section 1.—The Government in Relation to Labour

Subsection 1.—The Federal Department of Labour

The Department of Labour of Canada was established in 1900 by the Conciliation Act which provided machinery to aid in preventing and settling labour disputes, and required the Department to collect, compile and publish statistical and other information. The Department assumed, too, the administration of the Fair Wages Policy which was adopted in the same year for the protection of workmen employed in the execution of Federal Government contracts and on works aided by grants from public funds.

At the present time, in addition to the statutory duty of disseminating information concerning labour and industrial matters, the Minister is responsible for the administration of certain statutes: Conciliation and Labour Act; Fair Wages and Hours of Labour Act, 1935; Vocational Training Co-ordination Act, 1942; Unemployment Insurance Act, 1940; Reinstatement in Civil Employment Act, 1946; and Government Annuities Act. The Industrial Disputes Investigation Act, enacted first in 1907, was suspended by the Wartime Labour Relations Regulations.

Fair Wages Policy.—Wages and hours for work on contracts for the manufacture of equipment and supplies for the Federal Government and for construction were governed for some years by a Resolution of the House of Commons (1900) which was later incorporated in an Order in Council and amended from time to time. Contracts for construction are now regulated under the Fair Wages and Hours of Labour Act, 1935, and, to some extent, by an Order in Council of June 7, 1922, as amended Apr. 9, 1924. Hours on such work are limited to eight per day and 44 per week except in an emergency or when declared exempt by Order in Council; wages to be paid are those current for the type of work in the district concerned or, if there are no current rates, fair and reasonable ones are determined by the Minister.

* Except as otherwise noted, this Chapter has been prepared or revised under the direction of A. MacNamara, C.M.G., Deputy Minister of Labour, Ottawa.

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Wages and hours for work on contracts for equipment and supplies are regulated by the Order in Council of 1922 as amended on Dec. 31, 1934. The hours on such work must be those fixed by the custom of the trade in the district where the work is performed, or fair and reasonable hours. The wages must be current, or fair and reasonable and, for men and women over 18 years of age, may not in any case be less than 35 cents and 25 cents per hour, respectively. Where minimum rates fixed by provincial authority are higher than these rates, the provincial rates apply. In both construction and supplies contracts, the term "current wages" and, in the latter contracts, the term "hours fixed by the custom of the trade", mean the standard conditions fixed by agreement between employers and unions or, failing agreement, the actual conditions prevailing.

Wartime Labour Regulations Continued into 1948.—The Wartime Labour Relations Regulations (P.C. 1003) of Feb. 17, 1944, originally based on the War Measures Act, were continued in effect into 1948 by subsequent Acts of the Federal Government. In the meantime, however, the Federal authorities had returned to provincial jurisdiction the war industries originally covered, effective Apr. 1, 1947. Arrangements between the Dominion and the five provinces, which had applied the provisions of P.C. 1003 to industries under their own jurisdiction, for the joint administration of the Regulations within each province, were cancelled on May 15, 1947, except as to certain pending conciliation matters. The five provinces were British Columbia, Manitoba, Ontario, New Brunswick and Nova Scotia.

Accordingly, as of Apr. 1, 1947, the Wartime Labour Relations Regulations applied only to industries ordinarily within the legislative authority of the Federal Parliament, principally navigation and shipping, and interprovincial transport and communications.

Among other things, the Wartime Labour Relations Regulations provide for the clear right to organize by both employees and employers, for the certification of bargaining representatives, and for compulsory collective bargaining in good faith by employers and trade unions. A procedure for instituting collective bargaining negotiations is set out, and provision is made for the mediation of Conciliation Officers and Conciliation Boards. A change of bargaining representatives at the will of the employees affected is permitted after designated periods of time, and conditions relative to the duration and renewal of collective agreements are included. Collective agreements are required to contain provision for the arbitration of disputes concerning their misinterpretation or violation and, where such a provision is lacking, application may be made to the Wartime Labour Relations Board for the establishment of an appropriate procedure. Unfair labour practices are prohibited and the conditions under which strike or lockout action may take place are also specified.

Up to July 31, 1948, the National Wartime Labour Relations Board had certified bargaining representatives in 379 cases, rejecting 135. Between Mar. 20, 1944, and July 31, 1948, of 523 disputes in which Government conciliation services were used, 227 were settled by Conciliation Officers and 180 by Conciliation Boards. In 100 cases no agreement was reached following a Board's report. Other cases are still pending*.

* Detailed statistics of certification and conciliation proceedings will be found in the annual reports of the Department of Labour.

On May 6, 1947, first reading was given by the House of Commons to Bill 338, the Industrial Relations and Disputes Investigation Act, which the Minister of Labour introduced to replace P.C. 1003. The Bill was referred to the Standing Committee on Industrial Relations, which heard extensive representations from spokesmen for organized labour and associations of employers. Later, owing to the heavy legislative program of Parliament, the Bill was withdrawn. It was re-introduced in slightly amended form on Feb. 2, 1948, and passed third reading on June 17, 1948. Through the Continuation of Transitional Measures Act, 1947, an interim extension of P.C. 1003 was made to cover the period from Mar. 31, 1948, to the date of proclamation of the new legislation.

Subsection 2.—Provincial Labour Departments

Labour legislation in Canada is, for the most part, a matter for the Provincial Legislatures since it usually governs, in some respect, the contract of service between employer and employee or the contract between members of a trade union which forms the basis of the union, or it regulates conditions in local work-places. The right to contract is a civil right and the British North America Act, which distributes legislative powers between the Parliament of Canada and the Provincial Legislatures, grants to the provinces power to enact laws in relation to "civil rights" and, with certain exceptions, "local works and undertakings".

In each province, except Prince Edward Island, a special Department or Bureau is charged with the administration of labour laws. In Alberta the Board of Industrial Relations under the Minister of Industries and Labour administers statutes concerning wages, hours and labour welfare, and the Department of Public Works has charge of factory legislation. Other provinces have Departments of Labour. Legislation for the protection of miners is administered by Departments dealing with mines.

Factory legislation in eight provinces and shops legislation in several provinces prohibit child labour, regulate the hours of women and young persons, and provide for safety and health. Other labour statutes in most provinces include minimum-wage legislation and maximum-hours laws, laws for the settlement of industrial disputes, legislation to ensure freedom of association and promote collective bargaining, and laws to provide for apprenticeship and the licensing of certain classes of workmen. The Industrial Standards Acts in Alberta, Saskatchewan, Ontario, New Brunswick and Nova Scotia, and the Fair Wage Act in Manitoba enable the wages and hours of work agreed upon by representatives of employers and employed in designated trades to be made legal throughout the trade concerned. The Quebec Collective Agreement Act permits agreements between employers and trade unions to be made binding on all in the industry. Workmen's compensation laws in all provinces, except Prince Edward Island, are administered by independent boards.

For information regarding individual Provincial Departments of Labour, reference should be made to the annual reports of the Departments concerned or to the Deputy Ministers of Labour of the Provincial Governments.

Subsection 3.—Provincial Labour Legislation in 1947-48

Prince Edward Island.—The *Trade Union Act* was amended in 1948 to require trade unions to be registered with the Provincial Secretary and all members of a union to be employees. It also forbids a closed shop contract and the affiliation of a union in the Province with a national or international organization.

Nova Scotia.—The *Trade Union Act* provides for compulsory collective bargaining and for machinery to settle disputes, prohibits discrimination against union members, and requires trade unions to make returns to the Government. The Act also enables the Provincial Government to co-operate with the Federal Government under certain conditions and, if Federal legislation and the Nova Scotia Act are substantially uniform, to enter into an agreement with the Federal Minister of Labour for the employment by the Nova Scotia Government of Federal Government employees and vice versa.

In the revision of the *Fishermen's Federation Act* provisions were added to give collective bargaining rights to deep-sea fishermen who are compensated by a share of the earnings of the vessel.

The revised *Factories Act* omits the section permitting children under 14 years to be employed from July to October in gathering and preparing fruits and vegetables for canning or drying. Working hours for young persons under 16 are limited to eight a day and 48 a week with provision for emergency overtime. Women must wear suitable head covering and no woman or person under 16 may work on any machine without adequate instruction and supervision.

The minimum age for boys underground in coal mines was raised from 16 to 17 years.

Under the *Workmen's Compensation Act* the Board may compensate for silicosis regardless of when the disability arose if it considers it was caused by exposure to silica dust in the Province in an industry within Part I of the Act, under which employers are collectively liable for compensation. Compensation is now payable for epitheliomatous cancer or ulceration of the skin due to handling tar, pitch, bitumen, mineral oil or paraffin.

The minimum rate of $12·50 per week or average earnings was extended to permanent total disability cases arising before Mar. 29, 1945, when this minimum rate was established. Where the Board has approved an employer's scheme for medical aid it is not liable for such aid except where immediate treatment by a dentist or an eye, ear, nose or throat specialist is required. A further exception has now been made where skilled nursing services are required and authorized by the Board. Compensation to a widow or invalid widower was raised to $50 a month and a lump sum of $100 provided. The maximum compensation to consort and children was increased from $80 to $90 a month.

In the revision of the law relating to vocational education provision was made for schools for training apprentices under the *Apprenticeship Act*, schools for training teachers in vocational education and the setting up of correspondence study services.

New Brunswick.—*An Act to empower the Crown to take Possession of and Operate Coal Mines Temporarily* provides that where the operation of a coal mine has ceased and the Lieutenant-Governor in Council considers its operation essential to the generation of electric energy by the New Brunswick Electric Power Commission he may take over the mine, temporarily, appoint an administrator, engage workmen and fix their remuneration, and pay compensation to the owner.

Under the *Workmen's Compensation Act*, the amount of average earnings on which compensation is based is now $2,500 a year.

The *Factories Act* was amended to raise from 14 to 16 years the minimum age for employment in factories, laundries, dry-cleaning establishments, shops, hotels, restaurants, places of amusement and office buildings. The Minister of Labour

may grant exemption from this provision. The Minister may order a medical examination of employees if he believes that they may be affected with an "industrial disease", which includes silicosis, and any other disease declared by Order in Council to be such.

Quebec.—Amendments to the *Workmen's Compensation Act* increased monthly payments to a widow or invalid widower from $40 to $45. The minimum to a surviving consort and one child was increased from $50 to $55 a month and where there is more than one child from $12·50 a week to $65 a month. The maximum amount of earnings on which compensation may be based was raised from $2,000 to $2,500 a year.

The *Minimum Wage Act* was made applicable to employees of an employer whose business or residence is in the Province but who either work in and out of the Province or live in the Province and work outside it, provided that they are not covered by another Minimum Wage Act while working outside the Province.

The *Trade Disputes Act* was amended to add provisions relating to disputes between municipal and school corporations and their employees.

The *Professional Syndicates Act* was amended to enable employers to form syndicates under the Act. At least 20 persons in any group seeking to form a syndicate must be Canadian citizens as must all members of the Council and staff.

Ontario.—Amendments to the *Workmen's Compensation Act* increased compensation to a widow or invalid husband from $45 to $50 a month, with an increase from $10 to $12 a month for each child and from $15 to $20 for each orphan child. The minimum monthly payment to a widow or invalid husband is now $50 or the amount of the workman's earnings, if less, instead of $45 or earnings. Minimum compensation to a widow or invalid widower and one or more children is now $62, instead of $55, irrespective of the amount of the workman's earnings, with a further $12, instead of $10 for each additional child unless the total monthly payment exceeds the workman's average earnings when minimum compensation is the amount of such earnings or $62, whichever is greater. Minimum compensation for temporary total disability was increased from $12·50 to $15 a week or average earnings and for temporary or permanent partial disability a proportionate amount. For permanent total disability the minimum payment is now $100 a month, or average earnings, if less, instead of $12·50 a week or earnings, if less. From Jan. 1, 1947, a workman injured in an accident happening on or after Jan. 1, 1915, is entitled to medical aid. Heretofore, medical aid has not been payable in respect of a workman injured before July 1, 1917, the date on which the Act first provided for medical aid.

The *Labour Relations Act, 1948* continues the Labour Relations Board set up under the earlier Act, which was repealed, and enabled the Lieutenant-Governor in Council to give effect within the Province, with such changes as he may consider necessary, to legislation of the Federal Parliament which, in his opinion, covers the same field as the *Industrial Relations and Disputes Investigation Act, 1948.*

The revised *Fire Departments Act* contains new provisions for collective bargaining and compulsory arbitration of disputes. Similar provisions were added to the *Police Act* as well as amendments forbidding a member of a municipal police force to remain or to become a member of a trade union or of any organization affiliated directly or indirectly with a trade union. Members of a police force may, however, belong to an association for improving conditions of service, if membership is limited to one force.

Changes in the *Hours of Work and Vacations with Pay Act* enable the employer to determine the period when an employee may take his holiday which may not be later than 10 months after the end of the working year, fix minimum holiday pay at 2 p.c. of pay for the working year, and authorize regulations providing for holiday credit stamps in designated industries to provide for cases where workers move frequently from one employer to another.

Under the *Industrial Standards Act* changes in a schedule of wages and hours as well as the schedule itself must be approved by the Lieutenant-Governor in Council. The requirement that wage rates prescribed by a schedule may not be less, nor hours of work greater, than those prescribed by the *Minimum Wage Act* or the *Factory, Shop and Office Building Act*, or regulations under them, now applies to both male and female workers. The *Hours of Work and Vacations With Pay Act* is added to the list of Acts with which a schedule may not conflict.

Manitoba.—The *Vacations with Pay Act* provides for a week's holiday with pay after a year's service for employees in every industry, business, trade and occupation except farming, ranching and market gardening, and employees of railway and express companies under Federal jurisdiction. The Act includes domestic workers in private houses but excludes independent contractors. It applies to the Crown in the right of the Province and to Government-appointed boards, commissions, associations and similar bodies and to the University of Manitoba.

The *Manitoba Wartime Labour Relations Regulations Act* now provides for continuing in force in the Province the Wartime Labour Relations Regulations (P.C. 1003) in the event of their expiry or their repeal by the Governor General in Council. The Lieutenant-Governor in Council may declare any future Federal Act or Order in Council dealing with labour relations to apply to employers whose undertakings extend across the boundary between Manitoba and another province. Provision is made for an agreement between the Federal Government and the Government of the Province for the administration of any Act or Order declared by the Province to apply in place of P.C. 1003.

Under the *Workmen's Compensation Act*, compensation to a consort is now $50 a month with $12 for each child under 16 and $20 for each orphan child under that age. Other dependents are to receive $30 per month each with a maximum total payment of $60. Average earnings on which compensation is based are now $2,500 a year.

A change in the *Department of Labour Act* provides for a Manitoba Labour Board of three or more members, with equal representation of employers and workers, to replace the Regional Wartime Labour Relations Board.

Gasoline service stations are now covered by the *Shops Regulation Act*, which authorizes early closing by-laws and regulates employment of women and children in shops.

Saskatchewan.—The *Saskatchewan Hours of Work Act* restricts working hours to eight per day and 44 per week unless time and one-half is paid for time worked beyond those limits. Variations are permitted for shift workers, for workers on a five-day week and for special cases. The Act applies to all workers employed in, or within a five-mile radius of, any city, to employees in all factories in the Province, and to those in shops and offices in towns or villages covered by Minimum Wage Orders. "Factory" does not include a creamery, grain elevator, garage, blacksmith shop or machine shop used chiefly for repair or servicing of farm

machinery. "Shop" includes barber shop, beauty parlour and dry cleaning or dyeing establishments. Exempted are: workers employed in farming, ranching, market gardening, domestic service, undertakings employing only the employer's family, janitors, caretakers, persons travelling regularly to two or more places 10 or more miles apart, those with managerial duties, and those under the *Fire Departments Platoon Act.*

The *Trade Union Act* was amended to enable an application to the court to enforce a Board order to be made not only by the union affected but by the Board or by any interested person. Discharge by an employer or an employer's agent of an "employee" instead of "a member of a trade union" will be presumed to be an unfair labour practice unless the contrary is shown. Unfair labour practices by employees now include commencing to take part in, or persuading any employee to commence to take part in, a strike while an application is pending before the Board. Provision is made for applying any Dominion Labour Relations Act or Order in place of the Trade Union Act within the Province in connection with any work, undertaking or business, and for agreements with the Federal Government for the joint administration in the Province of such Act or Order. The *Public Service Act, 1947*, makes provision for collective bargaining.

Under the *Workmen's Compensation (Accident Fund) Act*, the minimum monthly payment to a widow or invalid widower without children is now $50. If there is one child the minimum is $62 and if two or more children $70 a month. Compensation may be paid to a common-law wife under certain conditions. The maximum amount of average earnings upon which compensation is based was raised from $2,500 to $3,000 a year. Compensation for permanent partial disability is to be estimated from the nature and degree of the injury and is to be a percentage of the amount prescribed for permanent total disability proportionate to such impairment. Compensation may be paid for severe disfigurement or other permanent injury even if there is no impairment of earning capacity. Railway employees included in the Brotherhood of Locomotive Firemen and Enginemen were brought under Part I of the Act, under which employers are collectively liable for compensation.

Under the *Minimum Wage Act* the Board now has power to determine what days shall be considered public holidays, to require payment of wages for such holidays and fix the rate.

The *Workmen's Wage Act*, which provides for the method and time of payment of wages and for recovery of unpaid wages, was amended to apply to persons employed at an hourly, daily or weekly wage in establishments or undertakings under the *Factories Act* or the *Minimum Wage Act.*

Any provision as to wages, hours or other working conditions in a schedule under the *Industrial Standards Act* is to be superseded by more favourable provision in the *Minimum Wage Act* or in any other Act, orders or regulations.

The *Boiler and Pressure Vessel Act, 1948* provides for regulations concerning liquefied petroleum gas plants.

Alberta.—The *Alberta Labour Act* consolidates, with some changes, the *Hours of Work Act*, the *Male and Female Minimum Wage Acts*, the *Labour Welfare Act* and the *Industrial Conciliation and Arbitration Act.* It applies to all employees except farm labourers and domestic servants. New provisions enable the Board of Industrial Relations to arbitrate a dispute between an employer and employees over

wages, hours and conditions of employment, and to make special orders requiring employers to give holidays with pay to persons whose employment is seasonal or intermittent. Provision is made to enable disputes in the coal mining industry to be dealt with under Federal legislation instead of under the Act.

In the revision of the *Workmen's Compensation Act*, maximum average earnings on which compensation may be based were increased from $2,000 to $2,500 and payments for burial expenses from $125 to $175. Maximum monthly payments to a widow or invalid widower were raised from $40 to $50 and to children from $12 to $15. Where the children are orphans, or the surviving parent is confined to gaol or an institution, an extra payment not exceeding $10 a month may be given. An additional $10 is provided for a child between 16 and 18 continuing to attend school. Compensation to dependents other than consort or children was raised from $35 to $50 a month, in the case of parents, with a maximum total of $85 instead of $70. Where disability lasts for more than six days, compensation is paid from the first day. In permanent disability cases the Board is given wider scope in estimating compensation by having regard to earnings of the workman in other industries under the Act.

British Columbia.—The *Industrial Conciliation and Arbitration Act* provides machinery for the settlement of disputes between employers and employees; requires an employer to recognize and negotiate with the representatives of his workpeople, or, where there is a union, with the representatives of the union in which a majority of his employees or a majority of a certain class of his employees are organized; safeguards the workers' right to organize; sets out procedure for determining the proper bargaining agent, if any; requires a collective agreement to be observed by both parties and to provide means of settling disputes arising out of it by agreement or arbitration; declares certain practices by employers and workpeople to be unfair and punishable; and prohibits strikes and lockouts during the life of a collective agreement or until the procedure for settling disputes has been complied with.

Changes in the *Workmen's Compensation Act* increase funeral expenses allowed to $150, raise pensions to consort and children to $50 and $12·50 a month, respectively, and remove the limit of $80 a month on total compensation in fatal cases.

An amendment to the *Factories Act* enables the inspector to give written exemption from the provision requiring employers to allow girls and women one hour at noon, each day, for a meal.

The *Shops Regulation and Weekly Half-holiday Act* was amended to replace "half-holiday" by "holiday" in the title and throughout and to remove places where vegetables are sold from the list of businesses exempted from the weekly holiday provisions.

"Working-year", the qualifying period under the *Annual Holidays Act*, is now 250 days instead of 280, as formerly.

Yukon.—The *Workmen's Compensation Ordinance* was amended to increase compensation in fatal cases from $2,500 to $5,000 and to provide in addition for payment of $750 to each dependent child under 16, the total compensation not to exceed $8,600. Compensation for permanent total disability was raised from $3,000 to $6,000, and the amounts fixed in the schedule for specified injuries which partially disable was doubled in each case.

The *Motor Carrier Ordinance* enables the Highway Commission to make regulations governing hours of work for drivers of public passenger and freight vehicles.

Section 2.—Occupations of the Gainfully Occupied Population

Detailed statistics on the occupations of the Canadian people in 1941 will be found in Vol. VII, Census of Canada, 1941. A special review of this subject, based on the 1941 Census figures, appears at pp. 1062-1073 of the 1943-44 Year Book, and further information at pp. 1168-1169 of the 1945 edition.

Section 3.—Employment and Unemployment

Subsection 1.—Employment and Unemployment Statistics of the Census

Detailed statistics of earnings, employment and unemployment as at June 1, 1941, will be found in Vol. VI, Census of Canada, 1941.

Subsection 2.—Employment and Payrolls as Reported by Employers*

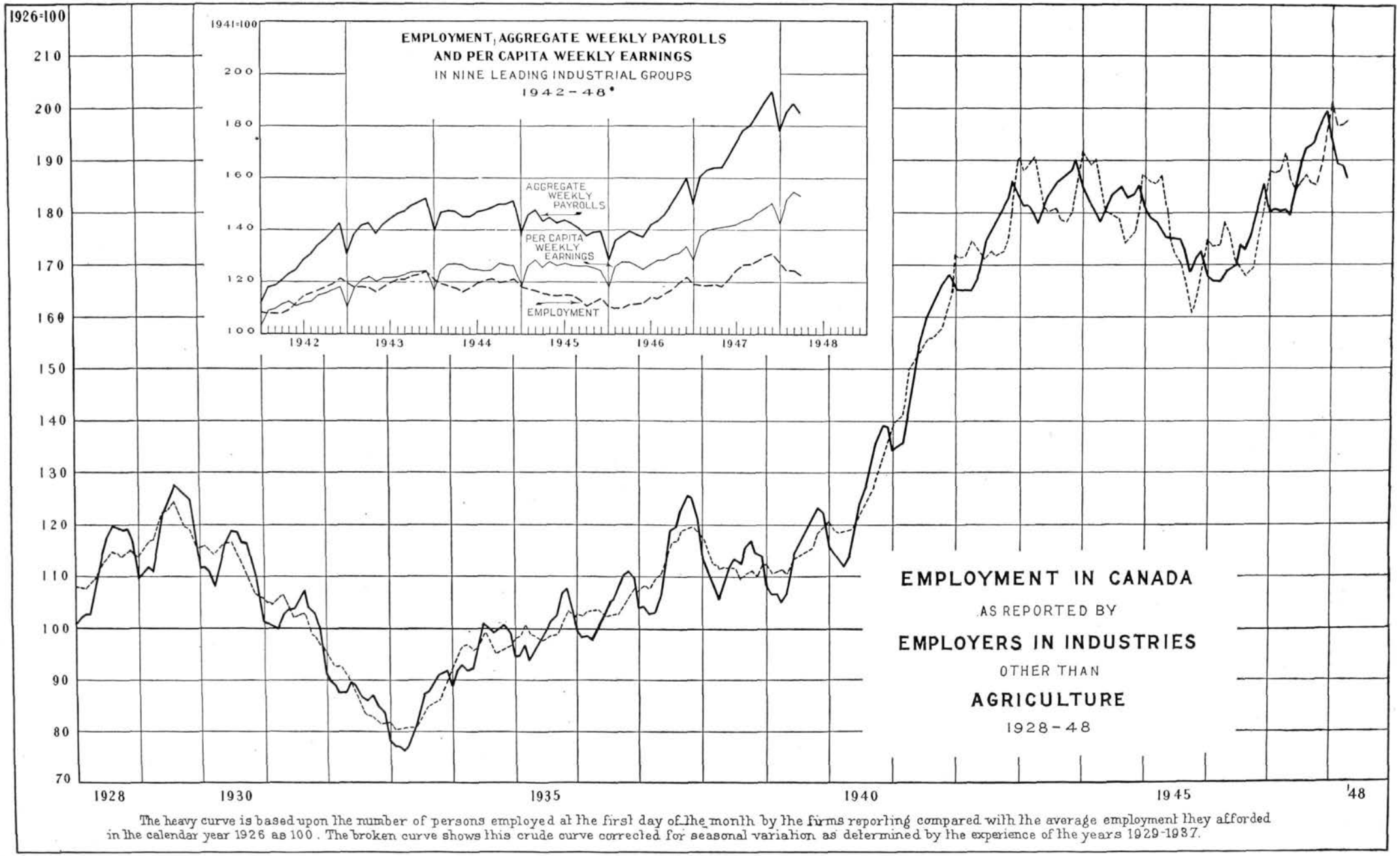
For over 25 years, the Dominion Bureau of Statistics has made monthly surveys of employment in major industries excluding agriculture, domestic and personal service, and government administration. The broad industrial groups covered by these surveys are: logging, mining, manufacturing, construction, transportation and storage, communications, trade, services (chiefly hotels, restaurants, laundries and dry-cleaning plants) and finance. From early in 1941, the surveys of employment were extended to cover the current earnings of those in recorded employment and, since late in 1944, monthly data on man-hours and hourly earnings have also been collected. Inquiries into the sex distribution of the persons on the payrolls of reporting establishments were undertaken on a monthly basis commencing Feb. 1, 1946, replacing the annual and the semi-annual surveys of the previous few years.

For practical reasons associated with problems of collection,† the current inquiries are limited to firms and branches ordinarily employing 15 or more persons. The restriction results in the inclusion of industrial samples of varying size in the monthly survey, the variation depending upon the organization of the industry in large or in small units; from the equally important geographical aspect, however, much greater uniformity exists in the provincial coverage of total employees. It is important to note that in all cases the coverage is large.

In 1947, industrial employment in Canada reached the highest point on record; the annual average index (based on 1926 as 100) for the country as a whole was 187·9, exceeding by 8·5 p.c. the annual average of 173·2 for 1946. The previous high level was 184·1 in 1943. The trend of employment in 1947 reflected the high level of economic activity generally prevailing in the country as a whole. Although there were many industrial disputes during the year, they were not so extensive nor did they have the same far-reaching effect on employment and current earnings as the lengthy strikes of 1946. The material and labour shortages eased considerably, although skilled labour was still in demand in certain industries and areas, and expansion was slowed down to some extent by scarcity and by costs of certain materials. At the same time, the demand for Canadian goods and services was well maintained both on the home market and in foreign countries.

* Revised under the direction of H. F. Greenway, Director, Labour and Prices Division, Dominion Bureau of Statistics, by Miss M. E. K. Roughsedge, Chief, Employment Statistics Section.

† The methods used in preparing the current statistics of employment and payrolls are explained in the Monthly Bulletin on these subjects.



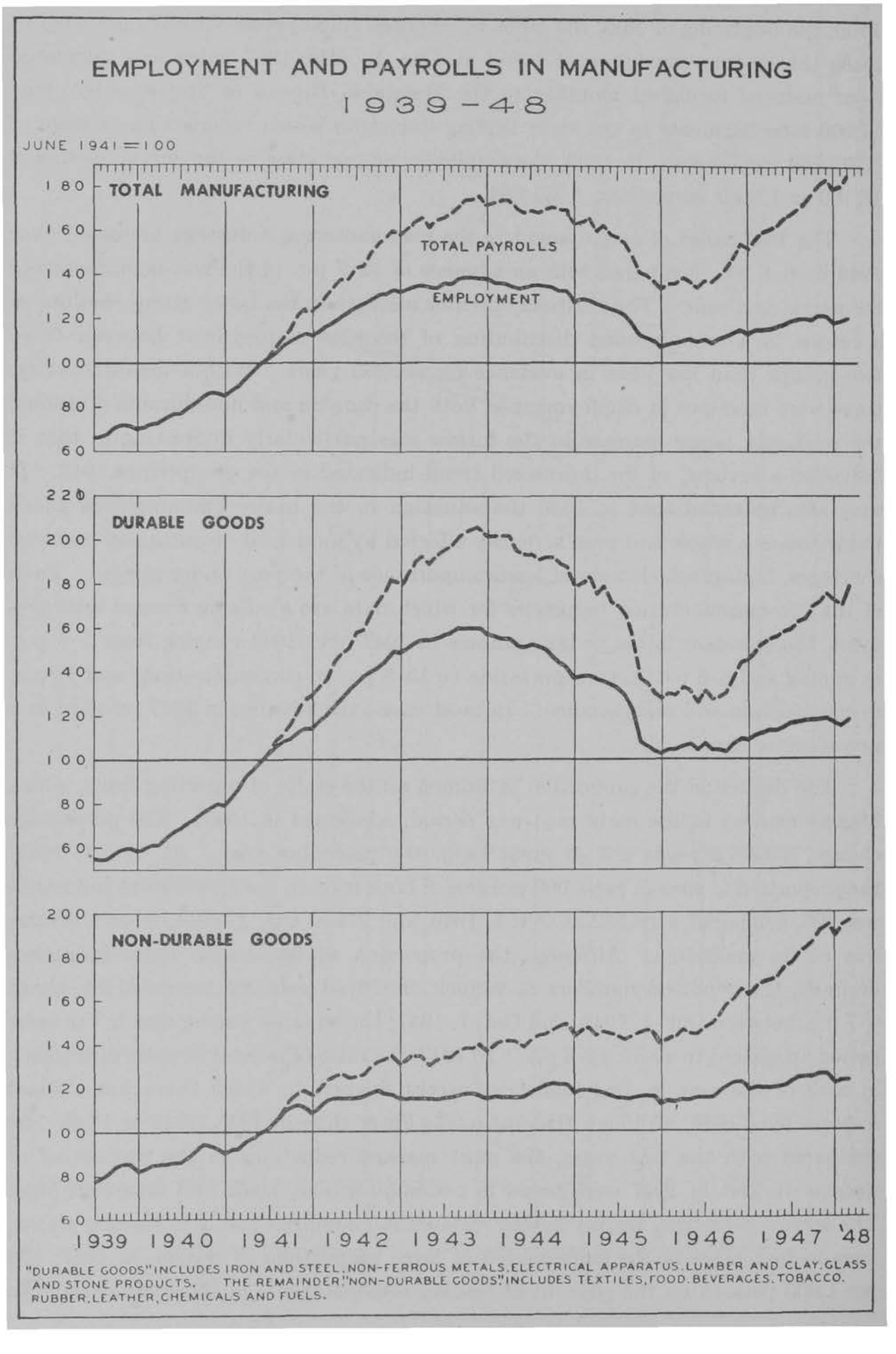
The heavy curve is based upon the number of persons employed at the first day of the month by the firms reporting compared with the average employment they afforded in the calendar year 1926 as 100. The broken curve shows this crude curve corrected for seasonal variation as determined by the experience of the years 1929-1937.

In the 12 months under review, the employment index varied by little more than one point from 181·0 at Jan. 1 to the low point for the year recorded May 1, when the index was 179·6. During this period, the situation had been affected by the dispute in the Maritime coal mines which extended from Feb. 15 to June 11. From the beginning of May the index of recorded employment steadily ascended to reach the all-time maximum of 199·6 at Dec. 1. The 1947 index was calculated from material furnished monthly to the Dominion Bureau of Statistics by some 17,900 establishments in the eight leading industries which reported an average of 1,935,548 employees. In 1946, the employers co-operating in the survey averaged 16,100 and their employees, 1,771,481.

The 1947 index of employment in the manufacturing industries increased over 1946 by 6·8 p.c., compared with an advance of 12·7 p.c. in the non-manufacturing industries as a unit. The relatively greater increase in the latter group resulted in a return to a more normal distribution of recorded employment between these two groups than has been in evidence for several years. Within manufacturing, there were increases in employment in both the durable and non-durable divisions; the relatively larger increase in the former was particularly interesting in that it indicated a reversal of the downward trend indicated in the group since 1943. It may also be noted that in 1946 the situation in the heavy manufactured goods industries as a whole had been seriously affected by industrial disputes and material shortages, factors which were of lesser importance in the year under review. Each of the non-manufacturing industries for which data are available showed improvement, the increases in the index numbers in 1947 over 1946 ranging from 1·9 p.c. in mining and 6·6 p.c. in transportation to 15·8 p.c. in communications and 18 p.c. in construction and maintenance. In most cases, the advance in 1947 resulted in a new all-time high level.

The decline in the proportion of women on the staffs of reporting firms, which became evident in the early post-war period, continued in 1947. The percentage change, however, was not so great as in the preceding year. At Oct. 1, 1947, the proportion of women per 1,000 workers of both sexes in the nine leading industries was 220, compared with 232 at Oct. 1, 1946, and 271 at Oct. 1, 1944, when the ratio was at its maximum. Although the proportion of females in these industries declined, the reported numbers of women employed actually increased by about 4·7 p.c. between Oct. 1, 1946, and Oct. 1, 1947; the advance among men in the same period amounted to about 11·8 p.c. In 1947, the ratio of women workers diminished in each of the nine leading industries except finance, in which there was a small increase over 1946, although that ratio was lower than in 1945, 1944 or 1943. As compared with the war years, the most marked reductions in the proportion of women workers in 1947 were noted in communications, trade and manufacturing. The service industries, mainly hotels, restaurants, laundries and dry-cleaning plants, were in first place in the employment of large proportions of women in 1947; 536 per 1,000 persons on the payrolls of leading establishments in those divisions were

women. A year earlier, the communications group had reported the highest ratio of women workers in the classes for which data are available. Table 1 gives the percentage distribution of women workers in the leading industrial establishments at Oct. 1, in the years 1942 to 1947.



1.—Percentage of Women Employed in Specified Industrial Groups as at Oct. 1, 1942-47

Industrial Group	1942	1943	1944	1945	1946	1947
Manufacturing[1]	25·7	27·9	28·3	26·0	24·1	22·9
Durable goods	15·3	19·1	18·8	13·8	11·7	10·9
Non-durable goods	38·6	40·4	40·2	37·6	35·1	34·4
Communications	47·7	52·6	55·5	55·8	54·7	52·8
Transportation	6·0	8·0	8·5	8·2	6·8	6·5
Services[2]	51·6	58·0	58·2	57·6	54·4	53·6
Trade	45·3	49·1	49·3	46·8	41·9	40·2
Finance	44·9	50·8	53·9	53·3	46·7	47·1
Nine leading industries[3]	23·5	26·2	27·1	25·3	23·2	22·0

[1] In 1939, the proportion of female employees in all manufacturing establishments reporting to the Annual Census of Industry was 22 p.c. [2] Consisting mainly of hotels, restaurants, laundries and dry-cleaning establishments. [3] These industries include also logging, mining and construction in which the number of female workers is very small.

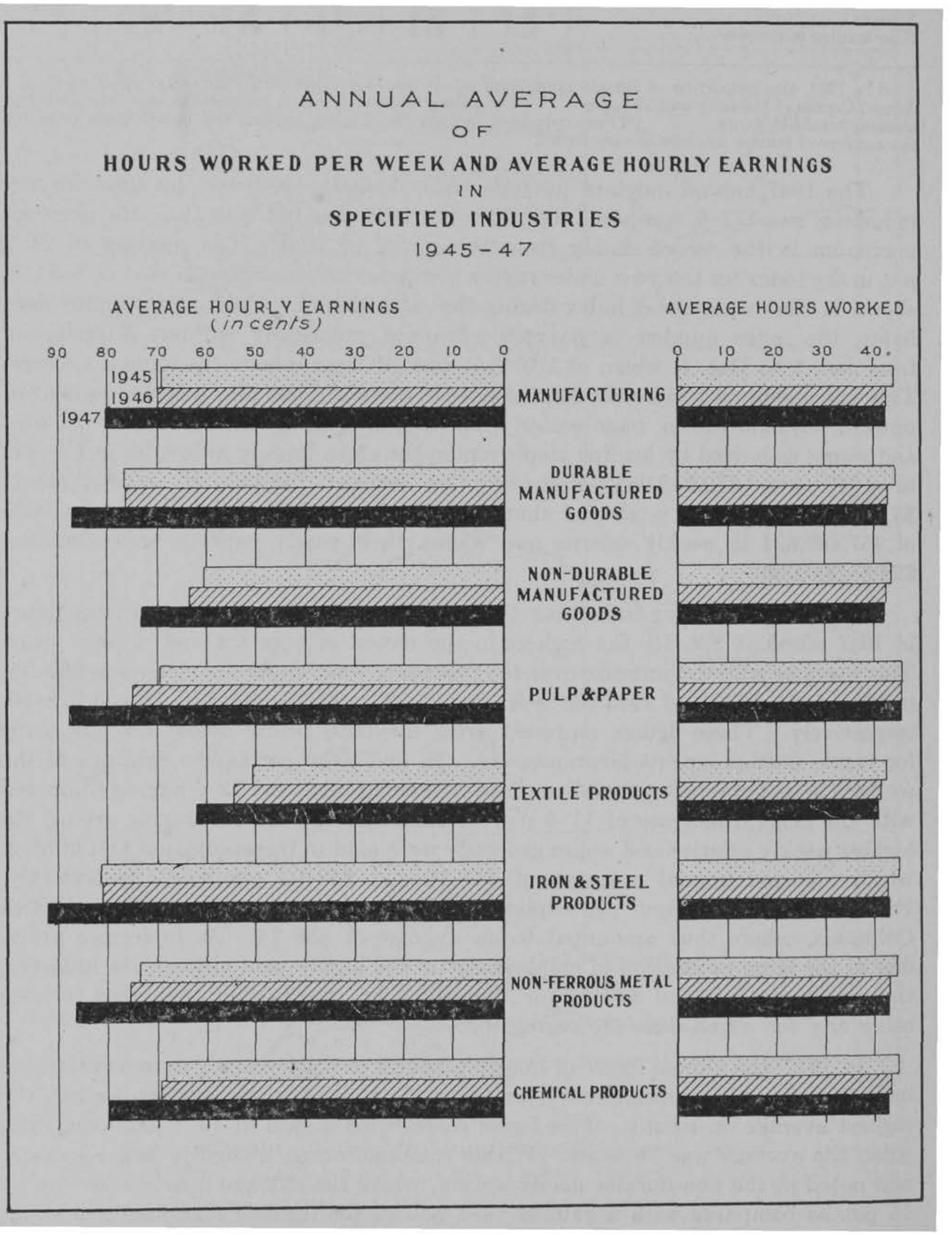
The 1947 annual index of payrolls (June 1, 1941 = 100) for the eight leading industries was 172·6, compared with 142·4 in 1946 and 142·6 in 1945, the previous maximum in the record dating from the spring of 1941. The increase of 21·2 p.c. in the index for the year under review compares favourably with that of 8·5 p.c. shown in the employment index during the same period. Unlike the employment index, the index number of payrolls advanced practically without interruption from Jan. 1 to Dec. 1, when, at 193·9, it was 12·3 p.c. above the annual average. This was due in part to an accelerated pace in industry, but also reflected numerous upward adjustments in wage scales. The annual average of the weekly salaries and wages disbursed by leading employers in the eight leading industries in Canada in 1947 was $70,059,984, indicating an annual payroll of approximately $3,643,000,000. It is estimated that these firms in 1946 distributed an average of $57,409,624 in weekly salaries and wages, their yearly payrolls approximating $2,985,000,000.

In the eight leading industrial divisions, the per capita weekly earnings figure in 1947 stood at $36·15, the highest in the record of over six and a half years. This was a substantial increase over the preceding year, when the mean was $32·38; in 1945, 1944, 1943 and 1942 the averages were $31·99, $31·84, $30·78 and $28·56, respectively. These figures represent gross earnings, before deductions are made for taxes, unemployment insurance, etc. In 1947, the per capita earnings of the workers in manufacturing for whom data are available rose by 12·5 p.c., as compared with the general increase of 11·6 p.c. Within the non-manufacturing group, the highest weekly salaries and wages generally were paid in transportation and mining, which reported annual averages of $44·16 and $43·03 per week, respectively. Provincially, the highest per capita weekly earnings were indicated in British Columbia, where they amounted to an average of $38·74. As in former years, due to the large proportion of employment in the highly paid automotive industry, the per capita figure of $43·54 for Windsor, Ont., was higher than that for any other city for which data are segregated.

In 1947, the annual figure of hourly earnings of wage-earners in manufacturing industries for whom records of hours worked are maintained was 80·3 cents, the highest average on record. This figure represented a gain of 14·7 p.c. over 1946, when the average was 70 cents. Within manufacturing, a slightly larger increase was noted in the non-durable goods section, where the average hourly rate rose by 15 p.c. as compared with a gain of 14·1 p.c. in the durable manufactured goods

industries. Table 2 shows statistics of man-hours and average hourly and weekly earnings in leading manufacturing establishments. As in previous years, the hourly earnings generally indicated in British Columbia were higher than in any other province, the 1947 average being 96·3 cents an hour, a figure 19·9 p.c. above the average for Canada.

Monthly statistics are published in this series for Montreal, Toronto, Hamilton, Winnipeg and Vancouver, in which the averages in 1947 ranged from 77·1 cents in Montreal to 95·3 cents in Vancouver. In regard to the provincial and city



figures of average earnings, it should be pointed out that these are greatly affected by the industrial distribution of the persons employed in manufacturing in the different areas, and also by the related sex and age distribution of the workers.

In the non-manufacturing industries, fewer wage-earners are paid by the hour; in the classes for which information is published, an unusually high hourly rate of 98 cents per hour was reported in mining as compared with 87·3 cents in 1946. In coal mining, the 1947 mean was 110·4 cents, and the 1946 average 95·9 cents. Hourly-rated wage-earners reported in building construction were paid an average of 91·0 cents in 1947, as compared with 83·4 cents in 1946. In connection with the latter figures, it should be noted that large proportions of unskilled workers are employed in the industry, as well as many highly skilled tradesmen.

2.—Man-Hours Worked and Average Hourly and Weekly Earnings in Leading Manufacturing Establishments, 1945-47

Industry	Average Hours Worked			Average Hourly Earnings			Average Weekly Wages		
	1945	1946	1947	1945	1946	1947	1945	1946	1947
	No.	No.	No.	cts.	cts.	cts.	$	$	$
Manufacturing	44·3	42·7	42·5	69·4	70·0	80·3	30·71	29·87	34·13
Durable manufactured goods	44·7	42·8	42·7	76·7	76·4	87·2	34·30	32·68	37·23
Non-durable manufactured goods	43·7	42·6	42·3	60·7	63·8	73·4	26·59	27·18	31·05

The trend towards the shorter working week in manufacturing continued in 1947; the typical wage-earner for whom data are available worked an average of 42·5 hours as compared with 42·7 in 1946. This decline, however, was decidedly smaller than that of 1·6 hours recorded in 1946 from 1945, when overtime in war plants had been an important factor. A decrease in working time was noted in both the durable and non-durable sections in the year under review. In the non-manufacturing group, the average number of hours worked declined in all industries with the exception of construction, in which hours were lengthened slightly as a result of the heavy post-war demand for building and also for improved highways.

3.—Summary Statistics of Employment and Payrolls Reported Monthly by Co-operating Establishments, 1947

Province	Annual Averages of—		Average Weekly Earnings	Annual Average Index Numbers of—	
	Employees	Weekly Payrolls		Employment	Payrolls
				(June 1, 1941=100)	
	No.	$	$		
Province					
Maritime Provinces	134,468	4,414,986	32·80	113·7	170·4
Prince Edward Island	*3,017*	*88,916*	*29·42*	*134·4*	*181·5*
Nova Scotia	*73,897*	*2,406,552*	*32·49*	*103·4*	*149·1*
New Brunswick	*57,554*	*1,919,518*	*33·33*	*129·5*	*206·9*
Quebec	578,534	20,066,046	34·64	122·2	176·7
Ontario	812,149	30,173,737	37·11	120·4	164·9
Prairie Provinces	225,814	8,240,720	36·46	127·4	175·6
Manitoba	*102,103*	*3,701,121*	*36·23*	*123·7*	*169·0*
Saskatchewan	*44,541*	*1,585,624*	*35·57*	*123·3*	*169·3*
Alberta	*79,170*	*2,953,975*	*37·27*	*135·0*	*188·6*
British Columbia	184,583	7,164,495	38·74	143·6	195·6
Totals[1]	**1,935,548**	**70,059,984**	**36·15**	**123·0**	**172·6**

[1] These totals are for the eight industrial groups shown on p. 634, only.

3.—Summary Statistics of Employment and Payrolls Reported Monthly by Co-operating Establishments, 1947—concluded

City and Industrial Group	Annual Averages of—		Average Weekly Earnings	Annual Average Index Numbers of—	
	Employees	Weekly Payrolls		Employment	Payrolls
				(June 1, 1941=100)	
	No.	$	$		
City					
Montreal	281,679	9,844,590	34·92	126·5	172·3
Quebec	27,505	849,455	30·77	111·8	164·1
Toronto	255,695	9,406,651	36·76	124·3	170·6
Ottawa	24,234	768,301	31·69	120·4	165·6
Hamilton	61,120	2,283,724	37·32	113·7	154·7
Windsor	37,053	1,615,709	43·54	115·3	134·0
Winnipeg	66,253	2,199,758	33·19	127·3	166·0
Vancouver	82,620	3,004,087	36·32	156·2	213·9
Totals, Eight Leading Cities	**836,159**	**29,972,275**	**35·85**	**125·9**	**170·1**
Halifax	22,191	714,892	32·23	123·2	175·1
Saint John	14,060	440,697	31·34	132·1	191·2
Sherbrooke	10,147	304,384	29·96	112·4	162·1
Three Rivers	10,927	383,211	34·94	131·9	178·9
Kitchener-Waterloo	19,880	701,679	35·25	131·8	204·7
London	25,351	859,189	33·86	141·8	188·2
Fort William–Port Arthur	11,458	449,780	39·09	80·0	117·7
Regina	11,327	337,826	32·00	124·0	172·1
Saskatoon	7,583	245,110	32·25	150·6	220·0
Calgary	20,527	708,587	34·48	129·3	176·8
Edmonton	20,000	660,320	32·97	144·4	195·8
Victoria	13,386	472,447	35·29	153·8	216·6
Industrial Group					
Manufacturing	1,045,728	38,278,674	36·57	118·4	166·9
Durable goods[1]	*485,193*	*18,976,666*	*39·07*	*114·6*	*159·0*
Non-durable goods[2]	*534,710*	*18,234,555*	*34·07*	*121·8*	*176·2*
Electric light and power	*25,825*	*1,067,453*	*41·30*	*127·3*	*165·8*
Logging	94,059	3,331,792	35·42	195·3	347·0
Mining	74,440	3,207,848	43·03	89·2	120·6
Communications	44,367	1,528,224	34·42	169·0	213·5
Transportation	176,107	7,779,164	44·16	138·5	186·8
Construction and maintenance	198,350	6,953,891	34·86	110·0	167·5
Services[3]	63,046	1,481,742	23·48	139·4	200·9
Trade	239,451	7,498,649	31·29	132·1	175·0
Totals, Industrial Groups	**1,935,548**	**70,059,984**	**36·15**	**123·0**	**172·6**
Finance	80,743	2,995,331	37·09	132·9	170·5
Grand Totals	**2,016,291**	**73,055,315**	**36·19**	**123·4**	**172·5**

[1] Includes iron and steel, non-ferrous metals, electrical apparatus, lumber, musical instruments, and clay, glass and stone products. [2] Includes the remaining manufacturing industries, with the exception of electric light and power. [3] Consists mainly of hotels and restaurants, laundries and dry-cleaning establishments.

Employment and Payrolls by Economic Areas.—During 1947 industrial employment reached all-time high levels in all regions with the exception of the Maritimes and Quebec. The employment indexes for these latter areas in the year under review were not greatly below their wartime peak. Standing at the 1947 high of 205·6 at Dec. 1, the Quebec figure was only 1·3 p.c. below its all-time maximum of 208·3 at Dec. 1, 1943, while the 1947 high index for the Maritimes was 193·3 at Nov. 1, just 6·3 points below the Dec. 1, 1943, level.

During 1947, important gains in recorded employment were made in all provinces. The most pronounced expansion in industrial activity as compared with 1946 took place in British Columbia and Ontario. The employment indexes for these provinces increased by 9·8 p.c. and 8·9 p.c., respectively, from Dec. 1, 1946, to Dec. 1, 1947. Although there was improvement in all major industries in these areas, the upward movement in logging and construction was especially noteworthy in British Columbia, while construction and trade in Ontario showed substantial expansion.

In Quebec, the 1947 employment situation improved generally in all major industries; the gains indicated in construction were particularly marked. The Maritime area was the only region in which employment was curtailed in any of the major industrial groups although logging and construction showed extensive expansion there also.

The trend of recorded employment in the Prairie Provinces continued favourable throughout 1947, except for slight recessions at Feb. 1 and Oct. 1. It is interesting to note that in this area only about three persons in ten on the payrolls of the larger industrial firms in the eight leading industries were engaged in manufacturing, as compared with approximately six in ten in Ontario and Quebec. This difference in distribution largely accounts for the fact that the level of employment in the Prairie area was better maintained in the immediate post-war period than in those provinces where manufacturing provides work for greater proportions of the total working force. The trends in the Prairies therefore followed a more normal course during and after the War. Except for a minor decline in 1945, the index has shown annual increases since 1937.

In 1947, as in the past few years, there was a substantially greater rise in the annual indexes of aggregate payrolls in all areas than in those of employment. This was largely due to the fact that wage and salary adjustments were widespread and extensive. The annual average of the per capita weekly earnings in the major industrial divisions increased considerably over 1946, the advances ranging from 8·8 p.c. in the Maritime Provinces to 27·3 p.c. in British Columbia.

4.—Index Numbers of Employment as Reported by Employers in Economic Areas, by Months, 1946 and 1947, with Yearly Averages 1924, 1929 and 1933-47

NOTE.—These indexes are calculated as at the first day of each month, on the base 1926=100. The relative weights show the proportion of employees reported in each economic area to the total reported by all employers making returns in Canada at Dec. 1, 1946 and Dec. 1, 1947. Averages for the years 1921-32 are given at pp. 613-614 of the 1947 Year Book.

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
Averages, 1924	96·6	91·3	95·5	92·1	89·4	93·4
Averages, 1929	114·8	113·4	123·1	126·3	111·5	119·0
Averages, 1933	85·3	82·0	84·2	86·2	78·0	83·4
Averages, 1934	101·0	91·7	101·3	90·0	90·4	96·0
Averages, 1935	103·7	95·4	103·3	95·2	97·7	99·4
Averages, 1936	109·4	100·7	106·7	99·3	101·1	103·7
Averages, 1937	121·0	115·4	118·3	99·3	106·8	114·1
Averages, 1938	111·5	117·0	113·7	100·0	104·2	111·8
Averages, 1939	110·5	120·8	114·3	103·2	107·5	113·9
Averages, 1940	122·2	127·9	129·2	109·0	113·3	124·2
Averages, 1941	155·0	157·8	160·0	126·6	135·6	152·3
Averages, 1942	174·2	186·2	179·4	135·6	164·8	173·7
Averages, 1943	182·1	200·0	185·8	141·4	190·0	184·1
Averages, 1944	183·1	196·4	181·7	147·0	185·7	183·0
Averages, 1945	179·1	183·2	178·4	145·7	175·1	175·1

4.—Index Numbers of Employment as Reported by Employers in Economic Areas, by Months, 1946 and 1947, with Yearly Averages 1924, 1929 and 1933-47—concluded

Year and Month	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Canada
1946						
January 1	169·5	171·8	172·2	150·6	163·7	168·2
February 1	165·7	170·4	173·9	145·7	159·8	167·2
March 1	164·4	171·8	173·6	145·3	156·4	167·0
April 1	168·8	172·5	175·5	146·8	160·7	168·9
May 1	167·8	170·3	176·7	149·1	163·9	169·3
June 1	172·9	174·8	178·4	153·3	139·3	169·9
July 1	176·0	175·4	179·6	158·2	162·2	173·6
August 1	168·4	177·5	174·8	161·0	170·4	172·8
September 1	171·9	181·4	176·1	162·0	176·9	175·5
October 1	176·7	184·7	179·0	161·1	179·3	178·1
November 1	179·0	189·1	185·1	163·8	182·2	182·7
December 1	184·5	192·7	188·2	164·7	184·6	185·7
Averages, 1946	**172·1**	**177·7**	**177·8**	**155·1**	**166·6**	**173·2**
1947						
January 1	169·4	186·7	186·7	158·3	180·4	181·0
February 1	168·0	186·2	187·6	154·6	180·8	180·7
March 1	148·9	188·4	188·7	155·4	180·9	180·4
April 1	153·3	185·8	189·9	155·3	183·6	180·7
May 1	151·7	182·2	189·4	155·7	186·2	179·6
June 1	165·8	186·9	191·8	161·9	192·4	184·5
July 1	179·4	191·2	195·7	167·3	196·9	189·5
August 1	183·9	195·0	196·7	172·1	204·2	192·6
September 1	184·7	196·1	196·4	172·1	207·5	193·2
October 1	188·2	199·3	199·6	166·8	206·0	194·8
November 1	193·3	203·7	202·2	170·1	203·1	197·8
December 1	192·3	205·6	205·0	171·7	202·6	199·6
Averages, 1947	**173·2**	**192·3**	**194·1**	**163·4**	**193·7**	**187·9**
Percentage distribution of employees reported in economic areas, as at Dec. 1, 1947	7·4	30·1	41·6	11·5	9·4	100·0

Employment and Payrolls by Cities.—A substantial proportion of the total workers in non-agricultural industrial employment in Canada is situated in the principal cities, a concentration which increased during the War, but has since declined as more normal distributions have been re-established. Thus in 1944 the proportion of workers on the payrolls of the larger firms in the eight cities with populations exceeding 100,000 was 46·1 p.c. of the total for the Dominion, but by 1947 the proportion had fallen to 43·2 p.c. Similar trends may be noted in the payroll disbursements. In 1944, the payrolls disbursed by the reporting employers in the eight largest cities made up 46·7 p.c. of the aggregate reported by all firms, while in 1947 the proportion dropped to 42·8 p.c.

Relatively, there was a somewhat greater increase during 1947 in the level of employment in the small centres and rural areas taken as a whole, than in that indicated by the eight largest cities taken as a unit. The composite indexes for the eight leading cities showed a gain of 7·7 p.c. over 1946, compared with a rise of 9 p.c. in the remaining areas. The general increase for the country as a whole amounted to 8·5 p.c.

Industrial activity in each of the eight leading centres showed marked improvement in 1947 compared with 1946. As will be seen from Table 5, the largest percentage gains in employment were in Vancouver, Hamilton and Windsor, in each of which industrial disputes had been an important factor in 1946.

The index number of payrolls for Canada's eight largest cities taken as a whole, increased in 1947 over 1946 by 19·8 p.c., compared with an advance of 21·2 p.c. in the index number of payrolls for the country as a whole. Marked increases in the per capita weekly earnings of persons employed by the co-operating firms were noted in the leading cities in 1947, when new all-time highs were established. The increase of 14·4 p.c. from 1946 in the average weekly salaries and wages in Windsor was particularly noteworthy. Statistics of average weekly wages of hourly-rated wage-earners employed in leading manufacturing establishments are available for several of the larger industrial centres. These show that in 1947 the average weekly wages reported in Vancouver and Hamilton, at $36·69 and $36·41, respectively, were well above the Dominion mean of $34·13, largely because of the high proportion of employees engaged in the heavy manufacturing industries in these cities. The weekly wages indicated by factories in Toronto averaged $33·90, those in Winnipeg, $32·78, and in Montreal, $32·38.

5.—Index Numbers of Employment as Reported by Leading Employers in Certain Cities, by Months, 1946 and 1947, with Yearly Averages 1929 and 1933-47

NOTE.—These indexes are calculated as at the first day of each month on the base 1926=100. The relative weights show the proportion of employees reported in each city to the total reported by all employers making returns in Canada at Dec. 1, 1946 and Dec. 1, 1947. Averages for 1921-28, inclusive, are given at p. 772 of the 1938 Year Book and for 1930-32 at p. 615 of the 1947 edition.

Year and Month	Montreal	Quebec	Toronto	Ottawa	Hamilton	Windsor	Winnipeg	Vancouver
Averages, 1929	**115·3**	**124·2**	**121·3**	**120·7**	**128·4**	**153·2**	**112·3**	**109·2**
Averages, 1933	**81·0**	**95·1**	**87·5**	**90·2**	**74·6**	**75·9**	**80·2**	**83·0**
Averages, 1934	**84·5**	**95·1**	**93·5**	**99·5**	**84·1**	**93·1**	**82·9**	**87·4**
Averages, 1935	**87·3**	**96·9**	**97·5**	**102·2**	**92·6**	**115·0**	**87·8**	**96·6**
Averages, 1936	**92·1**	**95·2**	**101·5**	**106·3**	**98·3**	**121·3**	**92·3**	**103·7**
Averages, 1937	**101·2**	**100·3**	**107·9**	**107·9**	**112·1**	**146·4**	**95·1**	**110·7**
Averages, 1938	**103·9**	**107·5**	**107·3**	**105·0**	**106·8**	**138·3**	**93·1**	**109·1**
Averages, 1939	**106·6**	**119·6**	**109·9**	**108·4**	**103·7**	**133·4**	**93·9**	**111·4**
Averages, 1940	**114·7**	**126·4**	**123·1**	**119·2**	**124·4**	**161·2**	**101·0**	**120·2**
Averages, 1941	**142·7**	**167·8**	**152·9**	**149·2**	**159·5**	**227·3**	**122·8**	**146·8**
Averages, 1942	**167·4**	**223·2**	**180·2**	**161·9**	**186·6**	**282·5**	**132·4**	**205·0**
Averages, 1943	**186·7**	**271·9**	**195·2**	**168·0**	**186·7**	**305·6**	**139·2**	**245·8**
Averages, 1944	**187·8**	**268·4**	**197·7**	**166·7**	**180·8**	**291·0**	**145·2**	**242·6**
Averages, 1945	**172·5**	**217·3**	**184·3**	**162·6**	**176·4**	**242·3**	**142·6**	**221·7**
1946								
January 1	158·8	167·1	173·0	168·6	169·1	181·3	147·5	197·5
February 1	160·0	158·9	174·1	165·2	170·2	228·1	142·0	192·8
March 1	161·1	159·4	174·8	167·0	168·9	226·9	141·2	187·1
April 1	164·0	162·7	177·5	170·4	172·3	255·7	142·7	189·7
May 1	166·5	162·8	177·5	171·9	172·8	263·8	144·9	191·7
June 1	169·0	164·4	176·8	170·8	173·0	266·7	145·7	179·8
July 1	169·9	167·7	176·9	173·1	175·9	241·2	149·9	191·8
August 1	168·1	171·5	174·5	175·7	144·7	237·1	151·7	194·0
September 1	172·7	172·5	176·4	177·3	141·7	232·6	153·4	201·2
October 1	173·2	173·8	178·2	179·9	142·1	229·6	155·6	204·1
November 1	174·4	175·0	181·5	180·6	172·9	240·7	159·8	210·0
December 1	177·9	174·2	187·2	183·7	176·2	244·4	161·9	216·4
Averages, 1946	**168·0**	**167·5**	**177·4**	**173·7**	**165·0**	**237·3**	**149·7**	**196·3**

5.—Index Numbers of Employment as Reported by Leading Employers in Certain Cities, by Months, 1946 and 1947, with Yearly Averages 1929 and 1933-47—concluded

Year and Month	Montreal	Quebec	Toronto	Ottawa	Hamilton	Windsor	Winnipeg	Vancouver
1947								
January 1	174·1	169·5	185·5	184·4	174·9	238·4	154·2	212·9
February 1	173·9	164·9	185·1	177·6	177·7	243·6	151·0	213·6
March 1	174·8	166·3	187·2	175·7	177·8	250·0	151·8	214·7
April 1	175·0	167·9	188·3	178·2	181·2	252·6	151·9	216·0
May 1	176·8	170·6	188·5	177·5	182·5	263·7	152·2	217·3
June 1	178·9	178·9	189·0	180·4	185·3	272·5	153·2	222·4
July 1	179·7	186·8	192·6	183·9	188·4	273·7	155·9	224·9
August 1	179·3	195·6	190·8	184·0	187·2	276·5	157·4	230·5
September 1	179·9	199·6	191·0	183·8	185·1	276·2	157·4	229·5
October 1	181·5	199·8	191·2	182·6	187·8	279·7	153·9	225·2
November 1	182·9	198·8	196·5	182·9	189·7	278·7	162·2	220·4
December 1	185·8	199·7	200·2	185·5	191·8	273·9	165·9	232·3
Averages, 1947	**178·6**	**183·2**	**190·5**	**181·4**	**184·1**	**265·0**	**155·6**	**221·6**
Percentage distribution of employees reported in the leading cities as at Dec. 1, 1946, to Dominion totals as 100	14·3	1·5	13·0	1·2	3·1	1·9	3·4	4·2

Employment and Payrolls by Industries.—An analysis of the employment situation in Canada in 1947 shows that the expansive movement extended to all eight industries. The annual average indexes in 1947 were the highest on record for most industries, manufacturing and mining being the exceptions.

As might be expected, following the virtual cessation of non-essential building work during the War, there was relatively greater expansion in employment in construction and maintenance in 1947 than in other industries, the index, at 152·9 (1926 = 100), being 18 p.c. higher than that for the preceding year. There were important increases in activity in building and highway construction and maintenance, while employment in railway construction and maintenance declined by 0·9 p.c. The per capita weekly earnings reported in the construction industry as a whole rose from $31·53 in 1946 to $34·86 in 1947; in the building trades average salaries and wages rose from $33·97 in the preceding year to $37·41 in 1947, while the average hourly rate advanced by 9·1 p.c. to 91 cents in the latter year. Employment in communications also expanded substantially in 1947, when the index of 164·3 was 15·8 p.c. greater than the annual index for the preceding year. The improvement took place largely in the telephone division. The index of aggregate payrolls in communications as a whole showed an advance of 21·5 p.c. in the year.

The steady demand for lumber and pulp and paper products kept employment in logging at a high level in 1947, when the index increased by 15·1 p.c. as compared with 1946, bringing the annual figure to a new all-time maximum of 309·1. Shortages of labour, which had previously retarded the industry, were alleviated in some cases by the employment of displaced persons from Europe. The average weekly salaries and wages in logging in 1947 reported by leading employers were

$35·42, compared with $29·03 in 1946. This increase of 22·0 p.c. exceeded that indicated in any other of the nine leading industries. It should be noted that the weekly earnings of employees in bushwork quoted do not include the value of board and room which is frequently given in addition to those amounts.

The 1947 annual index of employment in manufacturing, at 199·0, showed an increase of 6·8 p.c. over 1946. Although this average was extremely high, exceeding by some 77 p.c. the 1939 index, it was a good deal lower than the annual index of 226·2 in 1943, when wartime production was at its peak. In the year under review, marked gains were made in both the durable and non-durable manufactured goods sections as compared with 1946, when the existence of serious industrial disputes greatly affected the situation, directly and indirectly. This factor was of especial importance in the heavy industries, in which there was particularly marked improvement in 1947. Within this class, increases in employment were indicated in all groups, particularly the lumber, clay, glass and stone and non-ferrous metal products. The iron and steel group, as a whole, showed an advance of 5·1 p.c. over the previous year; within this group, the largest increase was shown in the automobiles and parts division, the increase amounting to 22 p.c. On the other hand, employment in steel shipbuilding and repair declined by 6·4 p.c. during 1947. In the non-durable goods section of manufacturing, there were important advances in employment in rubber, pulp and paper, textiles, and vegetable food factories, while losses were noted in the fur and leather products industries. The annual index of payrolls in the manufacturing industries, taken as a whole, increased by 20·5 p.c. from 1946 to 1947. The per capita weekly earnings increased by 12·5 p.c., to an all-time high level of $36·57 in 1947; as has already been stated, there had been considerable losses in employment in the preceding year due to labour-management disputes, with consequent reductions in earnings. Widespread increases in wage rates during 1947, however, contributed materially to the higher level of earnings.

The index of employment for mining in 1947 showed an increase of only 1·9 p.c. as compared with 1946; the situation in that industry was seriously affected during the earlier months of 1947 by the industrial dispute in the Maritime coalfields. As a result, the index of employment in coal mining declined by 17·7 p.c. On the other hand, marked improvement was reported by employers in the remaining non-metallic mineral groups and in the extraction of metallic ores. The per capita earnings reported in mining as a whole increased from $38·60 per week in 1945 and $39·21 per week in 1946, to $43·03 in 1947.

Important expansion in employment was also noted in the remaining major industries. The index for trade increased from 191·2 in 1946 to 207·1 in 1947, while in the service category (consisting mainly of hotels and restaurants and laundries and dry-cleaning establishments) the reporting firms increased their staffs by 7·1 p.c. The favourable movement in employment in transportation extended to all three main branches, there being a rise of 6·6 p.c. in the general index for the division, accompanied by an increase of 17·3 p.c. in the index of aggregate payrolls.

6.—Index Numbers of Employment, by Industrial Groups and by Months, 1946 and 1947, with Yearly Averages, 1929 and 1933-47

NOTE.—These indexes are calculated as at the first day of each month, on the base 1926=100. The relative weights show the proportion of employees reported in each industry to the total reported by all employers making returns in Canada at Dec. 1, 1946 and 1947. Averages for 1921-28, inclusive, are given at p. 773 of the 1938 Year Book and for 1930-32 at p. 617 of the 1947 edition.

Year	Manufacturing	Logging	Mining	Communications	Transportation	Construction and Maintenance	Services[1]	Trade	Eight Leading Industries
Averages, 1929...	**117·1**	**125·8**	**120·1**	**120·6**	**109·7**	**129·7**	**130·3**	**126·2**	**119·0**
Averages, 1933...	**80·9**	**66·5**	**97·5**	**83·9**	**79·0**	**74·6**	**106·7**	**112·1**	**83·4**
Averages, 1934...	**90·2**	**124·7**	**110·8**	**79·1**	**80·3**	**109·3**	**115·1**	**117·9**	**96·0**
Averages, 1935...	**97·1**	**126·9**	**123·3**	**79·8**	**81·2**	**97·8**	**118·2**	**122·1**	**99·4**
Averages, 1936...	**103·4**	**138·7**	**136·5**	**81·0**	**84·1**	**88·2**	**124·5**	**127·5**	**103·7**
Averages, 1937...	**114·4**	**189·3**	**153·2**	**85·4**	**85·2**	**99·5**	**130·2**	**132·1**	**114·1**
Averages, 1938...	**111·0**	**142·8**	**155·9**	**85·0**	**84·4**	**105·4**	**135·2**	**132·6**	**111·8**
Averages, 1939...	**112·3**	**119·1**	**163·8**	**84·4**	**85·6**	**113·0**	**137·4**	**136·6**	**113·9**
Averages, 1940...	**131·3**	**166·9**	**168·4**	**87·2**	**89·7**	**90·7**	**143·2**	**142·9**	**124·2**
Averages, 1941...	**168·4**	**187·8**	**176·6**	**96·7**	**98·9**	**126·6**	**167·5**	**156·5**	**152·3**
Averages, 1942...	**206·5**	**196·5**	**171·3**	**103·7**	**105·5**	**130·3**	**178·8**	**156·1**	**173·7**
Averages, 1943...	**226·2**	**180·4**	**158·5**	**104·5**	**114·4**	**129·8**	**189·8**	**155·1**	**184·1**
Averages, 1944...	**224·5**	**215·8**	**154·5**	**108·6**	**121·2**	**104·6**	**202·2**	**164·2**	**183·0**
Averages, 1945...	**203·6**	**247·3**	**146·9**	**117·6**	**124·5**	**109·1**	**205·7**	**174·8**	**175·1**
1946									
January 1.....	179·9	344·4	149·1	127·1	125·2	107·7	207·3	193·6	168·2
February 1.....	182·8	343·5	150·8	127·3	122·2	102·4	211·9	178·6	167·2
March 1.....	182·6	339·5	152·9	128·4	121·3	101·3	211·7	179·9	167·0
April 1.....	184·9	303·6	153·8	132·4	124·0	106·0	217·1	184·8	168·9
May 1.....	186·2	223·9	155·9	135·4	127·7	115·2	219·1	186·7	169·3
June 1.....	184·7	193·7	157·5	141·4	126·8	131·1	224·3	187·7	169·9
July 1.....	187·2	197·0	159·5	146·4	128·3	141·7	233·3	191·1	173·6
August 1.....	184·2	188·5	156·6	151·1	129·6	148·1	239·8	190·0	172·8
September 1.....	187·2	193·5	155·7	152·9	131·4	152·3	239·3	192·1	175·5
October 1.....	188·4	241·7	154·5	151·9	133·2	152·2	235·1	196·8	178·1
November 1.....	192·8	298·5	156·5	153·6	135·7	151·9	224·9	201·3	182·7
December 1.....	194·2	353·9	159·8	154·7	135·8	145·8	226·8	212·0	185·7
Averages, 1946...	**186·3**	**268·5**	**155·2**	**141·9**	**128·4**	**129·6**	**224·2**	**191·2**	**173·2**
1947									
January 1.....	190·6	370·5	154·0	154·9	132·0	125·1	223·7	212·3	181·0
February 1.....	193·9	375·6	162·1	155·1	129·3	121·2	224·8	196·4	180·7
March 1.....	194·5	377·9	135·9	156·6	129·9	123·8	226·4	197·4	180·4
April 1.....	195·2	331·0	138·7	159·0	131·1	128·6	228·5	200·2	180·7
May 1.....	195·8	241·3	139·5	161·4	134·7	133·2	231·9	200·7	179·6
June 1.....	197·6	239·8	157·6	165·7	139·9	149·6	238·4	201·6	184·5
July 1.....	200·6	241·5	167·5	169·9	141·2	165·0	250·5	205·9	189·5
August 1.....	202·5	246·0	170·2	173·5	142·7	176·2	260·2	206·0	192·6
September 1.....	203·3	242·2	167·1	171·6	141·8	179·9	258·7	207·2	193·2
October 1.....	203·6	286·1	165·2	169·4	141·7	180·4	251·0	211·7	194·8
November 1.....	205·1	352·3	168·0	168·0	138·2	181·3	245·0	216·7	197·8
December 1.....	205·1	405·2	171·0	166·4	140·0	170·5	241·8	228·3	199·6
Averages, 1947...	**199·0**	**309·1**	**158·1**	**164·3**	**136·9**	**152·9**	**240·1**	**207·1**	**187·9**
Percentage distribution of employees reported in the leading industries as at Dec. 1, 1947.....	52·1	5·9	3·9	2·2	8·7	11·0	3·2	13·0	100·0

[1] Consists mainly of hotels and restaurants, laundries and dry-cleaning establishments.

Subsection 3.—Labour Force Surveys*

Recognition of the importance of current statistics on total employment and unemployment in Canada led to the introduction of large-scale periodic sample surveys of the population in the autumn of 1945. At that time, the Dominion

* Prepared under the direction of C. M. Isbister, Director, Central Research and Development Division, Dominion Bureau of Statistics, by R. W. James, Chief, Sampling Unit.

Bureau of Statistics established a number of regional offices to direct the operations of several hundred temporary enumerators engaged in interviewing sample households. Surveys of the labour force have been carried on at intervals of approximately three months since November, 1945. The technique may be described as multi-stage area sampling and involves the selection of progressively smaller sample areas, and ultimately households, random methods of choice being used at every stage of selection. Usually, the sample includes from 25,000 to 30,000 households but once a year, in the spring, it is increased to from 50,000 to 60,000 households in order to improve the estimates of interprovincial migration obtained from the sample.

The main purpose of the labour force surveys is to provide an exhaustive classification of persons 14 years of age or over on the basis of their current activity during a specified week. The main classifications are: (1) employed; (2) unemployed; (3) not in the labour force. The third group includes persons who are keeping house, going to school, retired, and those permanently unable to work because of age or other reasons. Persons who worked during the survey week, as well as those temporarily absent from their jobs because of illness, vacation, bad weather, labour disputes or temporary layoff are classed as employed. Those who were looking for work, but were not working, are counted as unemployed. The total civilian labour force is made up of the employed and the unemployed.

The estimates obtained from the labour force surveys exclude the following groups: members of the Armed Services; inmates of institutions; Indians living on reservations and persons living in remote areas who could be enumerated only at great expense. Moreover, since the estimates are usually based on a one per cent sample of the population, they are all subject to sampling error which may be large for relatively small magnitudes.

Changes in regional employment conditions since the first survey are summarized in Table 7.

7.—Summary Statistics Resulting from the Labour Force Surveys, by Regions, November, 1945, to February, 1948

Region and Date of Survey	Employed	Unemployed	Civilian Labour Force	Not in Labour Force
	No.	No.	No.	No.
Maritime Provinces—				
Nov. 17, 1945	372,000	18,000	390,000	398,000
Feb. 23, 1946	372,000	27,000	399,000	410,000
June 1, 1946	414,000	21,000	435,000	396,000
Aug. 31, 1946	423,000	20,000	443,000	399,000
Nov. 9, 1946	421,000	20,000	441,000	409,000
Mar. 1, 1947	411,000	21,000	432,000	426,000
May 31, 1947	408,000	21,000	429,000	407,000
Aug. 16, 1947	430,000	15,000	445,000	395,000
Nov. 8, 1947	421,000	17,000	438,000	403,000
Feb. 21, 1948	400,000	25,000	425,000	420,000
Quebec—				
Nov. 17, 1945	1,236,000	60,000	1,296,000	1,110,000
Feb. 23, 1946	1,206,000	75,000	1,281,000	1,173,000
June 1, 1946	1,289,000	44,000	1,333,000	1,149,000
Aug. 31, 1946	1,330,000	42,000	1,372,000	1,127,000
Nov. 9, 1946	1,322,000	31,000	1,353,000	1,173,000
Mar. 1, 1947	1,277,000	46,000	1,323,000	1,223,000
May 31, 1947	1,319,000	28,000	1,347,000	1,187,000
Aug. 16, 1947	1,348,000	23,000	1,371,000	1,172,000
Nov. 8, 1947	1,353,000	22,000	1,375,000	1,178,000
Feb. 21, 1948	1,300,000	48,000	1,348,000	1,220,000

7.—Summary Statistics Resulting from the Labour Force Surveys, by Regions, November, 1945, to February, 1948—concluded

Region and Date of Survey	Employed	Unemployed	Civilian Labour Force	Not in Labour Force
	No.	No.	No.	No.
Ontario—				
Nov. 17, 1945	1,490,000	53,000	1,543,000	1,278,000
Feb. 23, 1946	1,504,000	56,000	1,560,000	1,335,000
June 1, 1946	1,618,000	33,000	1,651,000	1,308,000
Aug. 31, 1946	1,673,000	36,000	1,709,000	1,285,000
Nov. 9, 1946	1,654,000	34,000	1,688,000	1,363,000
Mar. 1, 1947	1,605,000	40,000	1,645,000	1,427,000
May 31, 1947	1,708,000	24,000	1,732,000	1,350,000
Aug. 16, 1947	1,769,000	19,000	1,788,000	1,303,000
Nov. 8, 1947	1,726,000	22,000	1,748,000	1,359,000
Feb. 21, 1948	1,663,000	40,000	1,703,000	1,422,000
Prairie Provinces—				
Nov. 17, 1945	886,000	23,000	909,000	718,000
Feb. 23, 1946	877,000	34,000	911,000	755,000
June 1, 1946	1,007,000	15,000	1,022,000	707,000
Aug. 31, 1946	1,041,000	11,000	1,052,000	669,000
Nov. 9, 1946	944,000	19,000	963,000	721,000
Mar. 1, 1947	888,000	21,000	909,000	790,000
May 31, 1947	972,000	9,000	981,000	718,000
Aug. 16, 1947	1,022,000	8,000	1,030,000	684,000
Nov. 8, 1947	937,000	13,000	950,000	759,000
Feb. 21, 1948	905,000	23,000	928,000	791,000
British Columbia—				
Nov. 17, 1945	342,000	18,000	360,000	331,000
Feb. 23, 1946	353,000	21,000	374,000	340,000
June 1, 1946	374,000	13,000	387,000	330,000
Aug. 31, 1946	393,000	8,000	401,000	335,000
Nov. 9, 1946	392,000	11,000	403,000	352,000
Mar. 1, 1947	384,000	13,000	397,000	364,000
May 31, 1947	414,000	9,000	423,000	356,000
Aug. 16, 1947	439,000	8,000	447,000	336,000
Nov. 8, 1947	410,000	13,000	423,000	370,000
Feb. 21, 1948	401,000	20,000	421,000	380,000
Totals—				
Nov. 17, 1945	**4,326,000**	**172,000**	**4,498,000**	**3,835,000**
Feb. 23, 1946	**4,312,000**	**213,000**	**4,525,000**	**4,013,000**
June 1, 1946	**4,702,000**	**126,000**	**4,828,000**	**3,890,000**
Aug. 31, 1946	**4,860,000**	**117,000**	**4,977,000**	**3,815,000**
Nov. 9, 1946	**4,733,000**	**115,000**	**4,848,000**	**4,018,000**
Mar. 1, 1947	**4,565,000**	**141,000**	**4,706,000**	**4,230,000**
May 31, 1947	**4,821,000**	**91,000**	**4,912,000**	**4,018,000**
Aug. 16, 1947	**5,008,000**	**73,000**	**5,081,000**	**3,890,000**
Nov. 8, 1947	**4,847,000**	**87,000**	**4,934,000**	**4,069,000**
Feb. 21, 1948	**4,669,000**	**156,000**	**4,825,000**	**4,233,000**

Subsection 4.—Unemployment as Reported by Trade Unions

Quarterly statistics on unemployment are compiled and published in the *Labour Gazette* by the Department of Labour. These are based, at the present time, on returns received from about 2,400 local trade union branches, having an aggregate membership of more than 450,000 workers. "Unemployment" means involuntary idleness due to economic causes. Persons engaged in work other than their own trades, or idle because of illness, are not considered as unemployed, while union members retired and members of unions involved in industrial disputes are excluded from the tabulation. As the number of unions making returns varies from one date to another, with consequent variation in the membership upon which the percentages of unemployment are based, it should be understood that the figures for each date have reference only to the reporting organizations.

8.—Percentages of Unemployment in Trade Unions, by Provinces, Half-Yearly, 1933-44 and Quarterly, 1945-47

NOTE.—For percentages of unemployment as at June 30 and Dec. 31 from 1915 to 1930, see p. 827 of the 1934-35 edition of the Year Book. For monthly data from 1921, see successive issues of the Year Book commencing with the 1922-23 edition. Quarterly figures were first published for 1945.

Month and Year	P.E.I. and N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Canada
June.....1933	13·8	13·0	26·2	23·3	19·4	14·9	24·5	18·6	21·8
December.....1933	11·2	11·5	23·2	24·9	20·3	17·2	17·6	19·8	21·0
June.....1934	11·4	7·3	22·9	15·9	17·0	12·1	24·8	17·2	18·0
December.....1934	4·7	7·2	24·5	18·7	16·1	13·1	9·0	24·6	18·0
June.....1935	12·2	8·1	21·9	12·0	13·7	9·4	20·1	13·2	15·4
December.....1935	7·8	7·5	20·6	13·4	13·1	11·6	9·6	15·9	14·6
June.....1936	6·7	7·8	19·0	13·3	8·4	6·4	17·2	10·5	13·9
December.....1936	6·8	6·2	20·9	13·8	10·9	12·8	6·4	12·7	14·3
June.....1937	5·9	4·7	15·3	7·6	5·7	7·2	16·6	8·0	10·4
December.....1937	3·3	4·6	16·5	12·9	16·8	10·6	6·7	15·8	13·0
June.....1938	3·6	14·8	17·1	12·4	12·5	9·7	17·8	14·3	13·5
December.....1938	8·4	9·8	21·2	14·5	21·4	11·8	9·5	17·3	16·2
June.....1939	6·3	8·9	15·0	9·7	10·2	6·6	18·2	9·7	11·6
December.....1939	5·3	4·3	16·1	9·7	12·0	10·2	4·9	12·4	11·4
June.....1940	2·4	3·7	12·2	4·9	3·9	3·4	14·6	7·7	7·6
December.....1940	2·6	2·3	11·1	5·9	6·6	6·7	4·8	9·0	7·4
June.....1941	2·0	1·9	6·2	2·0	4·3	1·8	11·5	3·8	4·1
December.....1941	1·0	2·1	5·7	6·0	6·2	4·2	3·8	5·3	5·2
June.....1942	1·3	4·7	4·6	1·6	1·1	0·9	2·6	0·9	2·5
December.....1942	0·3	2·4	1·6	1·0	2·6	1·1	1·7	0·6	1·2
June.....1943	0·3	1·1	1·0	0·4	0·6	0·6	1·1	0·1	0·6
December.....1943	2·9	0·3	0·7	0·5	0·8	0·8	0·9	0·5	0·8
June.....1944	0·1	0·6	0·4	0·2	0·2	0·5	0·2	0·2	0·3
December.....1944	[1]	0·2	0·9	0·4	0·8	0·5	0·7	0·6	0·6
March.....1945	0·5	[1]	1·2	0·6	0·9	0·8	0·8	0·5	0·7
June.....1945	1·2	0·1	0·6	0·7	0·2	0·9	0·3	0·2	0·5
September.....1945	2·0	0·5	2·4	0·5	0·4	0·4	0·3	2·4	1·4
December.....1945	4·6	4·7	1·8	4·0	1·2	1·3	0·9	3·4	3·0
March.....1946	4·0	1·8	1·4	1·7	1·6	2·1	1·0	3·0	1·9
June.....1946	3·6	3·7	1·0	0·8	1·5	0·7	0·4	2·3	1·3
September.....1946	0·9	1·0	1·0	1·0	0·5	0·4	0·5	1·5	1·0
December.....1946	1·5	0·3	1·4	0·9	1·3	1·5	1·4	3·6	1·5
March.....1947	15·4	1·7	1·8	0·7	1·3	2·0	1·5	2·0	1·8
June.....1947	7·2	2·2	0·5	0·5	0·4	0·5	0·3	0·8	0·8
September.....1947	4·9	0·8	0·6	0·3	0·5	0·2	0·5	1·1	0·7
December.....1947	3·6	8·4	2·2	0·9	1·1	0·6	1·5	2·0	1·7

[1] Less than one-tenth of one per cent.

Section 4.—Unemployment Insurance

The Unemployment Insurance Act, which came into operation on July 1, 1941, applies to all employed persons with the following exceptions: workers in specified industries or occupations such as agriculture, forestry, fishing, lumbering and logging (unless in an area where the Commission has prescribed that persons employed in lumbering and logging shall be insured—limited at present to the Province of British Columbia), private domestic service, private-duty nursing, certain director-officers of corporations, workers on rates other than hourly, daily or piece rates if

earning more than $3,120 per year and (except by consent of the Commission) employment in a hospital or charitable institution not carried on for gain. All employees paid by the hour, day or on piece rate (including a mileage rate) are insured regardless of amount of earnings, together with all employees who receive $3,120 or less per year under weekly, monthly or yearly rates. An amendment, effective Apr. 1, 1948, insured employment in stevedoring, previously one of the major employments which were excluded.

Unemployment Insurance Fund.—Both employers and employees contribute to the Fund, the total paid by each group being approximately equal. The Federal Government contributes an amount equal to one-fifth of the combined employer-employee contributions, and also assumes the cost of administration. From July 1, 1941, to June 30, 1948, employers and employees contributed $463,657,098 to the Fund and the Dominion added $92,733,927. Interest and profit on sale of securities amounted to $38,181,653 and fines of $17,026 made a total revenue of $594,589,706.

Benefit first became payable on Jan. 27, 1942, and from that date to June 30, 1948, of the 1,854,067 claims filed at local offices, 1,080,610 were allowed and 9,222 were awaiting decision. Total benefit payments amounted to $129,145,295, leaving a balance of $465,444,411 in the Fund. Reserves of the Fund are invested in Dominion of Canada bonds and, at the end of 1947, the par value of bonds held amounted to $414,023,000.

WEEKLY RATES OF CONTRIBUTION AND BENEFIT UNDER THE UNEMPLOYMENT INSURANCE ACT

Class	Earnings in a Week	Weekly Contributions[1]		Denomination of Stamp[2]	Weekly Benefits[3]	
		By Employee	By Employer		Single Person	Person With One or More Dependents
		cts.	cts.	cts.	$	$
0	Less than 90 cents a day or under 16 years of age	[4]	18 cents paid on his behalf by Employer[4]	18	[4]	[4]
1	$ 5·40 to $ 7·49	18	12	30	4·20	4·80
2	$ 7·50 to $ 9·59	24	15	39	5·10	6·30
3	$ 9·60 to $11·99	24	18	42	6·00	7·50
4	$12·00 to $14·99	24	21	45	7·20	9·00
5	$15·00 to $19·99	24	24	48	8·10	10·20
6	$20·00 to $25·99	30	30	60	10·20	12·90
7	$26·00 to $33·99	36	36	72	12·30	15·60
8	$34·00 or more	42	42	84	14·40	18·30

[1] The daily rate of contribution in respect of each class is one-sixth of the weekly rates. [2] Unemployment insurance stamps combine both employer and employee contributions. [3] Rates calculated on assumption that the person is in the same class for the last 180 days in the two years preceding claim. Daily benefit for an insured person without dependents is 34 times the average of his 180 most recent daily contributions, and 45 times the average daily contribution less ten cents per day in the case of a person mainly or wholly maintaining one or more dependents. The daily rate is one-sixth of the weekly rate. [4] Workers in this class make no contributions (the contributions being wholly borne by the employer) and are not eligible for benefit. They may, however, accumulate benefit rights on the basis of the employer contributions.

No benefit is payable during the first nine days of unemployment in a benefit year. After that time, the duration of benefit is related to the employment and contribution history of the employee, the number of days' benefit being equal

to one-fifth the number of contribution days during the previous five years, less one-third of the number of benefit days in the previous three years. Insurance benefit is paid as a right on fulfilment of four statutory conditions:—

(1) The payment of not less than thirty weekly (or 180 daily) contributions within two years, while in insured employment. (The two-year period may be extended in certain circumstances.)

(2) Not more than 50 p.c. of contributions within one year preceding the claim being at the lowest rate specified in the Second Schedule.

(3) Proper presentation of claim.

(4) Claimant being at least 16 years of age.

Disqualifications for benefit include: loss of work due to a labour dispute in which the contributor is participating or directly interested; unwillingness to accept suitable employment; being an inmate of any prison or an institution supported out of public funds; refusal to attend a course of instruction or training if directed to do so; residence outside of Canada unless otherwise prescribed. Disqualification of a claimant for a period not exceeding six weeks may be made if an employee is discharged by reason of his own misconduct or leaves the employment voluntarily without just cause or refuses suitable employment.

Statistics of Unemployment Insurance.*—Benefits under the Unemployment Insurance Act first became payable in January, 1942. Except for a period of some nine months following the cessation of hostilities in Europe in the spring of 1945, the monthly figures on claims filed have shown a definite seasonal variation. The typical seasonal movement involves increasing monthly totals in the autumn and winter months and decreasing totals in spring and summer. In 1942, the monthly average of initial and renewal claims filed was 2,244, the range being from 663 to 4,629. The 1943 monthly average was 3,055 with the monthly totals ranging from 1,013 to 6,562. During 1944, the monthly average was 7,575 with a range from 3,106 to 13,770. With the end of the War in August, 1945, the monthly totals in the last half of the year increased sharply, resulting in an average of 24,699 initial and renewal claims per month for 1945, monthly totals ranging from 8,430 to 57,612. In 1946, the monthly average of initial and renewal claims filed was 40,722 while the monthly totals ranged from 25,115 to 71,932. During 1947 the monthly average was 36,904, ranging from 17,281 to 73,578.

The number of beneficiaries each month has fluctuated with the number of claims filed, subject to a lag of approximately one month. Because of re-employment, or because of the provisions of the Act governing the receipt of benefits, the number of beneficiaries in any month is usually less than the number of claimants. Only when the claims received are falling off sharply, is the number of beneficiaries in a period likely to exceed the number of claimants.

An indication of the extent of recorded unemployment among workers covered by unemployment insurance is given by the numbers signing the live unemployment register in the last week of each month. Those maintaining a live claim for benefit must sign the register once a week, thus certifying that they are unemployed, are capable of and available for work but unable to find suitable employment.

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* Statistics of Unemployment Insurance are compiled and published by the Unemployment Insurance Statistics Section of the Dominion Bureau of Statistics from material supplied by the Unemployment Insurance Commission.

The same seasonality has been evident in these figures as in those of claims filed but the live register supplies a measure of recorded unemployment at a given time whereas claims filed indicate the number of cases of recorded unemployment in a period.

In addition to the monthly material on the operation of the Act, annual tabulations of the persons employed in insurable employment are prepared from returns covering the book exchange at Apr. 1, and annual data are published on benefit years established and benefit years terminated.

The number of persons insured under the Unemployment Insurance Act, shown in Table **9**, was assumed to be those working in insurable employment as at Apr. 1, as indicated from returns on those receiving insurance books and contribution cards at that time.

Table **10** presents information on the persons for whom current benefit years were in existence during 1946. A benefit year is established under the Unemployment Insurance Act when an insured person, upon becoming unemployed, submits a claim and proves that at least 180 daily contributions have been made on his behalf during the preceding two years. Because of other provisions of the Act or because he may regain employment before he actually receives benefit, the setting up of a benefit year does not necessarily result in the receipt of benefit payments. When a benefit year is established it means, merely, that the claimant's right to receive benefit at a certain rate at any time during the succeeding twelve months is determined. Thus, although 486,600 persons held benefit years current in 1946, only 351,476 actually drew benefit in that year.

In almost all cases (excluding death, etc.), a benefit year remains in existence either until the authorized benefit rights are exhausted or until twelve months have passed since the date of its establishment, whichever occurs first. Some benefit years established in 1945 were carried over into 1946 so that, although 304,743 persons established benefit years in 1946, a total of 486,600 persons held benefit years currently available in 1946.

The amount of benefit paid, as presented in Table **10,** is secured by multiplying each daily rate of benefit by the number of days paid at that rate on the cards representing benefit years upon which benefit was drawn in 1946.

In Table **11**, the persons with current benefit years in 1946 are classified according to the number of benefit days paid. Table **12** classifies those who drew benefit by the daily rate at which they were paid. The daily rate of benefit is determined by the amount of the daily average contribution paid on behalf of the claimant during the past two years and by whether or not he has a dependent within the meaning of the Act.

The persons who established benefit years in 1946, those whose benefit years terminated in 1946, with those whose benefit years terminated by exhaustion of rights, shown separately, are classified by age groups in Table **13**. In Table **14** the persons who established benefit years in 1946 and the benefit days paid on those benefit years are presented by industrial group and age.

Table **15** classifies those who established benefit years in 1946 and the days paid on those benefit years by occupation groups.

A more detailed analysis of these data, by sex and province, is available in the publication "Annual Report on Current Benefit Years Under the Unemployment Insurance Act" issued by the Dominion Bureau of Statistics.

9.—Persons Insured under the Unemployment Insurance Act, Classified by Industrial Groups and Sex, 1945 and 1946

NOTE.—These figures include only those who exchanged an unemployment insurance book or were issued a book for the first time in April. They therefore represent an estimate of the number employed in insurable employment as at Apr. 1.

Industrial Group	1945		1946	
	Males	Females	Males	Females
	No.	No.	No.	No.
Agriculture	1,050	490	880	570
Forestry, fishing and trapping	930	40	1,960	310
Mining, Oil and Quarrying—				
Mining	61,740	1,850	64,930	1,610
Oil wells	2,020	230	2,170	180
Quarrying	2,340	60	2,040	100
Totals, Mining, Oil and Quarrying	66,100	2,140	69,140	1,890
Manufactures—				
Vegetable products	67,030	42,800	65,680	32,110
Animal products	57,410	30,120	60,930	27,320
Textiles and textile products	55,450	97,990	59,570	87,800
Wood and paper products	127,530	36,470	134,020	34,230
Iron and its products	352,260	71,440	225,940	25,740
Non-ferrous metal products	59,640	28,230	50,810	21,010
Non-metallic mineral products	25,210	6,240	31,240	5,810
Chemicals and allied products	34,600	19,910	23,540	10,010
Miscellaneous products	16,190	14,570	16,350	12,160
Totals, Manufactures	795,320	347,770	668,080	256,190
Electricity, gas and water production and supply	17,440	2,870	16,960	2,530
Construction	67,050	2,480	89,950	3,330
Transportation and communications	166,590	33,780	193,590	29,300
Trade, wholesale	55,440	27,540	62,850	25,400
Trade, Retail—				
Food	31,670	21,430	33,230	17,900
Other	79,350	117,400	100,440	106,260
Totals, Trade, Retail	111,020	138,830	133,670	124,160
Finance and insurance	18,680	46,670	24,960	43,900
Service—				
Professional	6,140	13,140	7,990	13,160
Public	58,150	47,950	56,220	25,840
Recreational	9,490	5,500	9,150	4,760
Business	5,320	5,720	7,770	5,640
Personal	43,000	71,640	45,790	60,880
Totals, Service	122,100	143,950	126,920	110,280
Unspecified	22,710	7,850	104,820	37,060
Totals, All Industries	**1,444,430**	**754,410**	**1,493,780**	**634,920**

10.—Persons Establishing Benefit Years, Persons with Current Benefit Years, Persons Drawing Benefit, Benefit Days Paid and Total Amount of Benefit Paid, by Provinces, 1946.

Province	Persons Establishing Benefit Years	Persons with Current Benefit Years	Persons Drawing Benefit	Benefit Days Paid	Total Amount of Benefit Paid[1]
	No.	No.	No.	No.	$
Prince Edward Island	1,363	2,025	1,566	98,450	179,470
Nova Scotia	18,098	25,852	18,423	1,280,688	2,638,609
New Brunswick	8,746	11,775	8,515	532,302	1,074,371
Quebec	96,997	169,347	123,200	8,811,746	17,558,564
Ontario	105,187	157,636	115,385	7,559,533	15,309,828
Manitoba	16,952	27,291	18,828	1,279,822	2,488,281
Saskatchewan	8,175	11,586	8,492	494,033	940,375
Alberta	12,684	19,958	12,801	735,209	1,483,418
British Columbia	36,541	61,130	44,266	3,068,895	6,514,254
Totals	**304,743**	**486,600**	**351,476**	**23,860,678**	**48,187,170**

[1] Subject to adjustment for errors and omissions in final payments. The total of this column is the summation of the benefit paid to each individual during the calendar year. This is the accepted annual figure. This total is less than the total of the 12 monthly figures published for the year 1946 by an estimated $2,500,000, due largely to the practice formerly followed in the Treasury Offices of closing their books on the 20th of each month. Thus the total of the monthly figures for 1946 relate actually to the period Dec. 20, 1945 to Dec. 30, 1946.

11.—Persons with Current Benefit Years During 1946, Classified by Number of Benefit Days Paid

Benefit Days Paid	Persons	Days	Benefit Days Paid	Persons	Days	Benefit Days Paid	Persons	Days
	No.	No.		No.	No.		No.	No.
No benefit	135,124	-	95- 99	7,916	768,330	195-199	1,567	308,791
1- 4	20,156	52,232	100-104	7,378	752,673	200-204	1,420	286,763
5- 9	21,760	155,867	105-109	6,898	737,632	205-209	1,228	254,153
10-14	17,497	209,496	110-114	6,204	694,372	210-214	1,188	251,822
15-19	17,871	298,564	115-119	5,782	675,923	215-219	1,061	230,240
20-24	16,583	361,476	120-124	5,223	637,164	220-224	1,006	223,366
25-29	15,068	406,186	125-129	4,841	614,900	225-229	841	190,897
30-34	14,044	450,469	130-134	4,470	589,996	230-234	668	154,906
35-39	14,056	523,337	135-139	4,237	580,361	235-239	628	148,801
40-44	12,974	545,691	140-144	3,924	556,862	240-244	506	122,396
45-49	12,500	585,841	145-149	3,718	546,203	245-249	527	130,145
50-54	12,557	650,547	150-154	3,337	507,076	250-254	427	107,588
55-59	11,897	677,238	155-159	3,279	514,750	255-259	339	87,132
60-64	11,393	707,015	160-164	2,880	466,602	260-264	294	76,970
65-69	10,898	730,949	165-169	2,661	444,441	265-269	233	62,138
70-74	10,390	748,650	170-174	2,372	407,767	270-274	187	50,820
75-79	9,547	734,583	175-179	2,107	372,666	275-279	143	39,580
80-84	9,459	774,605	180-184	2,036	370,347	280 or over	128	36,698
85-89	9,168	796,913	185-189	1,856	346,984			
90-94	8,458	778,214	190-194	1,690	324,550	**Totals**	**486,600**	**23,860,678**

12.—Persons Drawing Benefit and Benefit Days Paid During 1946, Classified by Daily Rate of Benefit

Daily Rate of Benefit	Persons	Days	Daily Rate of Benefit	Persons	Days	Daily Rate of Benefit	Persons	Days
	No.	No.		No.	No.		No.	No.
Under $0·60	99	3,664	$1·30-$1·39	15,487	924,090	$2·10-$2·19	6,193	421,978
$0·60-$0·69	325	16,291	$1·40-$1·49	9,602	558,049	$2·20-$2·29	9,271	626,326
$0·70-$0·79	638	28,952	$1·50-$1·59	10,059	620,948	$2·30-$2·39	35,785	2,580,875
$0·80-$0·89	1,381	72,259	$1·60-$1·69	14,891	968,868	$2·40	86,790	5,923,410
$0·90-$0·99	1,953	103,767	$1·70-$1·79	21,440	1,457,817			
$1·00-$1·09	3,715	216,787	$1·80-$1·89	15,584	1,019,555			
$1·10-$1·19	6,081	370,849	$1·90-$1·99	23,927	1,656,330			
$1·20-$1·29	7,471	414,827	$2·00-$2·09	80,784	5,875,036	**Totals**	**351,476**	**23,860,678**

13.—Persons Establishing Benefit Years, Benefit Days Paid on Years Established, and Benefit Years Terminated, by Age Groups, 1946

Age Group	Persons Establishing Benefit Years	Days Paid on Benefit Years Established	Benefit Years Terminated	
			Total Terminated	Total Exhausted
	No.	No.	No.	No.
Under 20 years	26,844	697,774	14,353	5,582
20–24 "	47,509	1,902,088	38,267	11,054
25–29 "	36,241	1,548,759	29,958	7,777
30–34 "	32,702	1,297,525	26,547	6,079
35–39 "	30,340	1,191,583	23,958	5,700
40–44 "	27,975	1,105,019	22,120	5,455
45–49 "	23,959	1,021,379	19,252	5,089
50–54 "	20,454	933,924	16,096	4,922
55–59 "	18,219	925,633	14,460	5,196
60–64 "	16,135	997,657	13,153	5,888
65 years or over	23,604	2,113,665	20,687	12,816
Not given	761	31,780	305	109
Totals, All Ages	**304,743**	**13,766,786**	**239,156**	**75,667**

14.—Persons Establishing Benefit Years in 1946 and Benefit Days Paid on These Benefit Years, by Industrial Groups and Age Groups

Industrial Group	Persons Establishing Benefit Years			Benefit Days Paid		
	Under 25 Years	25-59 Years	60 Years or Over	Under 25 Years	25-59 Years	60 Years or Over
	No.	No.	No.	No.	No.	No.
Agriculture	391	984	144	10,565	37,291	6,895
Forestry, fishing and trapping	898	2,183	219	27,451	74,285	9,993
Mining, Oil and Quarrying—						
Mining	1,026	4,466	868	29,043	108,333	45,449
Oilwells	84	350	44	3,365	16,940	3,685
Quarrying	77	309	67	1,950	11,451	4,005
Totals, Mining, Oil and Quarrying	1,187	5,125	979	34,358	136,724	53,139
Manufactures—						
Vegetable products	3,785	6,987	1,442	131,845	309,308	118,582
Animal products	3,975	6,282	1,202	123,490	261,430	82,753
Textiles and textile products	6,551	8,892	1,150	216,093	313,421	71,887
Wood and paper products	4,862	10,846	2,786	152,941	406,478	192,560
Iron and its products	11,828	50,944	8,793	467,580	2,143,799	704,910
Non-ferrous metal products	2,053	4,926	640	67,908	214,239	58,854
Non-metallic mineral products	1,171	2,027	441	34,431	80,574	34,340
Chemicals and allied products	1,236	3,623	488	56,429	231,188	48,403
Miscellaneous products	1,135	2,206	320	33,732	89,829	25,853
Totals, Manufactures	36,596	96,733	17,262	1,284,449	4,050,266	1,338,142
Electricity, gas and water production and supply	310	752	251	11,291	35,441	22,564
Construction	5,260	21,789	4,182	159,774	730,707	213,317
Transportation and communications	6,611	16,058	5,507	224,293	668,519	564,353
Trade, wholesale	2,048	3,475	675	64,555	152,059	59,111
Trade, Retail—						
Food	2,715	3,683	545	96,297	163,797	42,413
Other	7,309	10,541	1,555	273,708	521,145	135,380
Totals, Retail Trade	10,024	14,224	2,100	370,005	684,942	177,793

14.—Persons Establishing Benefit Years in 1946 and Benefit Days Paid on These Benefit Years, by Industrial Groups and Age Groups—concluded

Industrial Group	Persons Establishing Benefit Years			Benefit Days Paid		
	Under 25 Years	25-59 Years	60 Years or Over	Under 25 Years	25-59 Years	60 Years or Over
	No.	No.	No.	No.	No.	No.
Finance and insurance	1,160	1,690	586	42,174	89,130	53,081
Service—						
Professional	750	1,775	468	25,838	73,653	35,165
Public	3,447	12,535	4,334	156,295	750,849	361,195
Recreational	535	1,251	422	18,305	57,576	28,139
Business	291	653	181	7,639	31,509	13,383
Personal	4,749	10,440	2,395	159,318	440,566	172,537
Totals, Service	9,772	26,654	7,800	367,395	1,354,153	610,419
Unspecified	96	223	34	3,552	10,305	2,515
Totals, All Industries[1]	**303,982**			**13,735,006**		

[1] The total number of persons establishing benefit years was actually 304,743 since 761 persons whose ages were not given are not included in this table; 31,780 benefit days were paid to these 761 persons so that the total benefit days paid was actually 13,766,786.

15.—Persons Establishing Benefit Years in 1946, and Benefit Days Paid on these Benefit Years, by Occupation Groups

Occupation Group	Persons Establishing Benefit Years	Benefit Days Paid	Occupation Group	Persons Establishing Benefit Years	Benefit Days Paid
	No.	No.		No.	No.
Agriculture	1,059	37,390	Service	28,885	1,519,918
Fishing	976	31,967	Professional	1,928	98,615
Logging	2,311	77,749	Public	1,182	77,528
Mining and quarrying	4,894	120,073	Recreational	564	25,390
Manufacturing and mechanical	77,703	3,409,662	Personal	25,211	1,318,385
Construction	24,088	916,605	Clerical	34,678	1,885,849
Transportation and communications	19,239	861,749	Labourer	90,932	3,925,725
Trade	19,056	938,002	Unspecified	658	27,428
Finance	264	14,669	**Totals, All Occupations**	**304,743**	**13,766,786**

Employment Service.—The Unemployment Insurance Commission operates a free employment service under authority of the Unemployment Insurance Act, 1940. The public employment offices, which had functioned under a joint Dominion-Provincial arrangement for more than two decades, were taken over on Aug. 1, 1941, and added to by the Commission in all provinces except Quebec. The Commission also established offices in Quebec and the Provincial Government thereupon reduced the number of its own offices.

16.—Applications for Employment, Positions Offered and Placements Effected by Employment Offices, 1937-46, and by Provinces, 1945 and 1946

NOTE.—Figures by provinces from 1920 to 1943, are given in the corresponding table of previous Year Books, commencing with the 1926 edition. Totals for the years 1920-36 are given at p. 766 of the 1938 edition.

Year and Province	Applications Registered		Vacancies Notified		Placements Effected	
	Men	Women	Men	Women	Men	Women
	No.	No.	No.	No.	No.	No.
Totals, 1937	**543,343**	**168,880**	**290,790**	**127,598**	**286,618**	**102,918**
Totals, 1938	**584,727**	**197,937**	**276,851**	**124,390**	**275,338**	**106,957**
Totals, 1939	**579,645**	**208,327**	**271,654**	**130,739**	**270,020**	**114,862**
Totals, 1940	**653,445**	**235,150**	**344,921**	**166,955**	**336,507**	**138,599**
Totals, 1941	**568,695**	**262,767**	**344,796**	**206,908**	**331,997**	**175,766**
Totals, 1942	**1,044,610**	**499,519**	**949,909**	**431,933**	**597,161**	**298,460**
Totals, 1943	**1,681,411**	**1,008,211**	**2,002,153**	**1,034,447**	**1,239,900**	**704,126**
Totals, 1944	**1,583,010**	**902,273**	**1,779,224**	**949,547**	**1,101,854**	**638,063**
Totals, 1945	**1,855,036**	**661,948**	**1,733,362**	**687,886**	**1,095,641**	**397,940**
Totals, 1946	**1,464,533**	**494,164**	**1,335,200**	**567,331**	**624,052**	**235,360**
Prince Edward Island..1945	6,138	3,090	4,376	2,481	3,258	1,959
1946	8,071	2,440	5,094	2,385	3,891	1,598
Nova Scotia.....1945	60,900	21,272	57,444	21,974	40,200	14,208
1946	67,877	17,259	40,954	17,726	25,013	9,346
New Brunswick.....1945	54,021	18,079	58,454	16,416	34,250	11,022
1946	52,487	12,138	38,999	13,075	18,623	5,893
Quebec.....1945	605,568	171,419	526,296	172,637	296,478	83,653
1946	353,468	124,349	341,937	106,968	112,795	32,865
Ontario.....1945	678,492	250,823	693,618	302,327	447,995	171,966
1946	539,631	168,484	564,742	268,020	270,982	94,674
Manitoba.....1945	84,863	46,178	67,023	43,671	45,354	30,040
1946	93,493	39,207	63,217	39,504	36,554	23,251
Saskatchewan.....1945	57,671	27,275	39,571	21,471	27,325	14,677
1946	64,738	24,285	41,509	21,399	23,214	12,639
Alberta.....1945	79,857	38,207	79,160	35,174	54,323	24,255
1946	87,465	33,868	77,925	32,753	46,512	19,932
British Columbia.....1945	227,526	85,605	207,420	71,735	146,458	46,160
1946	197,303	72,134	160,823	65,501	86,468	35,162

Section 5.—Vocational Training*

During 1947, the Federal Department of Labour, in co-operation with the Provincial Governments, carried on various training projects under the Vocational Training Co-ordination Act, 1942: (1) Youth Training; (2) Assistance to Students; (3) Apprenticeship Training; (4) Training of workers released from gainful employment; (5) Vocational Training on the secondary school level; (6) Training of Discharged Members of the Forces.†

In regard to the last-named project, discharged members of the Forces are approved for vocational training by the Department of Veterans Affairs, but the Department of Labour is responsible for setting up training centres and carrying out the training. In Subsection 1 the administration of the program by the Department of Labour is outlined under the appropriate headings and, in Subsection 2, the relationship of the Department of Veterans Affairs to the vocational training of veterans is explained.

* Full information on this subject is given in the "Canadian Vocational Training Annual Report for 1946-47".

† University training under the Veterans' Rehabilitation Act is reviewed in Chapter IX on Education and Research, pp. 321-323.

The Vocational Training Advisory Council, appointed under the authority of the Act, continues to advise the Minister on the general aspects of training plans. This Council is representative of employers, organized labour, vocational education authorities, veterans' and women's organizations.

Subsection 1.—The Vocational Training Program of the Department of Labour

Table 17 shows the allotment of Dominion funds to the provinces for the year ended Mar. 31, 1948, and the total payments made by the Dominion against these allotments up to Apr. 30, 1948.

17.—Dominion Allotments for Vocational Training for the Year Ended Mar. 31, 1948, and Claims Paid to Apr. 30, 1948, by Provinces

Province	Youth Training		Training of Discharged Members of the Forces		Apprentice Training	
	Allotment	Claims Paid	Allotment	Claims Paid	Allotment	Claims Paid
	$	$	$	$	$	$
Prince Edward Island	11,500	10,358	35,000	31,762	–	–
Nova Scotia	31,000	19,227	600,000	577,697	16,000	7,752
New Brunswick	30,000	25,215	480,000	415,423	10,000	5,949
Quebec	130,000	182,049[1]	1,400,000	1,281,609	–	–
Ontario	50,000	50,000	2,500,000	1,579,492	110,000	42,685
Manitoba	17,500	6,199	425,000	370,689	35,000	14,273
Saskatchewan	35,000	37,416[1]	475,000	345,421	29,500	16,360
Alberta	45,000	19,731	525,000	313,950	63,000	24,530
British Columbia	50,000	35,407	460,000	363,213	15,000	6,474
Totals	**400,000**	**385,602**	**6,900,000**	**5,279,256**[2]	**278,500**	**118,023**

[1] Includes claims paid and charged to previous year's allotment. [2] In addition to this amount, $37,201 was paid for buildings and $1,027,736 for equipment from a special fund. Most of this money was paid to War Assets Corporation.

Youth Training.—Each province submitted to the Department of Labour a list of the various types of training it proposed to carry on. These, on approval by the Minister of Labour, were incorporated into appropriate schedules which set forth the regulations governing the operation of the different plans. The training consisted, for the most part, of various general and specialized courses for rural young people in agriculture, home craft and handicrafts, and other related subjects.

Assistance to Students.—Under the Youth Training Agreement with each province assistance was provided for nurses-in-training at hospitals and students in courses leading to a university degree, who had good academic standing but who, without financial assistance, could not continue training. At the discretion of the provincial authorities, assistance could be given in the form of a grant or a loan, or a combination of the two.

The special Student Aid Fund, which operated in previous years, was discontinued on Mar. 31, 1946. Grants to universities, which were made by the Department of Labour during the war years in order to meet additional costs of accelerated courses in medicine and dentistry, were also discontinued.

Apprentice Training.—Apprenticeship Acts are in force in all provinces and Agreements for Federal assistance are in effect with all except Prince Edward Island and Quebec. During 1947 several additional trades were brought within

the Acts. Considerable impetus to apprentice training was given by the large number of veterans who entered various designated trades. The number of non-veteran apprentices also increased rapidly and the supervision of apprentice training improved.

The amounts spent by the Department of Labour under the Apprenticeship Agreements are shown in Table 17 on p. 652.

Training of Unemployed Persons.—Agreements completed in 1945 between the Dominion and certain provinces provided for the training or retraining of workers who had been released from employment. Under these Agreements, the Dominion undertook to pay approximately 75 p.c. of the costs of training workers selected by representatives of the Provincial Governments and the National Employment Service.

During 1947, these Agreements were accepted and signed by the Provinces of British Columbia, Alberta, Saskatchewan, Nova Scotia and New Brunswick. Up to July 1948, comparatively little training had been carried out under them. Generally speaking, employment conditions had been good and the provinces were reluctant to set up courses for non-veteran workers until they were certain that veterans approved for training were going to receive it with a minimum of delay. Although the Federal appropriation for the training of unemployed persons for the year was $290,000, only $39,486 had been paid up to Apr. 30, 1948. This represented the Federal share in the training of 63 men and 196 women who received a total of 21,775 days' training.

Federal Assistance to Vocational Schools.—Ten-year Agreements are in effect by which all provinces receive Federal aid in vocational training on the secondary school level. Each province is given an annual grant of $10,000. In addition, $1,910,000 is allotted each year among the different provinces in proportion to the number of young persons in each province who are in the age group 15-19 years. The Agreements provide for a further contribution of $10,000,000 to be allotted on the same basis and to be made available during a limited period for capital expenditures on buildings and equipment. Up to Apr. 30, 1948, claims had been paid by the Dominion for the year ended Mar. 31, 1948, amounting to $991,760 for buildings and $233,191 for equipment. Except for the $10,000 grant, the Provincial Governments must match all Federal contributions dollar for dollar.

Training of Discharged Members of the Forces.—During 1947 the training of discharged members of the Forces was carried on under the Re-establishment Training Agreement, which was in effect in all provinces.

Administration.—The same method of administration was followed in 1947 as in previous years, with the Provincial Governments co-operating in the provision of vocational and pre-matriculation training. The staff for Canadian Vocational Training was augmented in accordance with requirements, and at one period reached a total of 2,805. Included in that number were regional staffs in each province, principals and instructors for schools, field representatives who looked after veterans training-on-the-job, and a large maintenance staff. Preference was given in all appointments to veterans with overseas service.

Throughout the year close relations were maintained with the Department of Veterans Affairs and with the National Employment Service, both at Head Office and through district offices of the two Departments and the local Employment Offices.

Enrolment.—Although the peak enrolment of veterans taking vocational and pre-matriculation training occurred at the end of July, 1946, when it reached 38,777, there were still 35,733 veterans taking training under the auspices of Canadian Vocational Training on Jan. 1, 1947. By the end of December, 1947, however, the number under training had been reduced to 6,869 and by the end of June, 1948, it had been further reduced to 1,096.

Training Facilities and Equipment.—As a result of the decrease in enrolment during the year it was necessary to amalgamate a number of courses and to close certain training centres. Amalgamation and closing down was carried out in such a manner that training was adversely affected to a minimum extent. Schools were closed at Pictou and Windsor in Nova Scotia; Milledgeville in New Brunswick; Montreal, Quebec and Sherbrooke in the Province of Quebec; Brockville, North Bay, Kitchener, London and Windsor in Ontario; Brandon in Manitoba; Prince Albert and Moose Jaw in Saskatchewan; Medicine Hat in Alberta; and Victoria in British Columbia.

As a result of the reduction in training facilities, many items of capital equipment became surplus. Some of these were acquired by the Provincial Governments on payment of 50 p.c. of the original purchase cost, and the balance were turned back to War Assets Corporation for disposal. In some localities courses set up by Canadian Vocational Training have been or will be continued by the Provinces. This is the case at Edmundston, N.B.; Three Rivers, Que.; Toronto, Ont.; Winnipeg, Man.; Calgary, Alta.; and Vancouver, B.C. Not all the schools at the foregoing localities have been turned over to the provinces, but the provinces concerned have expressed their intention to take over wholly or partially those still operating as veteran training centres.

As in previous years, use was made of a large number of private trade schools, business colleges, and provincial and municipal schools, for the accommodation of veterans who could not conveniently be received into Canadian vocational training centres, or who desired to take courses not given in those centres.

The policy of carrying on night shifts in addition to the day shifts at some Canadian Vocational Training Schools was also abolished everywhere early in the year, with the exception of training in watch repair.

Subsection 2.—Vocational Training of Veterans*

The rehabilitation training program procedure under the provisions of the Veterans Rehabilitation Act and the regulations governing training were, through modification and consolidation during 1946, welded into a comprehensive uniform plan which was in operation throughout Canada. Veterans were trained in approximately 100 specially organized institutes or training centres, operated by the Federal-Provincial organization known as Canadian Vocational Training. As the training of veterans has been completed it has been possible to dispense with these special centres with the result that in April, 1948, no more than 16 centres were still in operation in 12 municipalities.

* Prepared in the Department of Veterans Affairs.

The vocational training program, during the fiscal year 1947-48, showed a gradual decrease in numbers until at the month of March, 1948, there were less than half as many veterans in training as in March, 1947.

Of the total number of veterans receiving vocational training as at Mar. 31, 1948, 73·3 p.c. were receiving full-time training in schools and institutions; 17·7 p.c. were being trained on the job in industrial and commercial establishments; 7·9 p.c. were receiving assistance by way of fees for correspondence or part-time courses; 0·1 p.c. were blind veterans being trained for suitable occupations under the auspices of the National Institute for the Blind; and 1·0 p.c. were receiving matriculation training prior to the vocational training.

Training is provided for approximately 300 occupations in the schools and training centres throughout the Dominion, and training-on-the-job is provided in over 250 trades and occupations, many of which are included in the 300 previously quoted.

Table 18 indicates the growth and decline of the program since its inception. The numbers remained very small during 1943, due to the relatively small numbers being demobilized and the demand for workers in war industries at high rates of pay. The peak load was reached in November, 1946. Henceforward, there will be a very rapid decrease in numbers because few applications have been received since Jan. 1, 1948.

18.—Veterans Receiving Vocational Allowances During Each Month, 1943-48

Month	1943	1944	1945	1946	1947	1948
	No.	No.	No.	No.	No.	No.
January	275	573	1,892	21,998	39,134	16,203
February	264	646	2,407	27,511	38,909	15,978
March	246	764	3,081	29,756	37,385	14,627
April	202	763	3,330	32,184	31,871	13,452
May	181	814	3,651	34,157	29,527	11,997
June	224	774	3,962	35,598	26,115	10,777
July	310	863	3,990	36,165	23,193	9,586
August	271	950	4,145	35,827	21,347	8,646
September	330	1,083	4,332	36,882	19,977	-
October	335	1,360	5,980	39,057	18,998	-
November	394	1,596	8,523	40,422	18,292	-
December	459	1,700	16,457	39,630	16,853	-

The regulations provide for a maximum training period of 12 months subject to extension up to, but not exceeding, the period of active service. Those who served less than 12 months may receive training allowances for only as many months as they served on active rates of pay.

The average length of vocational training courses is approximately six months. In the case of highly skilled trades, veterans approved for advanced technical courses and those indentured as apprentices may receive assistance by way of grants or subsidies for two years or more provided they have served the necessary period to establish entitlement. Where veterans are trained on the job, the employer is expected to pay wages on a graduated scale commensurate with the earning

capacity of the trainee and subject to the limitations of the Act. The Department of Veterans Affairs subsidizes these wage rates up to approximately 80 p.c. of the amount the trainee will receive from the employer on completion of the subsidized training period.

From the inception of the Vocational Training Scheme until March, 1948, some 78,786 veterans had been granted allowances to enable them to take advantage of the training:—

Year and Month	*No.*	*Year and Month*	*No.*
November, 1941 - March, 1942...	238	April, 1945 - March, 1946.....	17,929
April, 1942 - March, 1943.....	783	April, 1946 - March, 1947.....	46,374
April, 1943 - March, 1944.....	1,497	April, 1947 - March, 1948.....	6,980
April, 1944 - March, 1945.....	4,985	TOTAL.....	78,786

The following subdivision of veterans according to the province in which the application for training was approved, is based upon Department of Veterans Affairs districts (applications approved at Head Office were for training outside Canada) and is liable to minor error where D.V.A. district boundaries and provincial boundaries do not coincide:—

Province	*No.*	*Province*	*No.*
Prince Edward Island.....	445	Saskatchewan.....	5,164
Nova Scotia.....	4,107	Alberta.....	6,509
New Brunswick.....	2,840	British Columbia.....	8,657
Quebec.....	11,845	Head Office.....	815
Ontario.....	30,566	TOTAL.....	78,786
Manitoba.....	7,838		

The status of the 13,215 veterans actually in receipt of allowances on Mar. 31, 1948, was as follows:—

Nature of Training	*Men*	*Women*	*Total*
	No.	No.	No.
In schools and training centres.....	8,481	1,218	9,699
Training-on-the-job.....	2,292	49	2,341
Pre-matriculation prior to vocational training.....	100	31	131
Correspondence courses: Employed persons.....	988	5	993
Correspondence courses: In hospitals and institutions.....	48	3	51
TOTALS.....	11,909	1,306	13,215

In addition to the above there were 371 men who were training-on-the-job without allowances, due to the fact that employer-trainers pay self-sustaining wages prior to the expiration of the training period.

As would be expected, certain trades and occupations account for the majority of the trainees; 250 or more approvals for training have been made in each of the following trades. The reason for the difference in the totals given above and that

in the following statement is that many veterans were allowed to change the occupation in which training was taken. Thus the number of approvals is somewhat inflated.

Trade or Occupation	Approvals for Training	Trade or Occupation	Approvals for Training
	No.		No.
Accountants and auditors	6,650	Boot- and shoe-makers	1,021
Artists and sculptors	514	Jewellers and watchmakers	1,498
Clergymen	891	Machinists	2,699
Musicians and singers	798	Toolmakers, die-setters	583
Commercial artists	1,486	Sheet metal workers	1,146
Draftsmen	2,697	Structural steel workers	827
Laboratory technicians and assistants	520	Welders and flame cutters	1,921
Photographers	786	Electricians	4,73'
Radio operators	798	Bricklayers and tilesetters	2,114
Embalmers and undertakers	447	Carpenters	4,593
Hotel and restaurant managers	667	Painters (construction)	919
Clerks, general	7,189	Plasterers	363
Office machine operators	441	Plumbers and steamfitters	2,642
Secretaries	1,544	Motormen, street railway	237
Stenographers and typists	3,822	Laundry, cleaning and dyeing	285
Telegraph operators	689	Butchers and meatcutters	524
Salesmen	900	Auto mechanics	7,585
Cooks	458	General mechanics	2,196
Barbers	2,286	Radio repairmen	1,671
Beauticians	1,652	Refrigeration mechanics	871
Protection service occupations	5,497	Teachers	1,250
Agricultural occupations	2,353	Trained nurses	536
Bakers	505	Forest supervisors	265
Furriers	338	Chiropractors	266
Dressmakers and tailors	1,593	Designers	562
Sawmill occupations	257	Midwives, practical nurses and first aiders	524
Cabinet makers	1,238	Stationary engineers	580
Upholsterers	714		
Compositors and typesetters	463	TOTAL	90,882
Pressmen and plate printers	280		

Section 6.—Organized Labour in Canada

Information concerning trade unions is published in the Annual Report on *Labour Organization in Canada* issued by the Department of Labour.

At the close of 1946 there were 831,697 trade union members in Canada. The membership of the Trades and Labour Congress of Canada, as compiled from reports of unions to the Department of Labour, was 356,121 in 2,536 branches of affiliated and directly chartered unions; that of the Canadian Congress of Labour was 314,025 in 1,087 branches and local unions; that of the Canadian and Catholic Confederation of Labour, 70,367 in 338 branches; the independent railroad brotherhoods, 37,731 in 370 branches; and independent local unions, 4,298 in 47 branches.

Trades and Labour Congress of Canada.—The Congress is the oldest of the central labour organizations in Canada. After the disbanding of the Canadian Labour Union, which had drawn together local unions in Ontario from 1873 to 1877, inclusive, there was no central organization until 1883 when the Trades and Labour Council of Toronto called a conference of local unions and plans were made to establish a Dominion organization which was formally set up in 1886.

Affiliated with the Trades and Labour Congress at the present time are "international" trade unions, almost all of which are also affiliated with the American Federation of Labor, a number of Canadian or "national" unions and a number of directly chartered labour unions.

Canadian Congress of Labour.—This Congress was organized in September, 1940, when the All-Canadian Congress of Labour, formed in 1927, amended its constitution to permit the affiliation with the Congress of the Canadian branches

of those international unions which, in the United States, are affiliated with the Congress of Industrial Organizations. The Canadian Congress has also among its members a number of unions to which it has granted charters.

Canadian and Catholic Confederation of Labour.—National Catholic Unions in Canada date from 1901. In 1921 these local Catholic Syndicates, which are grouped in federations according to industry as far as possible, formed a central organization, the Canadian and Catholic Confederation of Labour.

19.—Membership of Trade Unions in Canada, 1914-46

Year	Members	Year	Members	Year	Members
	No.		No.		No.
1914	166,163	1925	271,064	1936	322,746
1915	143,343	1926	274,604	1937	383,492
1916	160,407	1927	290,282	1938	381,645
1917	204,630	1928	300,602	1939	358,967
1918	248,887	1929	319,476	1940	362,223
1919	378,047	1930	322,449	1941	461,681
1920	373,842	1931	310,544	1942	578,380
1921	313,320	1932	283,096	1943	664,533
1922	276,621	1933	285,720	1944	724,188
1923	278,092	1934	281,274	1945	711,117
1924	260,643	1935	280,648	1946	831,697

20.—Distribution of Trade Union Members, by Main Industrial Groups, with Percentage Changes, 1945 and 1946

Industry	1945		1946		Percentage Change 1946 from 1945
	Members	P.C. of Total	Members	P.C. of Total	
	No.		No.		
Mining and quarrying	37,193	5·3	41,777	5·0	+12·3
Metals	147,909	20·8	164,630	19·8	+11·3
Construction	65,569	9·2	63,266	7·6	−3·5
Light, heat and power	8,977	1·3	7,816	0·9	−12·9
Wood and wood products	49,259	6·9	76,959	9·3	+56·2
Printing and publishing	14,234	2·0	14,960	1·8	+5·1
Steam railway transportation	127,945	18·0	134,927	16·2	+5·5
Other transportation	49,991	7·0	57,171	6·9	+14·4
Services	76,441	10·7	92,190	11·1	+20·6
Clothing and footwear	46,122	6·5	50,533	6·1	+9·6
Textiles	28,248	4·0	33,382	4·0	+18·2
Foods	28,464	4·0	41,749	5·0	+46·7
All other industries	30,765	4·3	52,337	6·3	+70·1
Totals	**711,117**	**100·0**	**831,697**	**100·0**	**+17·0**

21.—Trade Unions Having 1,000 or More Members in Canada, as at Dec. 31, 1945 and 1946

Organization	Reported or Estimated Membership	
	1945	1946
	No.	No.
International Unions		
Automobile, Aircraft and Agricultural Implement Workers of America, International Union of United	51,000	50,000
Bakery and Confectionery Worker's International Union of America	1,050	1,759
Barbers, Hairdressers and Cosmetologists' International Union of America, Journeymen	864	1,010
Boilermakers, Iron Shipbuilders and Helpers of America, International Brotherhood of	5,238	6,231
Bookbinders, International Brotherhood of	1,727	2,123
Brewery, Flour, Cereal and Soft Drink Workers of America, International Union of United	1,000	2,300
Bricklayers, Masons and Plasterers' International Union of America	1,429	1,574
Building Service Employees' International Union	2,500	3,500
Carpenters and Joiners of America, United Brotherhood of	20,271	23,021
Chemical Workers Union, International	3,731	5,912
Clothing Workers of America, Amalgamated	9,250	9,500
Commercial Telegraphers' Union	2,827	2,879
Distillery, Rectifying and Wine Workers' International Union of America	2,252	2,408
Electrical, Radio and Machine Workers of America, United	6,521	22,000
Electrical Workers, International Brotherhood of	8,325	8,224
Engineers, International Union of Operating	2,050	2,171
Firefighters, International Association of	2,400	2,500
Firemen, Oilers and Railway Shop Labourers, International Brotherhood of	1,465	1,543
Fur and Leather Workers' Union of the United States and Canada, International	5,000	6,000
Garment Workers of America, United	1,350	1,350
Garment Workers' Union, International Ladies'	11,259	12,135
Hatters, Cap and Millinery Workers' International Union, United	1,774	1,908
Hod Carriers, Building and Common Labourers' Union of America	524	1,235
Hotel and Restaurant Employees' International Alliance and Bartenders' International League of America	4,941	7,499
Industrial Workers of the World	1,600	2,000
Lithographers of America, Amalgamated	800	1,143
Locomotive Engineers, Brotherhood of	6,863	7,027
Locomotive Firemen and Enginemen, Brotherhood of	9,062	9,498
Longshoremen's Association, International	5,000	5,000
Longshoremen's and Warehousemen's Union, International	850	1,286
Machinists, International Association of	26,000	22,077
Maintenance-of-Way Employees, Brotherhood of	18,187	20,446
Meat Cutters and Butcher Workmen of North America, Amalgamated	–	3,000
Metal Workers' International Association, Sheet	1,957	1,869
Mine, Mill and Smelter Workers, International Union of	11,739	21,675
Mine Workers of America, United	23,710	22,149
Moulders and Foundry Workers' Union of North America, International	4,167	6,080
Musicians, American Federation of	5,500	6,500
Office and Professional Workers of America, United	74	1,500
Packinghouse Workers of America, United	9,500	17,000
Painters, Decorators and Paperhangers of America, Brotherhood of	3,012	3,810
Paper Makers, International Brotherhood of	5,513	5,789
Plumbing and Pipe Fitting Industry of the United States and Canada, United Association of Journeymen and Apprentices of the	7,200	6,700
Printing Pressmen and Assistants' Union of North America, International	2,667	2,400
Pulp, Sulphite and Paper Mill Workers, International Brotherhood of	15,000	20,000
Railroad Telegraphers, Order of	9,000	10,000
Railroad Trainmen, Brotherhood of	18,811	18,600
Railway and Motor Coach Employees of America, Amalgamated Association of Street, Electric	10,450	12,801
Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Brotherhood of	11,447	11,692
Railway Carmen of America, Brotherhood of	16,079	16,932
Railway Conductors of America, Order of	2,527	2,596
Retail Clerks International Association	1,350	2,500
Rubber, Cork, Linoleum and Plastic Workers of America, United	8,078	9,849
Seafarers International Union of North America	1,500	2,500
Stage Employees and Moving Picture Machine Operators of the United States and Canada, International Alliance of Theatrical	1,000	1,100
Steel Workers of America, United	30,000	35,000
Store Union, United Retail, Wholesale and Department	720	6,000
Teamsters, Chauffeurs, Warehousemen and Helpers of America, International Brotherhood of	3,029	6,211

21.—Trade Unions Having 1,000 or More Members in Canada, as at Dec. 31, 1945 and 1946—concluded

Organization	Reported or Estimated Membership	
	1945	1946
	No.	No.
International Unions—concluded		
Textile Workers of America, United	9,000	9,000
Textile Workers Union of America	6,000	12,000
Tobacco Workers' International Union	4,425	3,960
Typographical Union, International	5,166	5,065
Upholsterers International Union of North America	2,000	5,000
Woodworkers of America, International	12,500	27,000
National Unions		
Barbers and Hairdressers, National Federation of	1,022	1,030
Building and Construction Workers of Canada, Amalgamated	3,600	3,047
Building Trades, National Catholic Federation of	15,404	10,192
Building Trade Workers of the Province of Quebec, Canadian Union of	1,682	1,419
Civic Employees, Canadian Brotherhood of	–	1,286
Civic Employees, Federation of	–	1,200
Civil Servants of Canada, Amalgamated	6,015	7,018
Civil Service Association of Alberta	2,258	2,600
Civil Service Association, Saskatchewan	2,480	3,052
Clothing Workers, National Federation of	1,500	2,180
Commerce and Finance, National Federation of Employees of	2,376	2,019
Customs and Excise Officers' Association	1,868	2,130
Electrical Workers, National Organization of Civic, Utility and	1,274	1,500
Engineers of Canada, National Union of Operating	2,849	2,902
Express Employees, Brotherhood of	2,259	2,907
Fishermen and Fish Handlers' Union, Canadian	1,786	1,786
Fruit and Vegetable Workers' Union, Federation of	–	1,800
Furniture Workers, National Catholic Federation of	1,500	1,181
Furniture Workers and Allied Crafts, National Union of (formerly National Union of Aircraft, Furniture Workers and Allied Crafts)	1,100	2,000
Glove Workers of Canada, National Federation of	1,200	1,100
Government Employees' Association, British Columbia Provincial	–	3,700
Hosiery Workers, National Federation of Full Fashioned and Circular	2,163	2,550
Letter Carriers, Federated Association of	2,350	2,950
Marine Workers Federation, Maritime	3,011	4,290
Maritime Federation, National (formerly Canadian Brotherhood of Ships' Employees)	8,993	7,723
Metal Workers, National Federation of	2,288	4,152
Mining Industry, National Federation of Employees of the, (formerly the National Catholic Federation of Asbestos Employees of the Province of Quebec)	2,510	3,500
One Big Union	7,034	11,363
Postal Employees Association, Canadian	4,200	6,045
Printing Trades of Canada, Catholic Federation of	2,000	2,000
Public Employees, Joint Council of (British Columbia Division)	–	2,590
Pulp and Paper Employees, National Federation of	7,000	7,700
Railway Employees and Other Transport Workers, Canadian Brotherhood of	28,000	29,000
Railwaymen, Canadian Association of	3,803	3,570
Railwaymen, National Union of	3,020	3,004
Seamen's Union, Canadian	9,420	9,420
Shipyard General Workers Federation of British Columbia	4,500	4,654
Shoe and Leather Workers', National Union of	1,216	1,873
Shoe Workers of Canada, National Federation of Leather and	4,775	4,917
Teachers' Federation of British Columbia	3,159	3,460
Textile Workers, National Catholic Federation of	6,789	10,600
Wood Industry Workers, National Catholic Federation of	3,042	3,715

Canada and the International Labour Organization.—The International Labour Organization was established in 1919 in association with the League of Nations under the Treaties of Peace with the object of improving labour conditions throughout the world by international agreement and legislative action. Under an agreement approved by the General Conference of the International Labour Organization at its 29th Session at Montreal, Que., on Oct. 2, 1946, and by the United Nations General Assembly on Dec. 14, 1946, the Organization became a specialized agency of the United Nations.

An association of nations, financed by their Governments and controlled by representatives of those Governments and of their organized employers and workers, the Organization comprises: (1) the General Conference of representatives of the Member States; (2) the International Labour Office; and (3) the Governing Body of the Office.

The Conference in normal times meets at least once a year, and is composed of four delegates from each Member State, two representing the Government and two representing employers and workers, respectively. Decisions of the Conference are in the form of Conventions or Recommendations. The former, when given legislative effect and ratified by Member States, are legally binding on them and their enforcement within such countries is a matter for annual consideration by the Conference. The ILO Constitution requires, however, that every Convention must be brought before the competent authority or authorities for legislative or other action. In Canada, the competent authorities in respect to the subject matter of most of the Conventions and Recommendations are the Provincial Legislatures. Amendments to the Constitution adopted by the Conference in 1946 included new provisions concerning the obligations imposed on federal countries with respect to the manner of dealing with Conventions and Recommendations when ratified by two-thirds of the Member States. These changes in procedure are expected to facilitate the adoption of Conventions and Recommendations by the constituent States or Provinces of federal countries.

The International Labour Office acts as the permanent secretariat of the Organization and as an information centre and publishing house.

The Governing Body consists of 32 persons, 16 Government representatives, eight employers' and eight workers' representatives, of whom all but the representatives of the eight States of chief industrial importance, which hold permanent seats, are elected triennially by the Conference. The Governing Body, which usually meets quarterly, has general supervision of the International Labour Office, frames its budget and fixes the agenda of the Conference when the Conference itself does not do so. Three sessions were held during 1947—in March, June and December, all at Geneva, Switzerland.

There have been 31 sessions of the Conference at which 90 draft Conventions and 83 Recommendations have been adopted covering a wide range of subjects: freedom of association; hours of work; weekly rest; holidays; minimum age for employment; night-work of women and young persons; minimum wages; health and safety; workmen's compensation; seamen's conditions; insurance against unemployment, sickness, old age and death; colonial labour problems; protection of migrant workers; and many other aspects of the protection of workers' rights and interests. There have been 971 ratifications of these Conventions from 55 countries.

Eight International Labour Conventions have been given legislative effect by the Federal Parliament and have been ratified by the Government, six relating to seamen, one to dockers and one to statistics.

During 1947 the International Labour Conference held its 30th Session, at Geneva; four of the eight Industrial Committees of the ILO held their second session (Coal-mining, Inland Transport, Iron and Steel Production and the Metal Trades); and the ILO's Sixth International Conference of Labour Statisticians took place. Canada was represented at all of these meetings, full accounts of which may be found in the *Labour Gazette*. The 31st Session of the Conference was held at San Francisco from June 17 to July 10, 1948.

Section 7.—Industrial Accidents and Workmen's Compensation

Subsection 1.—Fatal Industrial Accidents

Statistics of fatal industrial accidents have been compiled by the Federal Department of Labour since 1903. The data are now obtained from provincial Workmen's Compensation Boards, the Board of Transport Commissioners and other Government authorities, from departmental correspondents and press reports.

22.—Fatal Industrial Accidents, by Industries, 1944-47

Industry	Numbers				Percentages of Total			
	1944	1945	1946	1947	1944	1945	1946	1947
Agriculture	109	114	110	117	9·1	8·5	8·0	8·1
Logging	137	166	153	185	11·4	12·3	11·1	12·8
Fishing and trapping	34	20	41	30	2·8	1·5	3·0	2·1
Mining, non-ferrous smelting and quarrying	158	188	175	188	13·1	14·0	12·7	13·0
Manufacturing	271	269	345	252	22·6	20·0	25·0	17·5
Construction	100	127	132	163	8·3	9·4	9·6	11·3
Electric light and power	17	24	22	40	1·4	1·8	1·6	2·8
Transportation and public utilities	264	292	238	285	21·8	21·7	17·3	19·8
Trade	53	52	53	56	4·4	3·9	3·8	3·9
Finance	1	Nil	3	8	0·1	–	0·2	0·6
Service	59	88	99	108	4·9	6·5	7·2	7·5
Unclassified	1	5	7	8	0·1	0·4	0·5	0·6
Totals	**1,204**	**1,345**	**1,378**	**1,440**	**100·0**	**100·0**	**100·0**	**100·0**

Causes of Fatal Accidents.—During 1947, the largest number of fatal accidents to gainfully employed persons, 470, were caused by moving trains, vehicles, etc. Falls of persons caused 233 fatalities and falling objects 170. Other fatal accidents included: 158 caused by dangerous substances, 33 by striking against or being struck by objects, 32 by working machines, 28 by hoisting apparatus, 21 by animals, 17 by handling objects, 12 by prime movers, and 5 by tools. Included in the category "other causes" were 261 fatalities of which 188 were due to industrial disease, strain, etc. The number of accidents, fatal and non-fatal, dealt with by the provincial Workmen's Compensation Boards are shown in Subsection 2.

Subsection 2.—Workmen's Compensation*

In all provinces, except Prince Edward Island, legislation is in force providing for compensation for injury to a workman by accident arising out of and in the course of employment, or by a specified industrial disease, except where the workman is disabled for less than a stated number of days. To ensure payment of such compensation, each provincial Act provides for an accident fund, administered by the province, to which employers are required to contribute at a rate determined by the Workmen's Compensation Board in accordance with the hazards of the industry. A workman to whom these provisions apply has no right of action against his employer for injury from an accident during employment. In Ontario and Quebec, public authorities, railway and shipping companies, and telephone and telegraph companies are individually liable for compensation, as determined by the Board, and pay a proportion of the expenses of administration. A Federal

* Fuller information is given in an annual pamphlet issued by the Department of Labour.

Act provides for compensation for accidents to Federal Government employees according to the conditions laid down by the Act of the province in which the accident occurs. In Prince Edward Island, where there is no provincial Act in effect, compensation is paid to Federal Government employees according to the provisions of the New Brunswick Act. Seamen who are not under a provincial Workmen's Compensation Act are entitled to compensation under the Merchant Seamen Compensation Act, 1946, which makes like provision.

Free medical aid is given to workmen during disability in all provinces.

Compensation is payable in all provinces for anthrax and for poisoning from arsenic, lead, mercury and phosphorus. In all provinces, except New Brunswick, silicosis is compensated under certain conditions. The other diseases compensated vary according to the industries of the provinces.

Scope of the Acts.—The Acts vary in scope but, in general, they cover construction, mining, manufacturing, lumbering, fishing, transport and communications and the operation of public utilities. Undertakings in which not more than a stated number of workmen are usually employed may be excluded, except in Alberta.

Benefits.—Under each Act, a fixed period must elapse between the date of the accident and the date when compensation begins but in all cases medical aid is given from the date of the accident. This waiting period varies from three to seven days and in some provinces compensation is paid for the waiting period, if disability continues beyond it.

At present, compensation in fatal cases is paid as follows:—

Burial expenses, $150 in British Columbia, Manitoba, New Brunswick and Nova Scotia, $175 in Alberta and Quebec, and $125 in the other provinces. In certain cases costs of transporting the body are also allowed.

To a widow or invalid widower, or to a foster mother, as long as the children are under the age-limit, a monthly payment of $50 in Alberta, British Columbia, Manitoba, Nova Scotia, Ontario and Saskatchewan, of $45 in Quebec, and of $40 in New Brunswick; in addition a lump sum of $100 is paid in all provinces.

For each child in the care of a parent or foster-mother receiving compensation, a monthly payment of $10 is made in New Brunswick, Nova Scotia and Quebec; of $12 in Manitoba, Ontario and Saskatchewan; of $12·50 in British Columbia and of $15 in Alberta. In Alberta an additional payment of $10 a month is made, and in British Columbia the monthly payment of $12·50 is continued to children between 16 and 18 years of age who are attending school.

To each orphan child, $25 a month is paid in Saskatchewan, $20 in British Columbia, Manitoba, New Brunswick, Nova Scotia and Ontario and $15 in the other provinces (in Alberta, an additional payment not exceeding $10 a month may be given), with a maximum of $90 per month to one family in Nova Scotia.

Except in the case of invalids, payments to children are not continued beyond the age of 16 in Nova Scotia, Ontario, Manitoba and Saskatchewan, 18 in Quebec, Alberta and British Columbia, and in New Brunswick 18, or the age when they leave school. In Manitoba, Nova Scotia, Ontario and Saskatchewan payments for children may be made up to the age of 18 if it is desirable to continue their education. In British Columbia and Manitoba payments to invalid children are

continued until recovery, while the other provinces make payments only for the length of time the Boards consider that the workman would have contributed to their support.

Where the only dependents are persons other than consort or children, all the Acts provide that compensation is to be a reasonable sum proportionate to the pecuniary loss but the total monthly sum to be paid to all such dependents is limited to $60 in Manitoba, $85 in Alberta, $45 in Nova Scotia and $55 in British Columbia. In British Columbia, however, if there are also dependents such as widow, invalid widower or children, the maximum payable to other dependents is $40 per month. In all provinces, compensation to dependents other than consort or children is continued only for such time as the Board considers that the workman would have contributed to their support.

Except in Alberta, Saskatchewan and British Columbia, maximum benefits payable to dependents in case of death of the workman are two-thirds of the earnings. In Saskatchewan the average earnings are the maximum.

The minimum payable to a consort and one child in Quebec is $55 per month, $65 if there is more than one child; in Manitoba the minimum is $12·50 per week, or if there is more than one child, $15 per week. In Saskatchewan a widow with one child must be paid at least $62 a month and if there are more children, $70. In Ontario, the total monthly compensation to consort and children may not exceed $100.

The rate for total disablement in all provinces except Saskatchewan is a weekly payment for its duration equal to 66⅔ p.c. of the average weekly earnings; in Saskatchewan it is 75 p.c. Except in New Brunswick, the Acts fix a minimum weekly sum that must be paid unless earnings fall below that minimum, in which case a sum equal to the earnings is paid. This minimum is $12·50 in Nova Scotia and British Columbia, $15 in Alberta, Manitoba, Quebec and Saskatchewan, and $100 a month in Ontario. For partial disablement, similar provision is made in all provinces except New Brunswick, Saskatchewan and Alberta, i.e., two-thirds of the difference in earnings before and after the accident. In Saskatchewan it is 75 p.c. of the difference. In New Brunswick and Alberta, the amount is determined by the Board according to the impairment of earning capacity, but in New Brunswick two-thirds of the diminution of earnings is payable for temporary partial disablement. In Nova Scotia, if there is little or no difference, in New Brunswick in any case, and in the other provinces if the difference is 10 p.c. or less, a lump sum may be given.

The average earnings on which compensation is based must not exceed $3,000 in Saskatchewan, $2,500 in Alberta, British Columbia, Manitoba, New Brunswick, Ontario and Quebec, and $2,000 in Nova Scotia. If the workman's earnings at the time of the accident are not considered a proper basis for compensation, the Board may use as a basis the average earnings of another person in the same grade of work. Compensation paid workmen under 21 years of age may be raised later, if it appears likely that their earning power would have increased, had the injury not occurred.

The statistics of workmen's compensation published by the provincial boards are not on a comparable basis and are therefore presented in a series of tables.

23.—Operations of the Nova Scotia Workmen's Compensation Board, 1938-47

NOTE.—Estimates for outstanding claims are not included. Statistics for the years 1917-35 are given at p. 757 of the 1938 Year Book; those for 1936 and 1937 at p. 642 of the 1947 edition.

Year	Compensation	Medical Aid	Total	Accidents Compensated
	$	$	$	No.
1938	1,976,154	206,233	2,182,387	11,408
1939	1,391,933	189,031	1,580,964	11,823
1940	1,285,390	190,616	1,476,006	13,948
1941	1,285,753	217,129	1,502,882	15,150
1942	1,730,169	211,663	1,941,832	17,455
1943	2,897,718	196,511	3,094,229	16,926
1944	2,693,483	185,392	2,878,875	19,027
1945	1,243,148	207,000	1,450,148	18,396
1946	1,181,207	194,912	1,376,119	19,496
1947	1,074,399	151,896	1,226,295	18,890

24.—Operations of the New Brunswick Workmen's Compensation Board, 1938-47

NOTE.—Statistics for the years 1920-35 are given at p. 757 of the 1938 Year Book; those for 1936 and 1937 at p. 642 of the 1947 edition.

Year	Weekly Compensation	Permanent Partial Disability	Fatal		Medical Aid		Permanent Total Disability Reserve
			Funeral Expenses	Reserve for Pensions	Doctors' Fees and Transportation	Hospital and Nursing Service	
	$	$	$	$	$	$	$
1938	210,590	57,597	1,478	58,359	94,591	51,144	7,326
1939	220,053	78,326	1,833	69,175	103,115	59,295	5,361
1940	259,571	62,159	1,759	108,227	84,594	48,200	10,309
1941	410,058	115,845	3,659	118,472	130,130	75,570	14,364
1942	459,528	82,632	3,275	143,392	125,837	89,246	[1]
1943	486,304	113,332	2,900	94,414	115,121	82,266	5,085
1944	658,666	388,992	2,624	142,921	125,116	94,809	8,330
1945	772,210	141,998	3,392	142,624	125,300	102,256	[1]
1946	776,646	186,638	3,125	153,702	152,102	101,753	12,901
1947[2]	671,409	155,768	3,097	200,990	117,669	93,745	128,372

[1] Not reported. [2] Subject to revision.

25.—Operations of the Quebec Workmen's Compensation Commission, 1938-47

NOTE.—Statistics for the years 1928-35 are given at p. 778 of the 1940 Year Book; those for 1936 and 1937 at p. 643 of the 1947 edition.

Year	Claims Schedules 1 and 2	Compensation Schedule 1	Medical Aid Schedule 1
	No.	$	$
1938	58,335	3,480,011	866,454
1939	53,942	3,143,787	778,665
1940	65,704	4,301,893	1,093,928
1941	82,568	4,730,726	1,210,325
1942	96,888	6,792,098	1,475,123
1943	90,564	6,462,259	1,389,008
1944	84,308	7,012,031	1,414,138
1945	82,724	7,737,865	1,458,809
1946	90,900	8,595,754	1,663,587
1947[1]	96,135	5,510,385	1,225,831

[1] Subject to revision.

26.—Operations of the Ontario Workmen's Compensation Board, 1938-47

NOTE.—Statistics for the years 1915-35 are given at p. 759 of the 1938 Year Book; those for 1936 and 1937 at p. 643 of the 1947 edition.

Year	Benefits Awarded				Accidents Reported
	Schedule 1		Schedule 2[1] and Crown Compensation	Total Benefits	
	Compensation	Medical Aid			
	$	$	$	$	No.
1938	4,362,618	1,153,895	947,748	6,464,261	59,834
1939	4,174,408	1,094,693	883,306	6,152,407	60,520
1940	4,852,470	1,408,250	1,022,158	7,282,878	81,116
1941	6,662,466	1,772,376	1,464,052	9,898,894	113,822
1942	7,225,733	1,977,854	1,733,376	10,936,963	133,513
1943	6,932,198	1,948,048	2,264,507	11,144,753	131,458
1944	8,317,960	1,888,846	2,278,793	12,485,599	123,820
1945	8,690,344	1,889,830	2,555,764	13,135,938	118,220
1946	11,797,877	2,358,949	2,345,197	16,502,023	138,570
1947	12,412,296	2,735,271	2,613,175	17,760,742	168,767

[1] Comprises employers individually liable.

27.—Operations of the Manitoba Workmen's Compensation Board, 1938-47

NOTE.—Statistics for the years 1917-35 are given at p. 760 of the 1938 Year Book; those for 1936 and 1937 at p. 643 of the 1947 edition.

Year	Benefits Awarded			Accidents Compensated
	Compensation	Medical Aid	Total	
	$	$	$	No.
1938	784,816	202,925	987,741	9,331
1939	736,903	196,090	932,993	9,401
1940	829,905	230,345	1,060,250	11,202
1941	1,041,261	241,187	1,282,448	13,378
1942	1,165,627	245,255	1,410,882	13,785
1943	1,386,104	240,492	1,626,596	13,948
1944	1,379,142	225,088	1,604,230	16,229
1945	1,353,094	211,125	1,564,219	16,196
1946	1,414,829	264,742	1,679,571	14,795
1947[1]	1,439,275	295,295	1,734,570	[2]

[1] Subject to revision. [2] Not available.

28.—Operations of the Saskatchewan Workmen's Compensation Board, 1938-47

NOTE.—Statistics for the years 1930-35 are given at p. 760 of the 1938 Year Book; those for 1936 and 1937 at p. 644 of the 1947 edition.

Year	Benefits Awarded			Accidents Compensated
	Compensation	Medical Aid	Total	
	$	$	$	No.
1938	369,711	106,874	476,585	4,219
1939	388,848	103,897	492,745	4,984
1940	371,894	121,455	493,349	5,260
1941	472,281	136,827	609,108	5,825
1942	539,942	150,679	690,621	6,766
1943	676,592	138,355	814,947	6,921
1944	853,022	156,594	1,009,616	7,702
1945	800,516	176,697	977,213	7,509
1946	1,175,704	207,129	1,382,833	9,509
1947[1]	1,280,283	199,790	1,480,073	11,860

[1] Subject to revision.

29.—Operations of the Alberta Workmen's Compensation Board, 1938-47.

NOTE.—Statistics for the years 1921-35 are given at p. 761 of the 1938 Year Book; those for 1936 and 1937 at p. 644 of the 1947 edition. Amounts shown do not include sums transferred to pension fund, administration expenses, nor sums set aside to cover estimated liabilities. Accidents compensated do not include cases for medical aid only.

Year	Benefits Awarded			Accidents Reported	Accidents Compensated
	Compensation	Medical Aid	Total		
	$	$	$	No.	No.
1938	468,626	317,807	786,433	13,377	6,367
1939	464,398	339,388	803,786	13,504	6,584
1940	447,362	292,565	739,927	14,632	6,384
1941	497,913	316,273	814,186	16,928	7,755
1942	608,885	322,375	931,260	18,680	7,509
1943	816,493	368,299	1,184,792	19,700	7,602
1944	498,303	234,708	733,011	19,286	7,988
1945	517,879	249,639	767,518	19,154	8,891
1946	634,725	304,828	939,553	23,068	10,751
1947	2,413,318	609,919	3,023,238	25,867	11,632

30.—Operations of the British Columbia Workmen's Compensation Board, 1938-47

NOTE.—Figures for the years 1917-35 are given at p. 762 of the 1938 Year Book; those for 1936 and 1937 at p. 644 of the 1947 edition.

Year	Benefits Awarded			Claims (gross)
	Compensation	Medical Aid	Total	
	$	$	$	No.
1938	3,182,762	701,953	3,884,715	31,505
1939	3,404,434	720,265	4,124,699	33,173
1940	3,692,950	834,073	4,527,023	38,487
1941	4,601,810	935,422	5,537,232	46,496
1942	6,941,736	1,586,164	8,527,900	65,475
1943	7,344,122	1,184,253	8,528,375	68,635
1944	8,031,613	1,182,236	9,213,849	60,463
1945[1]	8,047,679	1,115,513	9,163,192	55,584
1946	8,413,654	1,353,596	9,767,250	59,947
1947	9,390,825	1,756,758	11,147,583	75,018

[1] Revised since the publication of the 1947 Year Book.

Section 8.—Strikes and Lockouts

Statistics of strikes and lockouts in Canada have been collected by the Federal Department of Labour since its establishment in 1900.

A complete review of strikes and lockouts during 1946 and 1947, with analyses of the statistics under various headings, will be found in the *Labour Gazette*, March, 1947, and in a supplement to the April, 1948, issue.

Strikes and Lockouts in Recent Years.—During periods of great industrial expansion strikes usually increase, particularly when inflationary forces are at work as during the periods immediately following the two world wars. The year 1946 was one of reconversion of industry to peacetime operation. Controls on wages and prices were relaxed and the upward pressure on both was greatly increased. Weekly earnings declined when weekly hours and overtime pay were reduced, with the result that demands for increases in wage rates were made in order to maintain take-home pay and to offset increases in the cost of living. In 1947 industrial activity continued at a high level. The cost of living advanced more rapidly than

in the previous year and demands were renewed for further increases in wages. The number of strikes and lockouts recorded during 1947 showed little change as compared with the preceding year but, while the number of workers involved was only about 75 p.c. and the time loss about 50 p.c. of the 1946 totals, the time loss in 1947 was much greater than in any of the years between 1919 and 1946.

Employment in the manufacturing group of industries is much greater than in any other group. In recent years the time loss due to strikes and lockouts has been greater in this group than in all others combined. The year 1947 was an exception. The prolonged strike of coal miners throughout the fields in the Maritime Provinces, combined with a few others of relatively little importance in both eastern and western coalfields, caused more than 50 p.c. of the total strike idleness for the year. During 1947, the time loss in man-working days was 0·26 p.c. of estimated working time, as compared with 0·50 p.c. in 1946; 0·17 p.c. in 1945; 0·06 p.c. in 1944; 0·12 p.c. in 1943; 0·04 p.c. in 1939; and 0·60 p.c. in 1919.

The great variety and complexity of issues involved in strikes and lockouts in recent years present difficulties in classification for statistical purposes. Since the record was commenced the demand for increases in wages has been generally, year by year, the most important single cause of strikes. The year 1945 was an exception as most of the strike idleness in that year resulted from questions involving unionism. In 1946 and 1947, the demand for wage increases, often linked with various questions involving union security, working conditions, etc., was a central issue of the most important stoppages, and about 95 p.c. of the time loss in 1946 and 90 p.c. in 1947 resulted from these demands.

In 1947, more than 35 p.c. of the strikes were settled by direct negotiation, a larger proportion than in other recent years. Conciliation, frequently accompanied by reference to various government agencies, boards, arbitration, etc., brought about settlement of more than 35 p.c. of the stoppages during the year. In 1946, about 25 p.c. of the strikes were settled by negotiation and 50 p.c. by conciliation, etc.

31.—Strikes and Lockouts, 1938-47

NOTE.—For the years 1901-20, see the 1933 Year Book, p. 763, and for 1921-37 the 1938 Year Book, p. 763.

Year	Coal Mining			Industries Other Than Coal Mining			All Industries			
	Strikes and Lockouts in Existence During Year	Workers Involved	Time Loss in Man-Working Days	Strikes and Lockouts in Existence During Year	Workers Involved	Time Loss in Man-Working Days	Strikes and Lockouts in Existence During Year	Strikes and Lockouts Beginning in Year	Workers Involved	Time Loss in Man-Working Days
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1938.....	25	5,054	21,366	122	15,341	127,312	147	142	20,395	148,678
1939.....	48	31,102	111,274	74	9,936	113,314	122	120	41,038	224,588
1940.....	65	31,223	68,734	103	29,396	197,584	168	166	60,619	266,318
1941.....	45	38,136	109,069	186	48,955	324,845	231	229	87,091	433,914
1942.....	53	19,670	66,318	301	94,246	383,884	354	352	113,916	450,202
1943.....	111	59,017	204,980	291	159,387	836,218	402	401	218,404	1,041,198
1944.....	46	11,180	28,507	153	64,110	461,632	199	195	75,290	490,139
1945.....	39	27,422	183,102	158	68,646	1,274,318	197	196	96,068	1,457,420
1946.....	42	21,414	43,854	186	118,060	4,472,539	228	225	139,474	4,516,393
1947.....	11	45,467	1,314,334	225	58,653	1,083,006	236	232	104,120	2,397,340

32.—Strikes and Lockouts, by Industries, 1946 and 1947

Industry	1946					1947				
	No. of Strikes and Lock-outs	Workers Involved		Time Loss		No. of Strikes and Lock-outs	Workers Involved		Time Loss	
		No.	Per-centage	Man-Working Days	Per-centage		No.	Per-centage	Man-Working Days	Per-centage
Agriculture	[1]	–	–	–	–	[1]	–	–	–	–
Logging	2	19,000	13·6	450,000	10·0	1	50	[2]	150	[2]
Fishing and Trapping	3	800	0·6	8,360	0·2	2	750	0·7	31,000	1·3
Mining, etc.[3]	50	27,101	19·4	229,476	5·1	16	47,266	45·4	1,359,777	56·7
Manufacturing	122	86,815	62·3	3,760,299	83·3	133	41,357	39·7	877,077	36·6
Vegetable foods, etc.	10	1,249	0·9	10,900	0·2	10	939	0·9	16,279	0·7
Tobacco and liquors	1	700	0·5	14,650	0·3	2	50	[2]	1,053	[2]
Rubber and its products	2	11,571	8·3	807,800	17·9	1	560	0·6	300	[2]
Animal foods	2	69	[2]	151	[2]	3	13,928	13·4	465,253	19·4
Boots and shoes (leather)	4	255	0·2	1,392	[2]	5	1,969	1·9	57,259	2·4
Fur, leather and other animal products	5	904	0·6	6,445	0·1	7	1,624	1·6	20,430	0·9
Textiles, clothing, etc.	29	12,404	8·9	394,794	8·7	16	10,111	9·7	103,253	4·3
Pulp, paper and paper products	2	153	0·1	300	[2]	1	250	0·2	21,500	0·9
Printing and publishing	2	397	0·3	35,800	0·8	3	1,183	1·1	12,013	0·5
Miscellaneous wood products	13	24,899	17·9	710,124	15·7	25	2,594	2·5	46,098	1·9
Metal products	44	32,721	23·3	1,705,490	37·8	42	6,055	5·8	114,943	4·8
Shipbuilding	[1]	–	–	–	–	4	707	0·7	3,598	0·2
Non-metallic minerals, chemicals, etc.	8	1,493	1·1	72,453	1·6	13	1,282	1·2	14,733	0·6
Miscellaneous products	[1]	–	–	–	–	1	105	0·1	365	[2]
Construction	15	994	0·7	6,995	0·1	33	6,091	5·9	44,362	1·8
Building and structure	12	892	0·6	6,535	0·1	32	6,057	5·9	44,262	1·8
Railway	[1]	–	–	–	–	[1]	–	–	–	–
Bridge[4]	[1]	–	–	–	–	[1]	–	–	–	–
Highway	2	90	0·1	438	[2]	[1]	–	–	–	–
Canal, harbour, waterway	1	12	[2]	22	[2]	1	34	[2]	100	[2]
Miscellaneous	[1]	–	–	–	–	[1]	–	–	–	–
Transportation and Public Utilities	20	3,645	2·6	52,338	1·1	23	4,434	4·3	74,271	3·1
Steam railways	1	73	[2]	73	[2]	[1]	–	–	–	–
Electric railways and local bus lines	4	146	0·1	408	[2]	5	3,106	3·0	64,971	2·7
Other local and highway transport	3	118	0·1	322	[2]	5	201	0·2	1,855	0·1
Water transport	8	3,161	2·3	50,872	1·1	12	1,118	1·1	7,436	0·3
Air transport	[1]	–	–	–	–	[1]	–	–	–	–
Telegraph and telephone	1	4	[2]	10	[2]	[1]	–	–	–	–
Electricity and gas	1	81	0·1	526	[2]	1	9	[2]	9	[2]
Miscellaneous	2	62	[2]	127	[2]	[1]	–	–	–	–
Trade	8	437	0·3	3,743	0·1	8	880	0·8	1,231	0·1
Finance	[1]	–	–	–	–	[1]	–	–	–	–
Service	9	682	0·5	5,182	0·1	20	3,292	3·2	9,472	0·4
Public administration[5]	4	195	0·1	3,098	0·1	6	2,659	2·6	1,568	0·1
Recreation	[1]	–	–	–	–	1	50	[2]	200	[2]
Business and personal	5	487	0·4	2,084	[2]	13	583	0·6	7,704	0·3
Totals	228[6]	139,474	100·0	4,516,393	100·0	236	104,120	100·0	2,397,340	100·0

[1] None reported. [2] Less than one-tenth of one per cent. [3] Includes non-ferrous metal smelting. [4] Includes erection of all large bridges. [5] Includes water service. [6] This total is not the sum of the figures given above as one strike involved workers in both logging and manufacturing, and miscellaneous wood products.

Section 9.—Workers Affected by Collective Agreements

Statistics on the number of workers affected by collective agreements in Canada were compiled by the Department of Labour for the first time for the year 1946. Table 33 gives figures for the principal industrial groups. It shows in the second column the number of workers affected by agreements extended under the Quebec Collective Agreement Act (see Subsection 1, p. 671). Any duplication of the numbers of workers covered by agreements under this Act and by other agreements is eliminated in the third column. Of the total number of workers affected by agreements, 92·6 p.c. are represented by international or national unions. A more detailed table in the *Labour Gazette*, March, 1948, as well as earlier studies of agreements in certain industries is available from the Department of Labour.

33.—Workers Affected by Collective Agreements, by Industries, 1946

Industrial Group	Agreements (Other Than Those in Column 2)	Agreements Extended Under Collective Agreement Act, Quebec	Total[1]
	No.	No.	No.
Agriculture	**Nil**	**Nil**	–
Forestry, Fishing, Trapping	**38,471**	"	**38,471**
Mining (including milling), Quarrying and Oil Wells	**48,787**	**36**	**48,823**
Coal mining	23,254	Nil	23,254
Metal mining	19,358	"	19,358
Other	6,175	36	6,211
Manufacturing	**436,554**	**78,920**	**494,719**
Vegetable foods	21,344	3,507	24,851
Other vegetable products	31,940	Nil	31,940
Animal foods	22,575	"	22,575
Leather and fur products	11,015	16,897	25,669
Textile products	60,775	26,869	75,344
Wood and paper products (including printing)	84,075	13,244	96,009
Iron products	123,387	15,821	135,618
Non-ferrous metal products	49,958	381	50,339
Non-metallic mineral products	17,581	575	18,156
Chemical products	11,011	1,626	11,325
Miscellaneous products	2,893	Nil	2,893
Electricity and Gas Production and Supply	**15,754**	**Nil**	**15,754**
Construction	**27,000[2]**	**135,042**	**162,042[2]**
Transportation and Communications	**231,266**	**4,162**	**232,248**
Electric railways and local bus lines	20,149	Nil	20,149
Steam railways (including express)	139,298	"	139,298
Water transportation (including stevedoring)	36,758	4,162	37,740
Other	35,061	Nil	35,061
Trade	**8,247**	**10,220**	**18,467**
Finance and Insurance	**Nil**	**Nil**	–
Service	**38,024**	**11,397**	**48,552**
Totals	**844,103**	**239,777**	**1,059,076**

[1] Duplications in columns 1 and 2 are eliminated from these totals. [2] Estimated.

Section 10.—Wages and Hours of Labour

Subsection 1.—The Regulation of Wages and Hours of Labour

The regulation of wages and hours of persons in private employment in Canada is within provincial jurisdiction, and all the provinces, except Prince Edward Island, have legislation on the subject. The Nova Scotia Male Minimum Wage Act, 1945, has not been proclaimed in force.

In Nova Scotia the minimum wage law applies only to women, while in Ontario, though the Act applies to both sexes, the Orders apply only to women. In Alberta there are separate Orders for men and women and also in British Columbia and Manitoba but in the latter Provinces certain Orders cover both sexes. In Quebec and Saskatchewan Orders apply to both sexes. The first Order under the New Brunswick Minimum Wage Act, 1945, applying to women workers in hotels and restaurants, became effective Mar. 1, 1948.

In Quebec, under the Collective Agreement Act, hours and wages, and also apprenticeship, family allowances and holiday provisions established by a collective agreement voluntarily entered into by employers and trade unions or groups of employees may be made legally binding by Order in Council on all employers and employed in the industry in the district covered by the agreement, if the parties are sufficiently representative of the industry. On Mar. 31, 1946, 93 agreements had been generalized to apply either throughout the Province or to a certain district. These agreements covered over 200,000 workpeople and 19,900 employers. The agreements in force throughout the Province apply to the following industries: paper-boxes; corrugated boxes; men's hats; boots and shoes; fine and work gloves; lithographing; building supplies; furniture; painting; women's dresses; tanneries; taverns; men's and women's clothing; and cotton and jute bags. Other agreements concern industries in particular cities or parts of the Province. In 1945-46 the seven agreements extended for the first time affected municipal employees and commercial establishments in certain towns. In 1947 such agreements were applied to truck drivers, retail stores, shoe repairers in certain cities and to millinery workers in any part of the Province.

The Industrial Standards Acts of Nova Scotia, New Brunswick, Ontario, Saskatchewan and Alberta provide that the wages and hours agreed upon at a conference of representatives of employers and employees called by the Minister of Labour may be made legally binding by Order in Council on the industry in the area concerned. The Nova Scotia Act applies only to construction work and the New Brunswick Act to construction work exceeding $25 in value and to work on motor-vehicles.

In Ontario on Mar. 31, 1947, there were 119 Orders concerning wages and hours in force for certain industries or trades. Throughout the Province five Orders governed the brewing industry, hard furniture, ladies' cloaks and suits, and men's and boys' clothing industries. Others applied only in certain areas: to barbers in 119 municipalities, carpenters in 20, plumbers and steamfitters in eight, painters and decorators in five, and electrical workers in five; etc.

In Saskatchewan, Orders governing wages and hours cover, in one or more areas, barbers and beauty culture operators, baking, carpenters, plumbers, sheet-metal workers, sign-painters, shoe-making and repairing, garages and service stations, taxi-drivers, coal and wood, carting and storage, jewellery, etc. In 1947, the Orders for barbers in 13 areas were replaced by one covering the entire Province, and one for bakery workers in Prince Albert was made binding.

In Alberta, Orders in certain areas apply to the building trades, welders, bakers, barbers, brewing, cartage, garages and service stations, laundries, the dairy industry, etc. In 1947, Orders were made binding for employees of gasoline and service stations at Crow's Nest Pass, for carpenters in the Grande Prairie district and for bakery workers at Lethbridge, and Orders for taxi-drivers in three areas and for sheet-metal workers in Edmonton were repealed.

Part II of the Manitoba Fair Wage Act provides similar machinery for fixing wages and hours in any business, trade or undertaking, except agriculture. Up to the present, barbering and hairdressing, printing and engraving, shoe-repairing, wood-sawing, baking, laundering and dry cleaning, road trucking and hauling have been brought within its scope. Under this legislation, wages and hours have been fixed by Order in Council for the baking industry and for barbering and hairdressing.

Legislation in all provinces, except Prince Edward Island, which applies to mines, factories and, in some cases, to shops, restricts the hours of work of women and young persons or, in some provinces, of all workers. In Nova Scotia, Quebec, Ontario, Saskatchewan, Alberta and British Columbia, there are also statutes dealing only with hours of work. The Nova Scotia Act is not in force. Several Minimum Wage Acts give authority for the regulation of hours as well as wages.

Minimum Wage Regulations.—Table 34 shows the minimum rates in effect in March, 1948, for several classes of establishments in the principal cities. In Alberta and British Columbia the rates for all workers, and in Manitoba the rates for men, apply throughout the Province. In other provinces, and with respect to women in Manitoba, lower rates are in effect outside each of the indicated urban areas of the Province. The rates given apply to the hours specified or, except in Montreal and Winnipeg, to the normal work-week of the establishment, if less.

34.—Minimum Weekly Rates for Experienced Workers in the Principal Cities, March, 1948

Item and Type of Establishment	Halifax[1]	Saint John[1]	Montreal	Toronto[1]	Winnipeg[2]	Regina	Edmonton[3]	Vancouver
Hours per week....	44-48	48	48-60[4]	48	44	36-44	48	44[5]
	$	cts. per hour	cts. per hour	$	cts. per hour	$	$	$
Factories.....	15	[6]	35	16·80	36	18·50	18·00	0·40[7]
Laundries, etc.....	15	[6]	35	16·80	36	18·50	18·00	0·40[7]
Shops.....	15	[6]	35	16·80	36	18·50	18·00	17·00[1]
Hotels, restaurants, etc.....	15	28	30[8]	16·80	36	18·50	18·00	18·00
Beauty parlours...	15	[6]	35	16·80	36	18·50	18·00	20·00
Theatres and amusement places	15	[6]	25	16·80	36	0·50[7]	18·00	17·10[1]
Offices.....	15	[6]	35	16·80	36	18·50	18·00	18·00[1]

[1] Females only. [2] Females; 40 cents for men applying to 48-hour week. [3] Females; $25 for men over 21 years. [4] Rates apply to 48 hours in factories, except in specified cases, and in laundries and offices; 54 hours in shops, beauty parlours and theatres; 60 hours in hotels. [5] In hotels, beauty parlours, theatres and amusement places rates apply to 40 hours or more; in shops to 39 hours or more; and in offices to 36 hours or more. [6] Minimum wage regulations not in effect in this type of establishment. [7] Cents per hour. [8] Kitchen help, 35 cents; cooks 40 cents.

Regulation of Hours and Annual Holidays.—In Alberta and Ontario there is a maximum eight-hour day and 48-hour week for the workers to whom the statutes apply. In British Columbia hours are limited to eight in a day and 44 in a week. In Saskatchewan a 1947 Act requires time and one-half to be paid for work after eight hours daily and 44 hours weekly. The Saskatchewan Act covers all workers employed in, or within a five-mile radius of, any city, workers in all factories in the Province, and in shops and offices in the towns or villages within the scope of Minimum Wage Orders. In the other three above mentioned Provinces the Acts apply to most workers, except farm labourers and domestic servants.

In all provinces longer hours may be worked in an emergency or by permission of the administrative authority.

In Alberta and Nova Scotia time and one-half is payable for all work in excess of 48 hours or of the regular work-week if less, but in Nova Scotia the provision applies only to women and only where the legal minimum rate is being paid. In British Columbia time and one-half must be paid after 44 hours. In hotels and restaurants and other workplaces in the larger towns and villages of Saskatchewan time and one-half is payable after 48 hours. In most classes of industrial establishments in Quebec, time and one-half is payable after 48 hours.

Six provinces have provided for annual holidays with pay for workpeople in most industries. In five of these provinces—Alberta, British Columbia, Manitoba, Ontario and Quebec—workers are entitled to a week's holiday with pay after a year of employment. Two weeks' holiday is given in Saskatchewan after a year of employment and, in Alberta, after two years of employment. A worker employed for less than a year is entitled, in Quebec, to a half-day for each month of employment and, in Saskatchewan, to one day for each month.

Coal miners in Alberta are entitled to one day's holiday with pay for every 23 days worked in a month (22 in February) but not more than two weeks' holiday in a year.

Excluded from the holiday provisions are farm workers in all provinces, and domestic servants in all but Manitoba and Saskatchewan. The Manitoba Act also excludes independent contractors and railway and express companies under Dominion jurisdiction. In addition, British Columbia exempts horticulture; Manitoba and Saskatchewan, ranching and market gardening; Ontario, professional workers, funeral directing and embalming; and Quebec, building trades, forest operations, public corporations, janitors and watchmen and certain part-time workers.

Subsection 2.—Statistics of Wage Rates and Hours for Various Classes of Labour*

Statistics of rates of wages and hours of labour have been collected for many years by the Dominion Department of Labour and are published in the *Labour Gazette* and, later, in annual reports supplementary to the *Labour Gazette*. The first report was issued in 1921 but the records begin, in many cases, with the year 1901. The index numbers show the general movement of wage rates for the main industrial groups as well as for individual industries, but these cannot be used to compare wage rates in one industry with those in another. The statistics are average straight-time wage rates or average straight-time piece-work earnings and therefore do not include over-time or other premium payments.

Tables 35 and 36 show the index numbers of wage rates by main industrial groups and by industries. From 1930 to 1933 there was a general decrease in wage rates but increases have been general each year since that time. During the period 1939-47, the rise in the index number of wage rates amounted to 73·7 p.c.

* For more detailed information see "Wage Rates and Hours of Labour in Canada", published by the Department of Labour as a supplement to the *Labour Gazette*.

35.—Index Numbers of Wage Rates for Certain Main Groups of Industries, 1938-47

(1939=100)

NOTE.—Figures back to 1901 may be obtained from the report "Wage Rates and Hours of Labour in Canada, 1947", published by the Department of Labour as a supplement to the *Labour Gazette*. Figures for 1921-37 are given at p. 650 of the 1947 Year Book.

Year	Logging	Coal Mining	Metal Mining	Manufacturing	Construction	Water Transportation	Steam Railways	Electric Railways	Telephones	Laundries	General Average
1938.....	101·8	100·0	99·6	99·2	99·2	99·1	100·0	99·4	99·7	99·7	99·6
1939.....	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
1940.....	104·9	102·1	102·8	104·3	104·5	105·2	100·0	103·9	101·3	105·4	103·9
1941.....	114·0	109·4	112·2	115·2	111·6	113·3	109·4	109·1	106·4	110·5	113·1
1942.....	125·9	113·1	118·7	125·5	118·6	125·8	114·8	115·8	112·0	116·5	122·5
1943.....	143·1	124·8	123·1	136·8	127·7	138·8	125·5	121·2	121·9	127·3	133·7
1944.....	146·1	146·0	125·2	141·4	129·6	142·2	125·5	125·7	122·4	128·9	137·9
1945.....	153·3	146·2	128·2	146·5	131·1	144·6	125·5	126·6	125·6	135·4	141·8
1946.....	167·4	146·7	135·7	161·5	143·9	162·3	142·3	139·5	125·2	147·5	155·2
1947.....	195·1	166·7	157·7	183·3	155·0	183·8	142·3	162·3	132·2	170·5	173·7

36.—Index Numbers of Wage Rates, by Industries, 1943-47

(1939=100)

Industry	1943	1944	1945	1946	1947
Logging	**143·1**	**146·1**	**153·3**	**167·4**	**195·1**
Logging, Eastern Canada	142·0	143·2	151·4	162·8	188·3
Logging, Western Canada	147·5	156·8	160·5	184·9	220·8
Mining	**123·7**	**134·8**	**136·5**	**140·6**	**161·7**
Coal mining	124·8	146·0	146·2	146·7	166·7
Metal mining	123·1	125·2	128·2	135·7	157·7
Manufacturing	**136·8**	**141·4**	**146·5**	**161·5**	**183·3**
Primary textile products	140·4	146·0	151·5	165·6	190·1
Cotton yarn and cloth	136·6	139·1	148·7	161·6	189·0
Woollen yarn and cloth	152·8	160·3	163·5	183·1	209·8
Knitting—hosiery, underwear and outerwear	138·5	146·2	150·3	162·5	184·3
Rayon yarn and fabric	141·3	147·0	148·9	164·7	186·8
Clothing	139·3	144·3	156·3	176·2	189·5
Men's and boys' suits and overcoats	146·6	151·9	164·1	182·1	203·0
Work clothing	140·8	141·0	148·0	160·3	173·0
Women's and misses' suits and coats	134·5	137·5	152·7	176·2	186·2
Dresses	133·2	138·9	152·5	179·2	178·5
Men's shirts	135·9	146·5	157·0	171·7	196·6
Rubber products	134·4	139·8	143·4	167·7	190·1
Pulp and its products	120·3	125·7	127·3	148·6	173·8
Pulp	128·6	135·3	136·3	162·8	193·5
Newsprint	115·4	119·6	120·9	137·3	158·4
Paper other than newsprint	120·1	124·7	126·8	147·0	170·9
Paper boxes	128·9	133·1	138·5	151·6	175·8
Printing and publishing	113·7	116·3	118·5	127·3	138·9
Newspaper printing	112·5	116·5	119·1	125·7	136·6
Job printing	113·8	114·9	117·7	129·8	142·4
Lumber and its products	142·9	148·2	156·1	178·3	205·2
Sawmill products	143·8	148·7	157·5	184·8	215·7
Planing mills, sash, doors, etc.	134·9	139·4	147·2	161·2	180·2
Wooden furniture	147·6	154·8	159·5	171·7	192·6
Edible plant products	130·0	134·2	139·4	153·0	175·0
Flour	133·3	135·0	139·2	153·1	178·0
Bread and cake	128·9	134·3	139·0	152·6	174·2
Biscuits	131·9	135·8	142·0	159·2	184·1
Confectionery	130·0	131·8	139·0	148·7	167·0
Fur products	127·3	130·5	140·5	150·7	170·5
Leather and its products	142·9	145·4	153·5	167·5	198·5
Leather tanning	148·9	156·8	167·0	181·1	215·7
Boots and shoes	141·7	142·6	150·1	164·0	194·2
Meat products	135·1	137·3	141·0	165·4	189·4
Iron and its products	138·8	142·6	148·2	159·6	180·4
Crude, rolled and forged products	135·5	143·5	149·1	170·6	189·6
Foundry and machine shop products	137·0	140·8	149·5	161·0	189·6

36.—Index Numbers of Wage Rates, by Industries, 1943-47—concluded

Industry	1943	1944	1945	1946	1947
Manufacturing—concluded					
Iron and its products—concluded					
Machinery, engines, boilers, tanks, etc.	141·7	147·9	147·3	155·8	177·4
Aircraft	134·0	138·7	148·7	154·6	162·9
Steel shipbuilding	144·4	145·3	145·9	148·8	163·7
Motor-vehicles	122·7	126·3	130·3	140·4	151·1
Motor-vehicle parts and accessories	145·7	147·1	148·2	162·3	191·0
Heating and cooking apparatus	143·5	149·5	155·4	163·5	192·0
Agricultural machinery	151·9	155·8	157·5	178·5	207·3
Tobacco products	131·5	140·3	140·5	156·9	186·4
Beverages (brewery products)	121·9	123·5	127·9	148·4	166·5
Electric current production and distribution	129·6	132·5	134·4	143·5	154·8
Electrical products	149·2	154·1	156·8	169·1	195·5
Construction	**127·7**	**129·6**	**131·1**	**143·9**	**155·0**
Transportation and Communications	**127·0**	**128·0**	**128·8**	**143·5**	**149·3**
Transportation	127·7	128·7	129·2	145·9	151·6
Water transportation (inland and coastal)	138·8	142·2	144·6	162·3	183·8
Steam railways	125·5	125·5	125·5	142·3	142·3
Electric street railways	121·2	125·7	126·6	139·5	162·3
Communications—telephone	121·9	122·4	125·6	125·2	132·2
Service—Laundries	**127·3**	**128·9**	**135·4**	**147·5**	**170·5**
General Average	**133·7**	**137·9**	**141·8**	**155·2**	**173·7**

37.—Average Hourly Wage Rates for Selected Occupations in Certain Cities, 1946

Industry and Occupation	Halifax	Montreal	Toronto	Winnipeg	Vancouver
	$	$	$	$	$
Construction—					
Bricklayers and masons	1·27	1·17	1·35	1·35	1·45
Carpenters	1·05	1·06	1·20	1·15	1·25
Electricians	1·17	1·11	1·35	1·15	1·35
Painters	0·89	0·95	1·05	1·00	1·10
Plasterers	1·15	1·17	1·30	1·35	1·22½
Plumbers	1·13	1·11	1·30	1·25	1·35
Sheet-metal workers	0·93	1·06	1·28	0·90	1·33
Labourers	0·60	0·67	0·67	0·63	0·80
Manufacturing—					
Unskilled factory labour, male	0·63	0·62	0·67	0·58	0·79
Transportation—					
Electric Street Railways—					
One-man car and bus operators[1]	0·81[2]	0·92	0·80	0·87	0·85
Linemen	0·92	0·88	0·93	1·09½	1·13½
Shop and barnmen	0·62–0·95	0·62–1·01	0·64–1·08	0·62–0·97	0·68–0·99½
Electricians	0·92	1·00	0·90	0·93	0·91½
Trackmen and labourers	0·58–0·71	0·62–0·78	0·67–0·75	0·67–0·77	0·68½–0·78½
Printing and Publishing—					
Compositors—					
News	1·00	1·28	1·40	1·02	1·30
Job	0·85	1·08	1·02	0·97	1·14
Pressmen—					
News	0·80	1·24	1·40	1·09	1·30
Job	0·81	0·99	1·01	0·95	1·12
Bookbinders	0·83	1·01	0·98	0·96	1·13
Bindery girls	0·35	0·46	0·52	0·43	0·56

[1] Maximum rates based on length of service; 5 cents less for two-man car operators in Montreal, Toronto and Winnipeg; in Vancouver 6 cents less. [2] No bus operators.

38.—Standard or Normal Hours of Labour per Week in Certain Cities, 1946

Industry	Halifax	Montreal	Toronto	Winnipeg	Vancouver
	hrs.	hrs.	hrs.	hrs.	hrs.
Construction	44-48	44-50	44-50	44-48	40-48
Transportation—Electric street railways	44	48-50	44-48	44-54	44-48
Printing and publishing	44-48	40-43	40-44	44	40-44

39.—Average Hourly Wage Rates for Selected Occupations in Manufacturing, by Provinces, 1946

Occupation	Maritime Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
	$	$	$	$	$	$	$
Work Clothing—							
Sewing machine operators, female	0·31	0·41	0·53	0·50	[1]	0·52	0·54
Cutters, male	0·69	0·71	0·91	0·83	[1]	0·95	0·97
Newsprint—							
Machine tenders	2·01	1·79	1·74	[2]	[1]	[1]	1·92
Finishers	0·75	0·77	0·79	[2]	[1]	[1]	0·86
Wood Products—							
Sawyers	0·70	0·61	0·72	0·73	0·67	0·87	1·19
Machine hands	0·52	0·57	0·67	0·76	0·65	0·73	0·87
Meat Products—							
General butchers	0·70	0·81	0·84	0·88	0·83	0·87	0·90
Motor-truck drivers	0·66	0·77	0·80	0·84	0·76	0·85	0·86
Iron and Steel Products—							
Machinists	0·93	0·90	0·87	0·76	0·80	0·91	1·11
Moulders	0·79	0·79	0·92	0·67	0·80	0·80	0·90
Drill and punch press operators	0·85	0·74	0·82	0·72	[1]	[1]	0·88
				Western Provinces			
Woollen Yarn and Cloth—							
Spinners, male	0·55	0·64	0·66	0·57			
Weavers, female	0·47	0·51	0·55	0·48			

[1] Insufficient data. [2] Cannot be given; apply to fewer than three establishments.

40.—Average Standard or Normal Hours of Labour per Week for Male Workers, in Selected Industries, by Provinces, 1946

Industry	Maritime Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
Work clothing	45·6	47·0	44·2	43·3	[1]	44·0	40·7
Newsprint	48·0	48·3	48·0	48·0	[1]	[1]	44·0
Wood products	53·3	54·9	48·0	46·4	49·7	49·5	43·9
Meat products	46·3	48·9	45·9	45·5	45·2	44·8	44·1
Iron and its products	46·5	47·6	44·5	46·7	44·7	43·4	40·9
				Western Provinces			
Woollen yarn and cloth	49·4	50·9	47·6	47·6			

[1] Insufficient data.

Wages of Farm Labour.—With few exceptions, farm wage rates in Canada during 1947 continued the upward trend which has been in evidence since 1940, the year in which this wage-rate series was started. Compared with 1940, the current rates of wages paid to male hired help on farms have increased from two and one-half to three times. Average wage rates are shown on the basis of rates paid with board provided by the employer and without board. The information is provided by a corps of volunteer farm correspondents located throughout Canada.

41.—Average Wages of Male Farm Help per Day and per Month, as at Jan. 15, May 15 and Aug. 15, 1944-47

NOTE.—Figures for 1940-42 are given at pp. 732-733 of the 1943-44 Year Book and for 1943 at pp. 653-654 of the 1947 edition.

Province and Year	Jan. 15				May 15				Aug. 15			
	Daily		Monthly		Daily		Monthly		Daily		Monthly	
	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board
	$	$	$	$	$	$	$	$	$	$	$	$
P.E.I.—												
1944.....	2·03	2·60	41·21	55·00	2·08	2·70	47·66	69·22	2·45	3·10	49·42	69·77
1945.....	2·18	2·95	45·45	63·50	2·29	2·89	50·19	71·33	2·55	3·36	52·59	76·25
1946.....	2·39	3·11	49·54	72·06	2·53	3·28	55·76	77·37	2·62	3·38	55·76	77·96
1947.....	2·59	3·30	52·55	74·24	2·70	3·50	57·31	80·00	2·67	3·54	55·50	75·16
N.S.—												
1944.....	2·78	3·56	60·87	84·00	2·61	3·40	53·88	76·50	2·94	3·74	55·12	75·44
1945.....	2·89	3·74	54·41	84·00	3·21	3·88	64·07	88·15	3·43	4·21	69·15	91·44
1946.....	3·06	3·92	61·23	89·27	3·08	3·99	70·39	98·89	3·24	4·11	67·45	91·57
1947.....	3·34	4·18	71·16	97·30	3·41	4·43	69·65	101·05	3·57	4·36	72·44	101·00
N.B.—												
1944.....	2·61	3·33	63·57	81·90	2·91	3·68	63·33	87·97	3·02	3·73	66·83	89·93
1945.....	3·00	3·85	68·11	90·00	3·15	4·04	75·32	98·86	3·52	4·32	80·63	103·46
1946.....	3·31	4·31	80·71	105·73	3·33	4·11	76·98	98·85	3·56	4·44	78·61	103·17
1947.....	3·59	4·53	83·08	103·27	3·59	4·43	82·86	108·44	3·77	4·69	86·88	107·63
Que.—												
1944.....	2·44	3·20	52·70	74·87	2·47	3·21	56·22	77·08	2·73	3·50	61·04	81·74
1945.....	2·66	3·43	58·47	80·88	2·74	3·53	59·68	82·16	3·22	4·12	68·83	92·36
1946.....	2·89	3·79	62·68	86·50	3·10	3·96	68·94	93·96	3·46	4·36	74·48	98·41
1947.....	3·32	4·23	72·31	94·92	3·42	4·36	76·34	102·15	4·03	4·90	84·02	109·58
Ont.—												
1944.....	2·72	3·57	51·02	73·01	2·90	3·78	56·39	77·04	3·26	4·09	59·13	79·64
1945.....	2·87	3·69	53·96	75·88	3·03	3·92	59·86	83·46	3·46	4·36	64·34	87·39
1946.....	3·04	3·93	57·06	80·51	3·29	4·19	64·80	89·40	3·62	4·55	68·40	92·40
1947.....	3·36	4·28	63·92	90·48	3·59	4·54	70·66	95·84	3·70	4·96	74·29	99·48
Man.—												
1944.....	2·27	3·13	43·91	65·10	2·87	3·78	63·89	85·83	4·49	5·53	71·46	91·33
1945.....	2·41	3·45	50·40	75·84	3·20	3·99	70·01	91·77	3·97	4·98	74·84	97·76
1946.....	2·64	3·54	49·88	71·97	3·24	4·25	68·75	91·39	4·71	5·66	77·50	102·81
1947.....	2·82	3·77	55·40	82·29	3·65	4·74	75·00	101·38	4·54	5·46	80·55	102·59
Sask.—												
1944.....	2·11	3·03	44·00	67·47	2·98	4·00	69·83	93·31	4·58	5·42	75·27	99·49
1945.....	2·45	3·47	51·12	76·21	3·42	4·35	75·92	99·34	4·00	4·85	77·31	101·92
1946.....	2·45	3·56	49·87	75·72	3·43	4·49	77·24	102·06	4·71	5·69	82·99	111·13
1947.....	2·69	3·71	54·04	81·47	3·71	4·68	81·98	109·16	4·83	5·99	89·23	116·06
Alta.—												
1944.....	2·46	3·38	54·63	78·63	2·97	3·78	68·25	93·21	3·78	4·72	72·31	98·16
1945.....	2·65	3·51	58·22	82·47	3·20	4·14	74·76	98·33	4·04	4·94	77·19	111·00
1946.....	2·76	3·65	60·25	86·01	3·45	4·43	76·16	102·32	4·37	5·17	80·02	106·66
1947.....	3·09	4·02	63·31	89·67	3·82	4·85	82·21	109·66	4·45	5·60	84·69	113·57

41.—Average Wages of Male Farm Help per Day and per Month, as at Jan. 15, May 15 and Aug. 15, 1944-47—concluded

Province and Year	Jan. 15				May 15				Aug. 15			
	Daily		Monthly		Daily		Monthly		Daily		Monthly	
	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board	With Board	Without Board
	$	$	$	$	$	$	$	$	$	$	$	$
B.C.—												
1944	3·07	3·92	60·44	83·04	3·17	4·00	65·47	90·56	3·53	4·39	70·33	95·75
1945	3·36	4·24	66·13	93·32	3·52	4·43	70·15	103·81	3·85	4·64	76·56	102·92
1946	3·56	4·50	70·59	100·50	3·80	4·74	79·60	104·05	4·42	5·26	82·63	105·56
1947	3·79	4·73	78·02	103·25	4·14	5·17	79·13	112·31	4·73	5·75	86·25	117·81
Totals—												
1944	**2·49**	**3·30**	**50·99**	**73·19**	**2·73**	**3·55**	**61·88**	**84·25**	**3·53**	**4·36**	**65·99**	**88·31**
1945	**2·76**	**3·61**	**55·61**	**79·70**	**3·04**	**3·89**	**66·88**	**90·60**	**3·55**	**4·43**	**71·68**	**97·22**
1946	**2·93**	**3·84**	**57·24**	**82·23**	**3·25**	**4·15**	**71·36**	**96·27**	**4·01**	**4·95**	**75·28**	**100·62**
1947	**3·23**	**4·15**	**63·29**	**89·25**	**3·59**	**4·55**	**77·01**	**103·96**	**4·13**	**5·17**	**82·75**	**109·03**

Subsection 3.—Census Data on Earnings and Employment

The number of wage-earners, by sex and provinces, during the 12 months prior to the Census date, June 2, 1941, together with total and average earnings is given at p. 654 of the 1947 Year Book. More detailed information on earnings and employment of wage-earners during the same period is given in Vol. VI, Census of Canada 1941, for Canada, the provinces, counties and census divisions, for urban centres of 1,000 population or over and for certain metropolitan areas. Wage-earners are there classified by occupation, industry, conjugal condition, age and sex, earnings and weeks employed. Preliminary data on the number of wage-earners by amount of earnings are available from the 1946 Census of the Prairie Provinces for urban centres of 5,000 population or over in Bulletin 7–6010.

CHAPTER XIX.—TRANSPORTATION AND COMMUNICATIONS

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Canada, nearly 4,000 miles in length from east to west, with the main topographic barriers running in a north-south direction, and a relatively small population of 12,883,000 (1948 estimate) thinly distributed along the southern strip of this vast area, presents unusual difficulties from the standpoint of transportation. Different parts of the country are shut off from each other by areas of rough, rocky forest terrain, such as the region lying between New Brunswick and Quebec, the areas north of Lakes Huron and Superior, dividing the industrial region of Ontario and Quebec from the agricultural areas of the prairies, and the barriers interposed by the mountains of British Columbia. To such a country with a population so distributed and producing for export, as well as for consumption in distant portions of the country itself, cheap transportation is a necessity of life.

In order to appraise the value of each of the agencies of transportation, this Chapter of the Year Book, after treating of Government control over agencies of transportation and communication in Part I, deals with the four main agencies, namely, carriers by rail, road, water and air, in Parts II, III, IV and V, respectively. In each Part the arrangement is intended to show: (1) the plant, equipment and facilities available; (2) the cost to the Canadian people; and (3) the traffic carried or services performed, in so far as statistics are available for each agency.

Scarcely less important than transportation from the social and economic viewpoints, is the development of communications in a country so vast and with population centres so scattered. The Post Office has been a great factor in promoting solidarity among the people and this same objective is being further aided by radio. Telegraphs and telephones have done much to lessen distances and make for closer relationships—the rural telephone being of particular social and economic benefit in country districts. The press, assisted by cheap telegraph and cable rates, and by low second-class mail rates to all parts of the country, has been helpful in developing national sentiment. These means of communication are dealt with in Parts VI, VII, VIII and IX.

PART I.—GOVERNMENT CONTROL OVER AGENCIES OF TRANSPORTATION AND COMMUNICATION

Section 1.—Government Control Over Agencies of Transportation*

Carriers by rail, road, water and air are, or should be, inter-related parts of an integral whole where each agency has its place in the efficient provision of necessary transportation. The Federal Department of Transport was organized on Nov. 2, 1936, under authority of c. 34 of the Statutes of 1936, to unify in one Department the control and supervision of railways, canals, harbours, marine and shipping, civil aviation, radio and meteorology.

The business of transportation and communications is, generally speaking, a 'natural monopoly', i.e., a type of enterprise in which service can be more efficiently and economically rendered to the public where one or a few concerns control a particular type of service throughout the country. For this reason there has been a strong tendency toward consolidation and amalgamation over the past half century. The outstanding example of these consolidations in Canada in recent years is the concentration of control of the railways of the country in the hands of the Canadian Pacific Railway Company and the Canadian National Railways.

Such control inevitably brings with it elements of monopoly and possible overcharge, and it has been deemed advisable in Canada, as in other countries, to set up authorities to control the rates to be charged and other conditions under which services to the public are to be rendered by common carriers. This control, so far as the railways within the jurisdiction of the Federal Government are concerned, is now in the hands of the Board of Transport Commissioners. From time to time the regulatory authority of the Commission has been extended to a limited extent to other utilities (see under "Air Transport Board" below).

* This material has been compiled in co-operation with the Board of Transport Commissioners, the Air Transport Board and the Department of Transport.

Besides the Board of Transport Commissioners, there exist, in several of the provinces, bodies that undertake among their duties the supervision and control of local public utilities operating under the jurisdiction of the provinces, and the regulation of their rates for service. Among these are the Ontario Department of Municipal Affairs (formerly the Railway and Municipal Board of Ontario, established in 1906), the Quebec Commission of Public Utilities established in 1909, the Nova Scotia Board of Commissioners of Public Utilities and the Public Utilities Commission of Manitoba. In the three most westerly provinces these same duties are performed by provincial Departments of Railways.

The Board of Transport Commissioners for Canada.—An explanation of the situation that led to the introduction of railway regulation by commission in Canada, as well as other information relating to the organization of the Board, procedure, judgments, etc., is given at pp. 633-634 of the 1940 Year Book.

Powers of the Board.—With regard to transport by rail, these powers cover matters relating to the location, construction and operation of railways. The most important of these has to do with rate regulation. Passenger rates are divided into standard and special; freight rates into standard, special and competitive. Standard rates are maximum rates and the only ones that must be approved by the Board before they are applied. Special and competitive rates, being less than maximum rates, may be applied by railways without the Board's approval, provided that a change of rates has been advertised. Important rate adjustments, however, usually come to the notice of the Commission, for a changed rate alters the extent of the territory in which a shipper can compete and on this account he is likely to appeal the case to the Commission.

By an amendment to the Railway Act, the regulation of telephone, telegraph and express rates was given to the Commission, but with narrower powers than were given to it in dealing with railways. By the Transport Act, 1938, (as amended by 8 Geo. VI, c. 25, 1944, and by 9 Geo. VI, c. 32, 1945) and since Jan. 15, 1939, following a proclamation of the Governor in Council to that effect, the Board has power to issue licences to ships engaged in the transportation of passengers or goods on the Great Lakes and the Mackenzie River, as defined in Sect. 2, Subsection 1 (*f*) and (*hh*) of the Transport Act, 1938. The Board is required to perform the functions vested in it under the Transport Act and the Railway Act with the object of co-ordinating and harmonizing the operations of all carriers engaged in transport by railways and ships. The Board may require every applicant for a licence under the Transport Act to establish public convenience and necessity to its satisfaction and take into consideration the financial responsibility of a licensee or applicant. The Board may, in the licence, state the ports between which the ships named therein may carry goods or passengers and the schedule of services which shall be maintained; every standard tariff and every amendment and supplement thereto shall require the approval of the Board before it becomes effective.

On Jan. 1, 1947, a new division was added to the organization of the Board, namely, the Bureau of Transportation Economics. This new Bureau amalgamated the Economics Division of the Board of Transport Commissioners and the Economics Division of the Air Transport Board under one head. Its main duties consist of supplying these two bodies with the result of economic studies in the general transportation field and with reports regarding the economic aspects of the particular cases submitted for determination.

The Prime Minister on June 8, 1948, announced proposed legislation with reference to Government plans for a reconstitution of the Board of Transport Commissioners in view of substantially increased responsibilities which it is expected that Board will have to assume over the coming years.

A single Act was later passed, June 16, 1948, to amend the Railway Act, the Exchequer Court Act and the Judges Act, 1946. This Act provided that a Judge of the Exchequer Court of Canada holds the office of Chief Commissioner of the Board of Transport Commissioners. Such Judge, however, while acting as Chief Commissioner, devotes his full time to the work of the Board.

The Act also provided, with a consequential amendment in the Judges Act of 1946, that in the light of the foregoing change, the Exchequer Court be increased by one, to consist thereafter of the President and four Judges, instead of the President and three Judges as at present.

The Act does not in any way change the term of appointment to the post of Chief Commissioner from a ten-year period. When a Judge of the Exchequer Court has served for this term as Chief Commissioner he will, unless his term of office is extended, return to the Exchequer Court; his successor will then be appointed from that body.

Air Transport Board. — The Air Transport Board was established in September, 1944, as a result of an amendment to the Aeronautics Act (8 Geo. VI, c. 28). The Board's main function is the economic regulation of commercial air services in Canada, which includes the issue of licences to all such services and the subsequent regulation of the licensees in respect of tariffs and schedules, public liability, and standards of service to the public. The latest regulations respecting commercial air services made by the Air Transport Board, under the Aeronautics Act, were approved by Order in Council P.C. 972 of Mar. 25, 1947, and became effective on Apr. 9, 1947. These Regulations, which were made pursuant to amendments to the Aeronautics Act of Dec. 15, 1945 (9 and 10 Geo. VI, c. 9), deal with the classifications of air carriers, applications for licences, accounts, records and reports, traffic, tolls and tariffs, and other related matters. Detailed regulatory instructions are issued by the Board in the form of Directives, which are made consistent with the Regulations.

In addition to the regulatory function, the Act lays upon the Board the duty to advise the Minister in the exercise of his duties and powers under the Act in all matters relating to civil aviation.

The Board consists of three members, including the chairman, and the organization of the Board's staff comprises a Secretary's Branch, which includes the Administrative and Licensing Divisions; a Legal Adviser, who is the Chief Legal Adviser to the Canadian Government on all matters of domestic and international air law; an Examiner, who conducts public hearings by order of the Board; a Traffic Branch, and a Research Aeronautical Engineering Branch.

Financial and operating statistics are collected under the authority of the Board's Regulations by the Bureau of Transportation Economics which was established, in 1947, under the administration of the Board of Transport Commissioners and serves that Board as well as the Air Transport Board.

Up to Dec. 31, 1947, the Board had issued 24 licences for domestic scheduled air services, totalling 22,266 route miles; 22 licences for international air services, totalling 4,707 route miles. In addition to the above, 225 licences had been issued for non-scheduled commercial air transport services, and 27 licences for commercial air enterprises not involving the transport of passengers or goods.

Section 2.—Government Control Over Agencies of Communication*

The development and control of radio-communication in Canada from the beginning of the century is outlined at pp. 644-646 of the 1945 Year Book.

The present phase of national radio broadcasting in Canada was entered upon in 1936, when, with the passage of the Canadian Broadcasting Act, 1936, the Canadian Broadcasting Corporation replaced the Canadian Radio Broadcasting Commission (see pp. 772-777). The new Act gave the Corporation much wider powers in the operation of the system, and was modelled very largely along the lines of the Act governing the British Broadcasting Corporation. The technical control of all broadcasting stations reverted to the Minister of Transport, who was also empowered to make regulations for the control of any equipment liable to cause interference with radio reception.

Under the Radio Act, 1938, radio stations including broadcasting stations may be established only under, and in accordance with, licences granted by the Minister of Transport, and, with the exception of those matters covered by the Canadian Broadcasting Act, 1936, radio-communications are regulated under the Radio Act, 1938, and annexed Regulations. Licences for radio stations may be issued only to British subjects or to companies or corporations created or incorporated under the laws of the Dominion of Canada or any of the provinces thereof or any country of the British Commonwealth.

In addition to the requirements of these Acts and Regulations, all radio-communication matters are administered in accordance with the provisions of the International Telecommunication Convention and Radio Regulations annexed thereto, as well as such Regional Agreements as the Inter-American Telecommunications Convention and Inter-American Agreement, and the North American Regional Broadcasting Agreement.

By Order in Council P.C. 2526, dated June 8, 1948, responsibility for telegraph and telephone services formerly operated by the Federal Department of Public Works was transferred to the Minister of Transport. The general object of these services is to furnish wire communications for outlying and sparsely settled districts where commercial companies do not enter into the field and where the population must receive adequate communication services in the public interest.

Landline telegraph and telephone tariffs and tolls, charged by Dominion incorporated companies, are regulated by the Board of Transport Commissioners under the provisions of the Railway Act.

Tariffs and tolls charged to the public by individuals or companies, for radio telephone or telegraph communications within Canada, are likewise regulated by the Board of Transport Commissioners, under the provisions of the Railway Act, and the Regulations made under the Radio Act, 1938.

* Revised by the Department of Transport.

PART II.—RAILWAYS*

The treatment of rail transportation is divided into three Sections dealing, respectively, with steam railways, electric railways and express companies.

Section 1.—Steam Railways

The steam railway is the most important transportation agency from the standpoint of investment and of traffic handled and the statistical field is more completely covered for this form of transportation than for any other.

Historical.—A brief historical sketch of the development of steam railways in Canada is given at pp. 635-638 of the 1940 Year Book. Other details are given at pp. 616-623 of the 1922-23 Year Book, at pp. 601-603 of the 1926 Year Book and at pp. 694-698 of the 1934-35 Year Book. An article at pp. 648-651 of the 1945 edition deals with the wartime role of the steam railways of Canada.

Subsection 1.—Mileage and Equipment of Steam Railways

Although construction was begun in 1835 on the first railway in Canada—the short link of 16 miles between Laprairie and St. Johns, Que.—there were only 66 miles of railway in operation by 1850. The first great period of construction was in the 1850's when the Grand Trunk and Great Western Railways, as well as numerous smaller lines, were built. The building of the Intercolonial and the Canadian Pacific Railways contributed to another period of rapid expansion in the 1870's and 1880's. In the last period of extensive railway building from 1900 to 1917, the Grand Trunk Pacific, National Transcontinental and Canadian Northern Railways were constructed.

During the past decade, there has been a tendency for railway mileages to decline slightly because of the abandonment of unprofitable lines. Of the 42,335 miles of single track operated in 1946, 21,556 were Canadian National lines.

* Revised and checked by G. S. Wrong, Director, Transportation Division, Dominion Bureau of Statistics. More detailed information is given in the annual reports of the Division. Certain of the financial statistics are compiled in co-operation with the Department of Transport.

1.—Record of Steam-Railway Mileage, 1900-46

NOTE.—Corresponding figures of total mileage of single track for the years 1835 to 1899 are given at p. 546 of the 1941 Year Book.

Total Mileage (Single Track)						Mileage, by Provinces				
Year	Miles in Operation	Year	Miles in Operation	Year	Miles in Operation	Type of Track and Province	1931	1936	1941	1946
	No.		No.		No.		miles	miles	miles	miles
						Single Track—				
1900....	17,657	1916..	36,985	1931..	42,280	Prince Edward Island..	286	286	286	286
1901....	18,140	1917..	38,369	1932..	42,409	Nova Scotia.....	1,418	1,397	1,396	1,396
1902....	18,714	1918..	38,252	1933..	42,336	New Brunswick.....	1,934	1,871	1,836	1,836
1903....	18,988	1919[1]..	38,329	1934..	42,270	Quebec.....	4,926	4,777	4,789	4,765
1904....	19,431	1919[2]..	38,495	1935..	42,916	Ontario.....	10,905	10,746	10,476	10,464
						Manitoba.....	4,419	4,860	4,854	4,836
1905....	20,487	1920..	38,805	1936..	42,552	Saskatchewan.....	8,268	8,624	8,777	8,783
1906....	21,423	1921..	39,191	1937..	42,727	Alberta.....	5,630	5,687	5,747	5,686
1907....	22,446	1922..	39,358	1938..	42,742	British Columbia.....	4,097	3,907	3,883	3,886
1908....	22,966	1923..	39,654	1939..	42,637	Yukon.....	58	58	58	58
1909....	24,104	1924..	40,059	1940..	42,565	In United States.....	339	339	339	339
1910....	24,731	1925..	40,350	1941..	42,441	Totals, Single Track...	42,280	42,552	42,441	42,335
1911....	25,400	1926..	40,350	1942..	42,339					
1912....	26,840	1927..	40,570	1943..	42,346	Second track.....	2,688	2,500	2,499	2,486
1913....	29,304	1928..	41,022	1944..	42,336	Industrial track.....	1,606	1,401	1,551	1,870
1914....	30,795	1929..	41,380	1945..	42,352	Yard track and sidings....	10,277	10,239	10,210	10,314
1915....	34,882	1930..	42,047	1946..	42,335					
						Grand Totals.....	**56,851**	**56,692**	**56,701**	**57,005**

[1] As at June 30 for this and previous years. [2] As at Dec. 31 for this and later years.

Rolling-Stock.—The figures in Table 2 may be supplemented by the statement that between 1920 and 1946, the average capacity of box cars increased from 34·779 tons to 42·598 tons, of flat cars from 33·459 to 43·010 tons, of coal cars from 43·404 tons to 56·733 tons, and of all freight cars from 35·141 tons to 44·044 tons. The average tractive power of the locomotives increased from 31,112 lb. in 1920 to 41,907 lb. in 1946.

2.—Rolling-Stock of Steam Railways, as at Dec. 31, 1940-46

Type	1940	1941	1942	1943	1944	1945	1946
Locomotives	No.	No.	No.	No.	No.	No.	No.
Passenger	1,189	1,124	1,197	1,213	893	933	945
Freight	2,374	2,339	2,351	2,376	2,640	2,606	2,599
Switching	709	696	726	731	836	843	843
Electric	34	34	34	34	34	34	34
Compression ignition oil electric	2	6	7	10	13	15	29
Totals, Locomotives	**4,308**	**4,199**	**4,315**	**4,364**	**4,416**	**4,431**	**4,450**
Passenger Cars							
First class	1,860	1,886	1,973	2,007	1,984	1,965	1,947
Second class	242	246	259	273	268	263	230
Combination	370	361	364	366	364	356	354
Immigrant	358	371	385	395	380	379	378
Dining	194	182	192	192	196	196	197
Parlour	235	222	205	156	142	142	160
Sleeping[1]	915	901	880	783	789	787	770
Baggage, express and postal	1,576	1,553	1,576	1,656	1,658	1,645	1,634
Motor-cars	83	77	75	73	71	68	64
Other	434[2]	436[2]	433[2]	418[2]	411[2]	410[2]	407
Totals, Passenger Cars[1]	**6,267**	**6,235**	**6,342**	**6,319**	**6,263**	**6,211**	**6,141**
Freight Cars							
Box	116,629	112,134	110,916	112,815	117,068	117,886	116,809
Flat	12,049	11,897	11,998	10,870	10,953	10,892	10,868
Stock	5,866	5,753	6,029	6,510	6,471	6,437	6,382
Coal	17,453	17,505	18,106	19,900	21,104	21,340	20,938
Tank	389	366	362	348	348	343	358
Refrigerator	6,534	6,191	6,372	6,424	6,587	6,372	6,467
Other	1,777[3]	1,394[3]	1,528	1,523	1,536	1,499	1,523
Totals, Freight Cars	**160,697**	**155,240**	**155,311**	**158,390**	**164,067**	**164,769**	**163,345**

[1] Includes Pullman Company cars in Canadian service. [2] Includes 3 auto-railers. [3] Includes 1 auto-railer.

Subsection 2.—Finances of Steam Railways

The tables in this Subsection deal with capital liability, capital investment, earnings, operating expenses, employees and their earnings, and Government aid to steam railways. However, the presentation of the financial statistics of railways in Canada would not be complete without some detailed consideration of the finances of the Government-owned railways. This is given in the latter part of the Subsection. Further statistics of revenue are included in Table 9, where they are shown in relation to traffic. Statistics of individual railways, covering single-track mileage, capital, earnings and operating expenses, may be found in the annual report "Statistics of Steam Railways of Canada", published by the Dominion Bureau of Statistics, Ottawa.

Capital Liability.—The great increase after 1922 in the capital liability of the steam railways of Canada is due to the inclusion of all Government loans to railways and investment in road and equipment of Government railways as part of the capital liability of the railways. The reduction after 1937, brought about by the Canadian National Capital Revision Act (c. 22, 1937), is explained at p. 644 of the 1939 Year Book.

3.—Capital Liability[1] of Steam Railways, 1927-46

NOTE.—Figures for the years 1876 to 1925, inclusive, are given at p. 649 of the 1927-28 Year Book.

Year	Stocks	Funded Debt	Total	Year	Stocks	Funded Debt	Total
	$	$	$		$	$	$
1927...	1,330,215,248	2,252,256,367	3,582,471,615	1937...	1,839,619,361	1,534,450,789	3,374,070,150
1928...	1,357,017,703	2,306,554,996	3,663,572,699	1938...	1,836,882,650	1,568,269,672	3,405,152,322
1929...	1,405,622,070	2,497,054,907	3,902,676,977	1939...	1,834,329,209	1,533,373,521	3,367,702,730
1930...	1,431,324,003	2,595,145,308	4,026,469,311	1940...	1,762,473,489	1,617,561,683	3,380,035,172
1931...	1,438,050,759	2,793,971,329	4,232,022,088	1941...	1,697,545,699	1,699,942,865	3,397,488,564
1932...	1,437,489,430	2,934,182,332	4,371,671,762	1942...	1,578,254,765	1,793,579,270	3,371,834,035
1933...	1,438,834,552	2,951,690,468	4,390,525,020	1943...	1,614,936,131	1,741,664,036	3,356,600,167
1934...	1,437,334,152	2,966,505,594	4,403,839,746	1944...	1,636,064,822	1,707,801,676	3,343,866,498
1935...	1,433,849,530	3,026,414,779	4,460,264,309	1945...	1,631,973,055	1,701,786,899	3,333,759,954
1936...	1,425,193,791	3,062,411,720	4,487,605,511	1946...	1,624,753,709	1,665,844,138	3,290,597,847

[1] Does not include Canadian railway capital owned by Canadian railways.

Capital Investment.—The reduction in capital liability during 1946 as shown in Table 3 compared with an increase in investments in road and equipment in Table 4 reflects the improved net income earned during the war years. The two major railways showed a net reduction of over $41,000,000 and the Canadian National purchased the Manitoba Railway, thus retiring stocks and bonds carried by it at $7,000,000. The investment account in recent years has also been affected by write-offs for lines abandoned, transfers of property to other Government Departments, etc.

4.—Capital Invested in Road and Equipment of Steam Railways, 1941-46

Investment	1941	1942	1943	1944	1945	1946
	$	$	$	$	$	$
New Lines—						
Road.....	Cr. 422,363	74,972	71,838	Cr. 4,452	2,793,751	3,376,385
Equipment....	-	-	7,935	Cr. 35,570	85,985	136,196
General.....	3,776	-	1,688	252	-	-
Totals.....	Cr. 418,587	74,972	81,461	Cr. 39,770	2,879,736	3,512,581
Additions and Betterments—						
Road.....	8,786,600	46,537,589[1]	Cr. 8,895,492	11,147,929	3,224,843	20,639,010
Equipment....	9,566,002	19,603,725	28,214,476	44,239,856	20,581,957	14,582,489
General.....	Cr. 17,112	Cr. 89	418,705	2,081	Cr. 24,644	123,029
Undistributed.	Cr. 265,260	Cr. 11,917	-	-	450	Cr. 2,072
Totals.....	18,070,230	66,129,308	19,737,689	55,389,866	23,782,606	35,342,456
Undistributed[2]..	Cr. 10,004,302	Cr. 5,878,078	Cr. 4,776,307	1,332,965	Cr. 3,194,164	Cr. 5,883,298
Totals, Investments as at Dec. 31.....	**3,167,220,888**	**3,227,547,090**	**3,242,589,933**	**3,299,272,994**	**3,322,741,172**	**3,355,712,911**

[1] Includes $74,728,521 transferred to depreciation reserve and a credit of $34,534,220 transferred to premium on capital and debenture stocks. [2] Details of this item are given in the annual report "Statistics of Steam Railways of Canada" issued by Transportation and Public Utilities Division of the Bureau of Statistics.

Earnings and Expenses.—The operating ratio, or ratio of expenses to revenues, of Canadian railways increased from around 70 p.c. to over 90 p.c. between 1917-20, and remained high thereafter. The United States Government took over the operation of the United States railways and increased the rates of pay of the railway employees when that country entered the First World War. The Canadian railways were also obliged to make corresponding increases and these have been the chief factor in increased operating ratio. Declining revenues without corresponding reductions in expenses during the depression period also maintained the high ratio. The period from 1938 to 1943 showed a sharp decline in this ratio, due primarily to the greatly increased freight traffic occasioned by the Second World War and a subsequent acceleration in gross earnings. A steadily rising trend has been in evidence since 1943.

5.—Earnings and Operating Expenses of Steam Railways, 1936-46

NOTE.—Gross earnings and operating expenses for the years 1875 to 1914 are given at p. 434 of the 1916-17 Year Book. The analyses per mile of line and per train mile go back to 1908 only and are given for 1908 to 1916 at p. 435 of the 1916-17 Year Book. Corresponding figures for the years 1915 to 1925 are given at p. 550 of the 1941 Year Book and for 1926 to 1935 at p. 585 of the 1942 Year Book.

Year	Gross Earnings	Operating Expenses	Ratio of Expenses to Receipts	Per Mile of Line			Freight Train Revenue per Freight Train Mile	Passenger Train Revenue per Passenger Train Mile
				Gross Earnings	Operating Expenses	Net Earnings		
	$	$	p.c.	$	$	$	$	$
1936.....	334,768,557	283,345,968	84·64	7,839	6,634	1,205	5·10	1·79
1937.....	355,103,271	300,652,548	84·67	8,316	7,041	1,275	5·17	1·74
1938.....	336,833,400	295,705,638	87·79	7,888	6,925	963	5·18	1·67
1939.....	367,179,095	304,373,285	82·89	8,604	7,132	1,472	5·48	1·67
1940.....	429,142,659	335,287,503	78·13	10,074	7,870	2,204	5·63	1·97
1941.....	538,291,947	403,733,542	75·00	12,673	9,504	3,169	5·78	2·25
1942.....	663,610,570	485,783,584	73·20	15,659	11,463	4,196	6·53	2·93
1943.....	778,914,565	560,597,204	71·98	18,398	13,241	5,157	6·98	3·68
1944.....	796,636,786	634,774,021	79·68	18,861	15,029	3,832	6·91	3·82
1945.....	774,971,360	631,497,562	81·49	18,331	14,937	3,394	6·92	3·70
1946.....	718,501,764	623,529,472	86·79	16,967	14,724	2,243	6·83	3·21

6.—Distribution of Operating Expenses of Steam Railways, 1943-46

Item	1943		1944		1945		1946	
	$	p.c.	$	p.c.	$	p.c.	$	p.c.
Way and structures.....	120,597,853	21·5	138,250,189	21·8	132,470,385	21·0	122,093,160	19·6
Equipment.....	130,009,452	23·2	146,692,062	23·1	144,500,231	22·9	135,933,150	21·8
Traffic.....	10,542,715	1·9	11,146,008	1·8	11,203,744	1·7	13,781,898	2·2
Transportation.....	261,689,121	46·7	295,852,998	46·6	297,754,037	47·2	304,519,437	48·8
General and miscellaneous.	37,758,063	6·7	42,832,764	6·7	45,569,165	7·2	47,201,827	7·6
Totals.....	**560,597,204**	**100·0**	**634,774,021**	**100·0**	**631,497,562**	**100·0**	**623,529,472**	**100·0**

Railway Salaries and Wages.—The number of employees registered an increase in 1946 over 1938 of 41·2 p.c. while salaries and wages increased by 103·4 p.c. The latter rise was due to an increase in time worked per employee as well as to increased rates of pay. Maintenance of equipment employees, on hourly rates, worked 11·5 p.c. more hours and were paid 52·7 p.c. more wages per employee and transportation employees worked an average of 9·3 p.c. more hours for an increase in pay of 46 p.c.

7.—Steam Railway Employment and Salaries and Wages, 1936-46

NOTE.—Corresponding figures for the years 1912-35 are given at p. 551 of the 1941 Year Book.

Year	Employees[1]	Total Salaries and Wages	Average Salaries and Wages	Ratio of Operating Salaries and Wages to—	
				Gross Earnings	Operating Expenses
	No.	$	$	p.c.	p.c.
1936	132,781	182,638,365	1,375	49·9	59·0
1937	133,753	193,557,663	1,447	49·8	58·8
1938	127,747	195,108,351	1,531	52·8	60·2
1939	129,362	200,373,668	1,549	50·3	60·7
1940	135,700	214,505,163	1,581	45·0	57·5
1941	148,746	252,398,865	1,697	42·0	56·0
1942	157,740	291,416,755	1,847	39·6	54·1
1943	169,663	323,801,645	1,908	37·8	52·5
1944	175,095	372,064,613[2]	2,125	42·9	53·8
1945	180,603	371,814,379	2,059	43·8	55·2
1946	180,383	396,856,901	2,200	50·2	57·8

[1] Includes employees and wages for "outside operations" amounting to from 3 p.c. to 6 p.c. of total employees and 2 p.c. to 5 p.c. of total salaries and wages. [2] Includes approximately $10,000,000 wages earned in 1943.

Government Aid to Railways.—In order that the private railways of Canada might be constructed in advance of settlement, as colonization roads, or through thinly settled districts where little traffic was available, it was necessary for Federal and Provincial Governments and even for municipalities to extend some form of assistance. The form of aid was generally a bonus of a fixed amount per mile of railway constructed and, in the early days, grants of land other than for right-of-way were also made.

As the country developed, the objections to the land-grant method became more apparent, and aid was more frequently given in the form of a cash subsidy per mile of line, a loan or a subscription to the shares of the railway. Guarantees of debenture issues were given in a later period and, since the formation of the Canadian National Railways, all debenture issues of that system, except those for rolling-stock, have been guaranteed by the Federal Government. No new land grants or cash subsidies have been advanced by either the Federal or Provincial Governments since 1939 and the situation, as it existed at Dec. 31, 1940, is set out at pp. 587-588 of the 1942 Year Book.

During the era of railway expansion before the First World War, Provincial Governments guaranteed the bonds of some railway lines that afterwards were incorporated in the Canadian National Railways. As these bonds mature or are called they are paid off by the Canadian National Railways in large measure through funds raised by the issue of new bonds with Federal Government guarantee. In this manner, bonds guaranteed by the Governments of Ontario, Manitoba, Saskatchewan, Alberta and New Brunswick have been eliminated in recent years.

8.—Railway Bonds Guaranteed by Federal and Provincial Governments, as at Dec. 31, 1946

Government	Canadian National	Other Railways	Total
	$	$	$
Provincial Governments—			
New Brunswick	Nil	465,000	465,000
British Columbia	1,952,108	Nil	1,952,108
Totals, Provincial Governments	1,952,108	465,000	2,417,108
Federal Government	478,505,889	Nil	478,505,889
Grand Totals	**480,457,997**	**465,000**	**480,922,997**[1]

[1] Does not include $8,314,321 perpetual debenture stock and guaranteed stock of the former Grand Trunk Railway, now part of the Canadian National System, on which interest and dividends are guaranteed by the Federal Government.

Subsection 3.—Steam Railway Traffic

Passenger and Freight Traffic.—Table 9 shows the passenger and freight statistics for all steam railways for the years 1936-46. A separate analysis is given in Subsection 4 of the operations and traffic of the Canadian National Railways, since, being controlled by the Federal Government, the information is considered of special interest.

9.—Statistics of Passenger and Freight Services and Revenue Receipts, 1936-46

NOTE.—Corresponding figures for 1910-15 are given at pp. 628-629 of the 1922-23 Year Book, for 1916-30 at pp. 652-653 of the 1937 edition and for 1931-35 at pp. 592-593 of the 1942 edition.

Year	PASSENGERS				
	Revenue Passenger-Train Miles[1]	Passenger-Train Car Miles[1]	Passengers Carried[2]	Passengers Carried One Mile	Passengers Carried One Mile per Mile of Line
	No.	No.	No.	No.	No.
1936	33,221,771	274,668,982	20,497,616	1,726,058,974	40,415
1937	36,598,153	290,836,907	22,038,709	1,929,442,930	45,184
1938	36,274,204	285,004,367	20,911,196	1,783,177,557	41,760
1939	36,526,808	284,259,591	20,482,296	1,751,973,333	41,053
1940	37,293,721	296,077,068	21,969,871	2,176,467,876	51,090
1941	39,947,184	337,144,753	29,779,241	3,205,541,530	75,467
1942	43,271,994	395,118,691	47,596,602	4,989,295,894	117,728
1943	45,745,039	433,828,200	57,175,840	6,525,064,000	154,122
1944	46,575,706	450,042,986	60,335,950	6,873,188,000	162,729
1945	47,067,607	447,822,527	53,407,845	6,380,155,000	150,917
1946	45,700,856	415,890,589	43,405,177	4,648,558,000	109,773
	Average Receipts per Passenger Mile	Average Receipts per Passenger	Average Passenger Journey	Average Passengers per Train	Passenger-Train Revenue per Passenger-Train Mile
	cts.	$	miles	No.	$
1936	2·08	1·75	84	52[3]	1·79
1937	2·02	1·76	88	53	1·74
1938	2·07	1·77	85	49	1·67
1939	2·06	1·76	86	48	1·67
1940	1·96	1·94	99	58	1·97
1941	1·86	2·01	108	80	2·25
1942	1·83	1·92	105	115	2·93
1943	1·90	2·16	114	143	3·68
1944	1·92	2·18	114	148	3·82
1945	1·96	2·34	120	136	3·70
1946	2·15	2·30	107	102	3·21

For footnotes, see end of table, p. 690.

9.—Statistics of Passenger and Freight Services and Revenue Receipts, 1936-46—concl.

Year	FREIGHT				
	Revenue Freight-Train Miles	Revenue Freight-Train Car Miles[3]	Freight Carried[4]	Freight Carried One Mile	Freight Carried One Mile per Mile of Line
	No.	No.	tons	tons	tons
1936	50,219,782	1,795,275,640	75,846,566	26,414,113,720	618,482
1937	52,349,342	1,881,712,546	82,220,374	26,926,054,021	630,557
1938	49,432,589	1,769,787,848	76,175,305	26,834,696,695	628,433
1939	52,231,620	1,944,530,366	84,631,122	31,464,991,270	737,299
1940	59,438,226	2,272,551,025	97,947,541	37,898,196,157	889,608
1941	72,847,697	2,848,006,314	116,808,091	49,982,478,000	1,176,723
1942	77,080,637	2,968,594,473	134,674,537	56,153,953,000	1,325,011
1943	81,443,279	3,132,419,669	153,314,264	63,915,074,000	1,509,674
1944	83,564,629	3,297,475,933	155,326,332	65,928,078,000	1,560,908
1945	80,712,589	3,189,311,345	147,348,566	63,349,095,000	1,498,465
1946	77,794,963	2,973,411,653	139,256,125	55,310,308,000	1,306,121

Year	Freight Receipts per Ton per Mile	Receipts per Ton Hauled	Average Length of Freight Haul	Average Train Load, Revenue Tons	Average Load per Loaded Car Mile	Revenue per Freight-Train Mile
	cts.	$	miles	tons	tons	$
1936	0·969	3·38	348	526	24·73	5·10
1937	1·005	3·29	327	514	23·90	5·17
1938	0·954	3·36	352	543	25·59	5·18
1939	0·909	3·38	372	602	27·28	5·48
1940	0·882	3·41	387	638	28·39	5·63
1941	0·843	3·61	428	686	29·71	5·78
1942	0·896	3·74	417	729	30·71	6·53
1943	0·890	3·71	417	785	32·75	6·98
1944	0·876	3·72	424	789	32·70	6·91
1945	0·882	3·79	430	785	32·57	6·92
1946	0·961	3·82	397	711	29·95	6·83

[1] Includes express, baggage, mail, etc., cars. [2] Duplications included. [3] Includes caboose miles and excludes miles made in passenger and non-revenue trains. [4] Duplications eliminated; see Table **10** for details of freight carried.

Commodities Hauled.—Revenue freight hauled by the railways declined to 139,256,125 tons in 1946 from 147,348,566 tons in 1945, or by 5·5 p.c. The peak was reached in 1944 when 155,326;332 tons were transported. The average haul was 430 miles in 1945 but dropped to 397 miles in 1946 with a consequent larger decline in ton-miles. The principal decreases in 1946 traffic from 1945 occurred in wheat (a decrease of 6,707,674 tons to 12,195,199 tons) and in other grains, animal products, lignite coal and coke, ores and concentrates, automobiles and other manufactures. (See Table **10.**) Gasoline and petroleum products declined from 8,056,963 tons in 1945 to 4,608,415 tons in 1946; during the war years there was a very heavy intransit movement on Canadian lines between United States stations but as normal petroleum distribution facilities such as tankers and pipe lines were restored or improved, this movement was greatly reduced.

10.—Commodities Hauled as Freight on Steam Railways, 1942-46

NOTE.—In this table duplications are eliminated, i.e., the same freight handled by two or more railways is counted only once. The statistics do not include the United States lines of the Canadian National System, but the link of the Canadian Pacific Railway line across Maine, U.S.A., is included, as are the Canadian sections of United States railways.

Group and Product	1942	1943	1944	1945	1946
	tons	tons	tons	tons	tons
Agricultural Products					
Wheat	11,564,297	13,371,658	19,166,310	18,902,873	12,195,199
Oats	1,338,866	3,034,224	3,274,128	3,665,012	3,352,329
Other grain	2,809,175	4,721,579	4,263,697	4,294,454	3,630,519
Flour	2,046,132	2,352,518	2,438,640	2,621,881	2,672,368
Other mill products	2,590,758	3,360,673	3,416,639	3,538,199	3,853,012
Other agricultural products	3,788,123	4,136,586	4,716,705	4,803,909	5,168,436
Totals, Agricultural Products	**24,137,351**	**30,977,238**	**37,276,119**	**37,826,328**	**30,871,863**
Animal Products					
Live stock	960,217	1,153,591	1,383,003	1,341,491	1,229,185
Meats and other edible packing-house products	1,148,516	1,219,789	1,422,365	1,233,710	1,053,581
Other animal products	1,073,037	1,104,359	1,156,657	1,152,580	974,079
Totals, Animal Products	**3,181,770**	**3,477,739**	**3,962,025**	**3,727,781**	**3,256,845**
Mine Products					
Coal, anthracite	4,676,540	4,720,325	4,499,947	3,506,113	4,853,090
Coal, bituminous	15,259,888	15,871,518	14,870,676	13,599,473	14,976,072
Coal, sub-bituminous	[1]	[1]	[1]	1,824,055	2,660,006
Coal, lignite	3,448,824	4,092,255	3,450,644	1,976,310	1,198,309
Coke	2,010,738	2,475,789	2,338,440	2,711,620	2,226,318
Ores and concentrates	9,832,283	10,587,950	9,472,768	8,161,513	7,261,799
Base bullion, matte, pig and ingot (non-ferrous metals)	1,775,987	1,704,282	1,474,859	1,509,002	1,167,234
Sand and gravel	2,107,223	1,782,136	1,704,796	1,919,592	2,708,467
Stone (crushed, ground, broken)	1,978,967	2,116,817	2,179,283	2,218,017	2,261,027
Other mine products	7,963,445	10,961,889	7,238,915	6,064,692	6,419,427
Totals, Mine Products	**49,053,895**	**54,312,961**	**47,230,328**	**43,490,387**	**45,731,749**
Forest Products					
Logs, posts, poles, piling	1,337,824	1,225,255	1,279,317	1,235,585	1,627,938
Cordwood and other firewood	1,007,915	1,223,932	1,437,240	1,115,396	1,095,077
Pulpwood	3,746,150	4,100,022	4,631,222	5,428,452	6,727,929
Lumber, timber, box, crate and cooperage material	6,910,943	6,296,116	6,438,991	6,366,457	6,771,672
Other forest products	695,092	593,459	769,390	624,879	626,925
Totals, Forest Products	**13,697,924**	**13,438,784**	**14,556,160**	**14,770,769**	**16,849,541**
Manufactures and Miscellaneous					
Gasoline and petroleum products	7,476,092	11,251,125	12,344,731	8,056,963	4,608,415
Iron and steel (bar, sheet, structural pipe)	3,987,716	3,686,936	2,917,205	2,780,032	2,213,340
Automobiles, trucks and parts	2,367,171	3,122,876	2,745,277	2,043,343	1,670,817
Newsprint paper	2,786,815	2,869,793	2,854,971	2,890,982	3,483,627
Wood-pulp	1,871,289	1,941,248	1,749,315	1,827,339	1,829,305
Other manufactures and miscellaneous	23,047,926	24,823,147	26,110,938	26,272,861	24,643,078
Merchandise (all L.C.L. freight)	3,066,588	3,412,417	3,579,263	3,661,781	4,097,545
Totals, Manufactures and Misc.	**44,603,597**	**51,107,542**	**52,301,700**	**47,533,301**	**42,546,127**
Grand Totals	**134,674,537**	**153,314,264**	**155,326,332**	**147,348,566**	**139,256,125**

[1] Included with lignite prior to 1945.

Railway Accidents.—All injuries to passengers are included in Tables **11** and **12** but only injuries that keep the employee from his work for at least three days during the ten days following the accident are recorded for employees. "Others" in Table **11** include trespassers walking along tracks, stealing rides, etc., also persons crossing tracks at level crossings.

11.—Passengers, Employees and Others Killed or Injured on Steam Railways, 1936-46

NOTE.—For the years ended June 30, 1888 to 1900, see Canada Year Book, 1910, p. 378; for the years 1901 to 1919, the 1922-23 edition, p. 635; for 1920 to 1935, the 1938 edition, p. 662.

Year	Passengers		Employees		Others		Totals	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.	No.	No.
1936	6	691	93	6,338	282	703	381	7,732
1937	5	426	77	5,774	265	729	347	6,929
1938	4	351	54	4,961	237	568	295	5,880
1939	1	362	58	5,170	240	583	299	6,115
1940	6	378	59	6,231	235	606	300	7,215
1941	10	652	106	7,999	287	895	403	9,546
1942	44	779	120	10,008	279	743	443	11,530
1943	9	546	130	12,667	202	706	341	13,919
1944	8	562	103	13,187	242	630	353	14,379
1945	10	499	98	13,147	246	705	354	14,351
1946	3	526	105	11,406	219	706	327	12,638

These accidents include all accidents in which railway trains were involved and accidents on railway property. The classification of accidents used in the Bureau of Statistics vital statistics treats collisions between motor-vehicles and trains as motor-vehicle accidents; provincial statistics also class them as motor-vehicle accidents and, consequently, adjustments should be made when compiling total accidental deaths of all kinds or comparing results of accidents of different kinds, such as train and motor-vehicle.

12.—Persons Killed or Injured on Steam Railways, 1944-46

Class of Person and Description of Accident	In Accidents Resulting from Movement of Trains, Locomotives or Cars					
	1944		1945		1946	
	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.
Class of Person—						
Passengers	8	416	10	360	2	349
Employees	81	2,637	71	2,665	90	2,844
Trespassers	89	85	102	102	89	94
Non-trespassers	140	398	129	471	123	469
Postal clerks, expressmen, etc.	2	12	Nil	12	Nil	24
Totals	**320**	**3,548**	**312**	**3,610**	**304**	**3,780**
Description of Accidents (Employees and Passengers only)—						
Coupling and uncoupling	5	160	7	172	6	120
Collisions	11	173	13	189	32	229
Derailments	12	62	6	163	5	56
Locomotives or cars breaking down	3	17	Nil	1	Nil	3
Falling from trains or cars	14	220	11	158	3	123
Getting on or off trains	9	678	4	660	1	632
Struck by trains, etc.	15	58	30	69	26	53
Overhead and other obstruction	2	30	1	38	1	30
Other causes	18	1,655	9	1,575	18	1,947
Totals	**89**	**3,053**	**81**	**3,025**	**92**	**3,193**
	In Accidents Other Than Those Resulting from Movement of Trains, Locomotives or Cars					
Class of Person—						
Stationmen	1	1,395	1	1,499	3	1,300
Shopmen	3	4,134	5	3,750	3	3,115
Trackmen	10	3,150	15	3,363	7	2,828
Other employees	8	1,871	6	1,870	2	1,319
Passengers	Nil	146	Nil	139	1	177
Others	11	135	15	120	7	119
Totals	**33**	**10,831**	**42**	**10,741**	**23**	**8,858**

Subsection 4.—The Canadian National Railways System

A description of the origin and growth of Government-owned railways in Canada is given at pp. 601-603 of the 1926 Year Book. That article describes their consolidation under the Canadian National Railways in 1923. The Hudson Bay Railway is a direct liability of the Federal Government and has been operated by the Canadian National for the Government since Apr. 1, 1935, but is not included in the data for Canadian National Railways; to Mar. 31, 1947, the total cost of this railway was $33,633,108, exclusive of the expenditure of $6,274,113 on the terminal at Port Nelson, Man., and a loss of $4,117,063 on operation. The operating deficit for the fiscal year 1946-47 was $466,896.

The major portion of Federal Government investments in railways consists of construction costs of the Intercolonial System, the National Transcontinental Railway and the Hudson Bay Railway, and the purchase price of small railways in the Eastern Provinces. The terminals at Churchill, Man., consisting of a grain elevator, a warehouse and docks have been transferred to the National Harbours Board and the investment removed from the railway account. Loans and advances to the Canadian National Railways for payment of operating deficits were charged to the Consolidated Revenue Account of Canada and also cleared from the railway account and other adjustments were made under the Canadian National Railways Capital Revision Act, 1937.

In view of the interest in the publicly owned railway system, certain salient statistics are presented showing the assets, debt, operating accounts, mileage and traffic for the system. More detail is available from the special Bureau of Statistics' report "Canadian National Railways, 1923-1946".

13.—Assets of the Canadian National Railways System, as at Dec. 31, 1922 and 1946

Account	Dec. 31, 1922	Dec. 31, 1946	Increase (+) or Decrease (−)
	$	$	$
Investments—			
Road and equipment	1,765,323,644	1,987,950,290	+222,626,646
Improvements on leased railway property	1,492,123	2,092,070	+599,947
Sinking funds	4,629,855	Nil	−4,629,855
Deposits in lieu of mortgaged property sold	6,171,808	4,164,433	−2,007,375
Miscellaneous physical property	34,767,914	62,598,083	+27,830,169
Affiliated companies	24,253,323	43,463,494	+19,210,171
Other investments	5,789,464	996,563	−4,792,901
Deferred maintenance funds	Nil	33,000,000	+33,000,000
Totals, Investments	**1,842,428,131**	**2,134,264,933**	**+291,836,802**
Current Assets—			
Cash	14,651,422	21,303,864[1]	+6,652,442
Special deposits	6,139,435	7,552,146	+1,412,711
Loans and bills receivable	11,600	Nil	−11,600
Traffic and car service balances receivable	2,528,622	"	−2,528,622
Net balances receivable from agents and conductors	5,386,673	15,004,291	+9,617,618
Miscellaneous accounts receivable	16,857,420	17,590,237[2]	+732,817
Materials and supplies	41,408,999	53,887,478	+12,478,479
Interest and dividends receivable	377,003	656,997	+279,994
Rents receivable	112,269	Nil	−112,269
Other current assets	106,775	3,280,883	+3,174,108
Totals, Current Assets	**87,580,218**	**119,275,896**	**+31,695,678[3]**

For footnotes, see end of table, p. 694.

13.—Assets of the Canadian National Railways System, as at Dec. 31, 1922 and 1946 —concluded

Account	Dec. 31, 1922	Dec. 31, 1946	Increase (+) or Decrease (−)
	$	$	$
Deferred Assets—			
Working fund advances	166,847	359,681	+192,834
Insurance and other funds	352,488	12,334,769	+11,982,281
Pension contract fund	Nil	35,943,000	+35,943,000
Other deferred assets	11,805,962	2,771,910	−9,034,052
Totals, Deferred Assets	**12,325,297**	**51,409,360**	**+39,084,063**
Unadjusted Debits—			
Rents and insurance premiums paid in advance	322,059	77,118	−244,941
Discount on capital stock	634,960	Nil	−634,960
Discount on funded debt	1,919,635	5,164,917	+3,245,282
Other unadjusted debits	12,820,903	2,209,785	−10,611,118
Totals, Unadjusted Debits	**15,697,557**	**7,451,820**	**−8,245,737**
Grand Totals	**1,958,031,203**	**2,312,402,009**	**+354,370,806**

[1] Includes demand loans and deposits. [2] Includes 1946 deficit of $8,961,570 receivable from Federal Government. [3] Increase in current liabilities $25,563,677.

Capital Structure and Debt.—The share capital on Dec. 31, 1922, consisted of $165,627,739 stock of the Grand Trunk Railway held by the Federal Government and $100,000,600 of the Canadian Northern Railway stock also held by the Federal Government. There was also outstanding $4,591,975 stock of constituent lines held by the public. Table 14 shows the capital liabilities of the Canadian National Railways other than shareholders' capital. The amounts shown under "Active Assets" represent, largely, temporary loans and explain the large increases during the war years.

14.—Debt of the Canadian National Railways, as at Dec. 31, 1937-46

NOTE.—Figures for the years 1922-36 are given at p. 591 of the 1942 Year Book.

Year	Funded Debt Held by Public			Government Loans and Advances—	Appropriations for Canadian Government Railways[1]	Grand Total[2]
	Guaranteed by—		Unguaranteed	Active Assets in Public Accounts		
	Federal Government	Provincial Governments				
	$	$	$	$	$	$
1937	970,697,190	73,777,953	177,522,256	62,480,567	16,771,981	1,981,363,775
1938	1,004,865,758	67,052,468	178,078,197	48,144,805	16,771,981	1,992,185,600
1939	1,053,915,895	38,131,740	171,353,676	45,382,081	16,771,981	2,000,210,121
1940	1,000,881,473	38,131,740	160,803,121	113,882,334	16,771,981	2,004,496,438
1941	940,171,069	38,131,740	156,091,494	195,345,884	16,771,981	2,014,253,131
1942	741,896,436	4,718,822	62,600,816	502,856,461	16,771,981	2,028,137,130
1943	685,290,925	2,786,056	56,155,492	537,323,765	16,771,981	2,035,393,793
1944	576,585,327	2,702,155	50,166,424	645,103,872	16,771,981	2,050,695,085
1945	525,688,314	2,586,932	44,904,751	674,201,613	16,771,981	2,046,123,159
1946	486,820,210	1,952,108	41,650,680	701,765,305	16,771,981	2,029,614,299

[1] Working capital, the remainder of the account being eliminated (see p. 591 of the 1942 Year Book). [2] Includes Federal Government Proprietors Equity and capital stock held by the public; for detail see "Canadian National Railways", Dominion Bureau of Statistics Report.

Operating Finances.—Gross revenues, operating expenses and net revenues include only those from steam railway and commercial telegraph operations, but the deficits are for the entire System, including the operating results of the Niagara, St. Catharines and Toronto Railway (electric) and other railways operated separately, hotels, commercial telegraphs, coastal steamships and all other outside operations.

Under the Canadian National Railways Capital Revision Act (c. 22, 1937), interest on Federal Government loans, amounting to $530,832,598, and Government claims for interest, amounting to $43,949,039, were cancelled as liabilities of the Railway and these have been eliminated from Table 15 as fixed charges. Loans of $270,037,438 for capital and $373,823,120 for deficits were cancelled.

15.—Gross Revenues, Operating Expenses, Net Revenues, Fixed Charges and Deficits of the Canadian National Railways,[1] 1936-46

NOTE.—Appropriations, etc., for the Hudson Bay Railway are not included with these data; although the Railway was returned to the Government while under construction, it is not now a part of the Canadian National Railways. For figures for the years 1911-25, see p. 660 of the 1936 Year Book and for 1926-35, see p. 590 of the 1942 edition.

Year	Gross Operating Revenues	Operating Expenses	Income Available for Fixed Charges	Total Fixed Charges	Net Income Deficit[2]	Cash Deficit
	$	$	$	$	$	$
1936	186,610,489	171,477,690	8,975,091	52,172,437	43,197,346	43,303,394[3]
1937	198,396,609	180,788,858	11,241,763	53,270,417	42,028,654	42,345,868[3]
1938	182,241,723	176,175,312	Dr. 1,019,255	53,451,742	54,470,997	54,314,196[3]
1939	203,820,186	182,965,768	15,248,900	53,488,164	38,239,264	40,095,520[3]
1940	247,527,225	202,519,813	37,920,718	53,305,288	15,384,570	16,965,044[3]
1941	304,376,778	237,768,437	58,601,315	53,162,354	Cr. 5,438,961	Cr. 4,016,327
1942	375,654,544	288,998,675	78,952,433	51,669,935	Cr. 27,282,498	Cr. 25,063,268
1943	440,615,954	324,475,669	87,859,084	52,189,536	Cr. 35,669,548	Cr. 35,639,412
1944	441,147,510	362,547,044	73,473,733	50,474,480	Cr. 22,999,253	Cr. 23,026,924
1945	433,773,394	355,294,048	73,521,185	49,009,507	Cr. 24,511,678	Cr. 24,756,130
1946	400,586,026	357,236,718	37,239,784	46,685,316	9,445,532	8,961,570[3]

[1] Includes the Central Vermont Railway, Inc. [2] Includes appropriations for insurance fund and excludes interest on Government loans eliminated by the Capital Revision Act, 1937. [3] Contributed by the Federal Government.

Table 16 has been compiled to reconcile the investments in and loans to the Canadian National Railways (including Canadian Government Railways) as shown in the Public Accounts for the fiscal year ended Mar. 31, 1947, with the debt to the Federal Government shown in the Railways' balance sheet at Dec. 31, 1946, which is covered by Federal Government proprietor's equity, and the columns "Active Assets in Public Accounts" and "Appropriations for Canadian Government Railways" in Table 14.

16.—Reconciliation Between the Public Accounts, Mar. 31, 1947, and the Balance Sheet of the Canadian National Railways, Dec. 31, 1946

Item	Public Accounts Mar. 31, 1947	Canadian National Balance Sheet Dec. 31, 1946
	$	$
Canadian Government Railways—		
Capital expenditures	377,615,604	377,614,971
Working capital	16,771,981	16,771,981
Canadian National Railways—		
Federal Government equity:		
Canadian National Railways capital stock	18,000,000	18,000,000
Canadian National Railways securities trust stock	380,403,604	380,403,604
Temporary loans	662,235,758	701,765,305
Miscellaneous investments—Grand Trunk Railway stock purchased prior to Confederation—not in Canadian National Railways balance sheet	121,740	-
Transactions between Dec. 31, 1946 and Mar. 31, 1947:		
Advanced by Federal Government	-	3,964,376
Repayments by Canadian National Railways	-	Cr. 43,493,923
Expenditure by Federal Government not in Canadian National Railways balance sheet—		
Grand Trunk Railways stock purchased prior to Confederation	-	121,740
Canadian Government Railways — Capital expenditure — Fairview Subway	-	633
Totals	**1,455,148,687**	**1,455,148,687**

Mileage and Traffic.—At Dec. 31, 1946, steam railway track mileage of the C.N.R. (including lines in the United States but exclusive of the Northern Alberta Railways and Toronto Terminals Railway, which are controlled jointly by the Canadian National and the Canadian Pacific Railways) was 23,467. Including the Thousand Islands Railway, 4·51 miles, and the Muskegon Railway and Navigation Co., 5·25 miles, controlled but operated separately, the total steam mileage was 23,477. The grand total, including 115·4 miles of electric lines, was 23,592 miles.

17.—Train Traffic Statistics[1] of the Canadian National Railways (Canadian and United States Lines) 1945 and 1946

Item		1945	1946
Train Mileage—			
Passenger trains	No.	24,600,264	23,581,125
Freight trains	"	43,381,957	41,817,432
Totals, Train Miles[2]	**No.**	**67,982,221**	**65,398,557**
Passenger-Train Car Mileage—			
Coaches and combination	No.	88,784,979	74,435,358
Motor unit cars	"	972,725	890,569
Parlour, sleeping and dining cars	"	73,033,000	63,763,270
Baggage, mail, express, etc	"	76,592,295	77,714,944
Totals, Passenger-Train Car Miles[2]	**No.**	**239,382,999**	**216,804,141**
Freight-Train Car Mileage—			
Loaded freight-car miles	No.	1,174,010,548	1,140,375,262
Empty freight-car miles	"	528,632,862	477,263,312
Caboose miles	"	44,159,917	42,461,248
Totals, Freight-Train Car Miles[2]	**No.**	**1,746,803,327**	**1,660,099,822**
Passenger Traffic—			
Passengers carried (earning revenue)	No.	30,370,680	22,320,490
Passengers carried (earning revenue) one mile	"	3,338,197,658	2,289,022,387
Passenger-train miles per mile of road	"	1,047	1,005
Average passenger journey	miles	109·9	102·6
Average amount received per passenger	$	2·14680	2·24584
Average amount received per passenger mile	$	0·01953	0·02190
Average passengers per train mile	No.	135·7	97·1
Average passengers per car mile	"	22·1	17·6
Total passenger-train earnings per train mile	$	3·83	3·33
Total passenger-train revenue per mile of road	$	4,007·02	3,352·99
Freight Traffic—			
Revenue freight carried	tons	79,941,296	78,950,008
Revenue freight carried one mile	"	34,599,518,473	30,811,920,078
Revenue freight carried one mile per mile of road	"	1,472,423	1,314,663
Total (all classes) freight carried one mile per mile of road	"	1,589,767	1,425,942
Average tons revenue freight per train mile	No.	798	737
Average tons (all classes) freight per loaded car mile	"	31·83	29·35
Average hauls revenue freight	miles	432·8	390·3
Freight revenue per train mile	$	7·30	7·18
Freight revenue per mile of road	$	13,470·44	12,813·57
Freight revenue per ton	$	3·96	3·80
Freight revenue per ton mile	$	0·01	0·0096

[1] Excludes electric lines. [2] Work service excluded.

Section 2.—Electric Railways*

Replacing the horse-car systems, used in Montreal and Toronto as early as 1861, electric street railways were first seen in operation in Canada in 1885, when a successful experimental railway was constructed and operated at the Toronto Exhibition Grounds. Before many years their safety and convenience resulted in the discarding of the older systems. The first electric railway line in Canada, and probably the first in North America, ran between Windsor and Walkerville and was established early in June, 1886 (it is recorded that it was in active operation before June 11).

The cheap and reasonably rapid conveyance of human beings is a necessity of modern urban life. In the cities of Eastern Canada, electric street railways are generally operated by private companies under city franchises, while in a considerable number of cities in Ontario and the West the electric railways are owned and operated by the municipalities.

Statistics presented, cover the urban and interurban operations of the electric railway systems.

Subsection 1.—Equipment of Electric Railways

The single overhead-trolley system is used by all electric railways but Edmonton, Montreal, Winnipeg and a few other municipalities have begun to use trackless trolley-buses (77 of these buses being in service in 1946). Of the 33 systems, 23 operated both electric cars and motor-buses in 1946, the buses numbering 1,491. The main advantage of the bus is that it is not confined to a fixed route and, in the case of both motor-buses and trolley-buses, the expense of track maintenance is eliminated.

A summary of the equipment operated by electric railway companies is given in Table 18.

18.—Equipment of Electric Railways, 1943-46

Item	1943	1944	1945	1946	Item	1943	1944	1945	1946
	No.	No.	No.	No.		No.	No.	No.	No.
PASSENGER VEHICLES—					OTHER VEHICLES—				
Closed cars	3,303	3,350	3,361	3,358	Baggage, express and mail cars	19	19	19	17
Open cars	8	4	4	4	Freight cars	163	165	165	154
Combination passenger and baggage	8	8	7	7	Locomotives	52	53	53	56
Cars without electrical equipment	139	138	131	133	Snow ploughs	70	77	75	71
Motor-buses	1,329	1,444	1,454	1,491	Sweepers	148	148	149	148
Trackless trolley-buses	41	42	67	77	Trucks	163	147	148	162
					Miscellaneous	202	194	206	207
TOTALS, PASSENGER VEHICLES	4,828	4,986	5,024	5,070	TOTALS, OTHER VEHICLES	817	803	815	815

Subsection 2.—Finances of Electric Railways

When electric railways have ceased to operate because of either a decline in traffic or the substitution of motor-buses, their statistics have been excluded from the following table. Consequently, fluctuations in revenues, etc., have been affected by variations in traffic and also by changes in the mode of local transportation. Despite these changing conditions, the gross revenues of electric railways

* For further details see "Electric Railways of Canada", 1946, published by the Dominion Bureau of Statistics.

have continued to increase since the low point reached in 1933, and very marked increases have been shown from 1940 to 1945. The ratio of expenses to receipts has risen from a low of 62·97 p.c. in 1942 to 86·33 in 1946.

19.—Financial Statistics of Electric Railways, 1936-46

NOTE.—Available figures for the years 1901-07 are given at pp. 608 and 609 of the 1926 Year Book; for the years 1908-18 at pp. 681 and 682 of the 1936 edition; and for 1919-35 at p. 665 of the 1938 edition.

Year	Capital Liability			Investment in Road and Equipment	Gross Earnings	Operating Expenses	Ratio of Expenses to Receipts	Employees	Salaries and Wages
	Stocks	Funded Debt	Total						
	$	$	$	$	$	$	p.c.	No.	$
1936.....	36,727,740	168,334,613	205,062,353	214,820,798	41,391,927	28,807,311	69·60	14,280	18,958,831
1937.....	36,727,740	169,045,069	205,772,809	208,938,656	42,991,444	29,545,641	68·72	14,347	19,778,118
1938.....	36,727,740	167,878,751	204,606,491	212,643,544	42,537,767	29,683,131	69·78	14,323	20,100,533
1939.....	39,668,660	164,912,746	204,581,406	198,481,728	42,864,150	29,605,328	69·07	14,061	19,716,985
1940.....	38,786,423	161,396,724	200,183,147	203,869,891	47,311,009	32,624,012	68·96	14,204	20,649,358
1941.....	37,665,091	155,867,823	193,532,914	201,279,871	55,334,647	37,030,823	66·92	14,801	23,193,704
1942.....	37,616,432	151,523,248	189,139,680	205,989,595	69,034,130	43,473,516	62·97	16,051	27,923,343
1943.....	37,492,392	147,433,845	184,926,237	204,586,208	80,027,414	54,548,335	68·16	17,896	33,975,281
1944.....	37,540,432	142,364,766	179,905,198	202,666,204	84,730,173	58,202,151	68·69	19,034	36,845,152
1945.....	37,329,194	142,384,083	179,713,277	205,026,475	88,939,451	64,533,940	72·56	20,091	39,364,771
1946.....	35,656,763[1]	132,042,089	167,698,852	203,537,797	87,515,721	75,550,821	86·33	21,700	45,675,363

[1] Mainly reduction, $1,602,500 stock Hamilton Street Railway.

Subsection 3.—Electric Railway Traffic

The passenger mileage travelled by electric cars in 1946 amounted to 130,365,430, by trackless trolley-buses 2,912,964 and by motor-buses 43,977,690. The number of passengers carried by electric railways in the years since 1939 showed an especially sharp rise over previous years due to increased traffic resulting from improved conditions, and the curtailment of passenger automobile traffic as a result of the War. The 1,344,916,773 passengers carried in 1946 was by far the greatest traffic ever handled by these systems, the increase over 1945 being 2·2 p.c. The total number of passengers was more than double pre-war volume.

20.—Statistics of Electric Railway Operations, 1936-46

NOTE.—Figures will be found at p. 676 of the 1933 Year Book for the years 1901-10; at p. 681 of the 1936 edition for the years 1911-18; and at p. 667 of the 1938 edition for 1919-35.

Year	Miles of Road		Electric Car and Bus Mileage			Fare Passengers Carried[1]	Freight Carried[1]
	Total	With Double Track	Passenger	Other	Total		
	miles	miles	miles	miles	miles	No.	tons
1936.....	1,247·09	552·77	119,779,505	2,465,384	122,244,889	614,890,897	2,265,023
1937.....	1,221·88	548·90	122,750,869	2,559,953	125,310,822	631,894,662	2,612,928
1938.....	1,154·50	538·66	123,201,830	2,221,392	125,423,222	629,778,738	2,151,309
1939.....	1,083·49	508·56	121,528,380	2,287,878	123,816,258	632,533,152	2,313,748
1940.....	1,040·04	495·64	125,886,523	2,367,910	128,254,433	691,737,901	2,599,007
1941.....	1,028·24	491·43	134,832,228	2,746,314	137,578,542	795,170,569	3,265,449
1942.....	1,017·24	488·01	152,518,129	2,852,757	155,370,886	996,208,535	3,711,468
1943.....	1,019·29	487·91	164,050,357	2,773,462	166,823,819	1,177,003,883	3,751,785
1944.....	1,019·69	490·17	169,421,343	2,756,755	172,178,098	1,249,707,399	3,769,959
1945.....	1,015·54	488·30	175,498,520	2,777,976	178,276,496	1,316,571,540	3,639,989
1946.....	1,004·44	485·06	177,256,084	2,822,300	180,078,384	1,344,916,773	3,506,805

[1] Including passengers and freight carried on buses and trackless trolley-buses operated by electric railways.

21.—Passengers, Employees and Others Killed or Injured on Electric Railways, 1936-46

NOTE.—Figures for years ended June 30, 1900-18 are given at p. 611 of the 1926 Year Book and for the calendar years 1919-35 at p. 667 of the 1938 edition.

Year	Passengers		Employees		Others		Totals	
	Killed	Injured	Killed	Injured	Killed	Injured	Killed	Injured
	No.	No.	No.	No.	No.	No.	No.	No.
1936	Nil	1,503	2	280	41	651	43	2,434
1937	"	1,566	2	364	43	679	45	2,609
1938	1	1,712	1	314	34	605	36	2,631
1939	1	2,039	3	353	33	764	37	3,156
1940	1	2,263	2	363	39	847	42	3,473
1941	1	2,508	5	423	60	1,002	66	3,933
1942	2	3,157	3	489	86	1,338	91	4,984
1943	Nil	4,301	2	722	78	1,491	80	6,514
1944	3	3,980	7	835	88	1,556	98	6,371
1945	2	4,092	3	944	104	1,592	109	6,628
1946	8	4,009	3	904	66	1,584	77	6,497

Section 3.—Express Companies

Express service is an expedited freight service on passenger trains, but express companies do not own the means of performing their services; they use railway facilities by virtue of contracts with the railway companies. Express companies in Canada have had close relations with the railways practically from the beginning.

Goods are sent by express for quick transit, so that express rates do not generally compete with freight rates. Thus, in its first tariff the Dominion Express Co., in pursuance of its contract with the Canadian Pacific Railway, gave a rate of 2½ times the maximum first-class railway freight rate for the same goods carried the same distance. The majority of the contracts between express and railway companies for carrying express freight are on the basis of a percentage of the gross express revenue. The rates paid by the shipper are subject to the approval of the Board of Transport Commissioners. Express companies are all organized under powers conferred by Acts of the Federal Parliament and their business consists in the expeditious shipment of valuable live stock, and such perishable commodities as fresh fish, fruit, etc., the forwarding of parcels, and the issue of money orders, travellers cheques, letters of credit and other forms of financial paper.

Express Company Operations.—Four express organizations operate in Canada—three Canadian and one American. The Canadian Pacific Express Co., formerly the Dominion Express Co., is a subsidiary of the Canadian Pacific Railway and handles the express business on the railways and the inland and ocean steamship lines of the parent company. The express business of the Canadian National system and Northern Alberta Railways is handled by departments of the respective railways. The Railway Express Agency, Inc., operates over the Canadian sections of United States railways and over the route from Skagway to points in the Yukon. No statistics are available regarding the volume of traffic carried by express. Much of the traffic, of course, consists of parcels and small lots which would make statistical classification and measurement very difficult. However, there is also an important movement in car lots of live stock, fresh fish, fruit, vegetables and other perishable commodities.

The amounts paid by express companies to the carriers, i.e., railways, steamship lines, etc., for transporting express matter, are shown in Table 22 under the heading "Express Privileges".

22.—Mileages Operated, Revenues and Expenses of Express Companies, 1936-47

NOTE.—Corresponding figures for the years ended June 30, 1911-18, are given at p. 673 of the 1927-28 Year Book, and for the years 1919-35 at p. 669 of the 1938 edition.

Year or Company	Mileages Operated[1]	Gross Earnings	Operating Expenses	Express Privileges	Net Operating Revenues
	No.	$	$	$	$
1936	63,147	17,169,315	9,414,746	7,478,874	275,695
1937	62,634	17,937,567	9,878,443	7,749,711	309,413
1938	65,024	17,674,477	10,325,329	7,417,127	−67,979
1939	65,390	19,410,091	10,622,936	8,313,218	473,937
1940	65,184	26,067,019	11,095,071	12,650,274	2,321,674
1941	53,359	22,933,227	12,202,191	10,113,218	617,818
1942	52,824	25,725,512	13,391,508	11,388,477	945,527
1943	52,670	32,875,971	15,824,160	15,323,905	1,727,906
1944	50,668	34,357,760	18,856,659	15,301,512	199,589
1945	50,938	37,171,862	20,040,339	16,711,647	419,876
1946					
Canadian National Express	24,007	19,752,551	11,514,479	8,711,045	−472,973
Canadian Pacific Express	21,670	18,116,771	10,441,279	7,486,776	188,716
Northern Alberta Railways	928	391,712	170,990	195,009	25,713
Railway Express Agency	4,760	999,519	543,868	448,399	7,252
Totals, 1946	**51,365**	**39,260,553**	**22,670,616**	**16,841,229**	**−251,292**
1947					
Canadian National Express	23,997	21,109,448	13,214,237	9,268,157	−1,372,946
Canadian Pacific Express	21,541	19,689,094	11,711,677	7,745,247	232,170
Northern Alberta Railways	928	432,583	197,207	213,991	21,385
Railway Express Agency	4,875	1,083,633	647,069	422,666	13,898
Totals, 1947	**51,341**	**42,314,758**	**25,770,190**	**17,650,061**	**−1,105,493**

[1] Over railways, boat lines and motor-carrier and aircraft routes.

23.—Business Transacted by Express Companies in Financial Paper, 1943-47

Description	1943	1944	1945	1946	1947
	$	$	$	$	$
Money orders, domestic and foreign	96,662,065	101,819,945	101,257,845	116,368,000	126,592,398
Travellers cheques, domestic and foreign	1,324,422	1,729,925	2,228,722	4,245,528	5,697,740
"C.O.D." cheques	8,916,597	11,113,936	13,282,676	19,033,971	22,745,649
Telegraphic transfers	1,571,063	1,229,742	1,300,822	676,799	367,058
Totals	**108,474,147**	**115,893,548**	**118,070,065**	**140,324,298**	**155,402,845**

24.—Employees, Salaries and Wages and Commissions of Express Companies, 1936-47

Year	Employees[1]	Salaries and Wages[2]	Commissions Paid	Year	Employees[1]	Salaries and Wages[2]	Commissions Paid
	No.	$	$		No.	$	$
1936	4,293	6,962,413	950,350	1942	5,296	9,417,112	1,253,428
1937	4,611	7,311,007	974,920	1943	5,936	10,837,037	1,569,453
1938	4,678	7,222,887	954,354	1944	6,705	13,263,739	1,729,195
1939	4,737	7,412,300	967,227	1945	7,160	13,945,167	1,846,884
1940	4,843	7,672,761	1,001,470	1946	7,430	16,060,439	1,975,856
1941	5,084	8,451,872	1,139,474	1947	8,017	18,308,793	1,995,947

[1] Full-time. [2] Includes wages to part-time employees.

PART III.—ROAD TRANSPORTATION*

Since the recent development of highways in Canada has been almost exclusively for the purpose of providing roadbed for motor-vehicle traffic, highways and motor-vehicles are treated as related features of transportation. After an introductory section, which summarizes briefly provincial regulations regarding motor-vehicles and motor traffic, the whole subject of road transportation is dealt with under the headings of facilities, finances and traffic, similar to the treatment extended to other forms of transportation.

Section 1.—Provincial Motor-Vehicle and Traffic Regulations†

NOTE.—In this Section, it is obviously impossible to include the great mass of detailed regulations in force in each province. The purpose in view is to provide only the more important general information. The sources of information for detailed regulations for specific provinces are given at pp. 701-705.

General.—The licensing of motor-vehicles and the regulation of motor-vehicle traffic lies within the legislative jurisdiction of the Provincial Governments. Regulations that are common to all the provinces are summarized here:—

Operator's Licences.—The operator of a motor-vehicle must be over a specified age (usually 16 years) and must carry a licence, obtainable only after prescribed qualification tests and renewable annually. Special licences are required for chauffeurs and, in some cases, for those granted licences who have not reached the specified age.

Motor-Vehicle Regulations.—In general, all motor-vehicles and trailers must be registered annually, with the payment of specified fees, and must carry two registration plates, one on the front and one on the back of the vehicle (one only for the back, in the case of trailers). A change of ownership of the vehicle must be recorded with the registration authority. However, exception from registration is granted for a specified period (usually at least 90 days) in any year to visiting private vehicles registered in another province or a State that grants reciprocal treatment. Further regulations require a safe standard of efficiency in the mechanism of the vehicle and of its brakes, and provide that equipment include non-glare headlights, a proper rear light, a satisfactory locking device, a muffler, a windshield wiper, and a rear-vision mirror.

Traffic Regulations.—In all provinces, vehicles keep to the right-hand side of the road. Everywhere motorists are required to observe traffic signs, lights, etc., placed at strategic points on highways and roads. Speed limits, usually of 50 miles per hour, are in effect; slower speeds are always required in cities, towns and villages, in passing schools and public playgrounds, at road intersections, railway crossings, or at other places or times where the view of the highway for a safe distance ahead is in any way obscured. Motor-vehicles must not pass a street car that has stopped to take on or discharge passengers except where safety zones are provided. Accidents resulting in personal injury or property damage must be reported to a provincial or municipal police officer and any driver involved must not leave the scene of accident until he has rendered all possible aid and disclosed his name to the injured party.

* Except as otherwise indicated, the material in this Part has been revised by G. S. Wrong, Director, Transportation Division, Dominion Bureau of Statistics.

† The information in this Section has been revised from material provided by the officials in charge of the administration of motor-vehicle and traffic Acts and Regulations in the individual provinces.

Penalties.—These ascend in scale from small fines for minor infractions of any of the regulations to a suspension of the operator's driving permit, impounding of the car, or imprisonment for serious infractions, recklessness, driving without an operator's licence, and especially for attempting, while intoxicated, to operate a motor-vehicle.

There is such a wide variation in the different provinces regarding the basis of licences and fees, the regulation of public commercial vehicles, details of traffic rules, speed, and the use of motor-vehicles, that it is impossible even to outline them satisfactorily in the space available here. For the most important features see the annual bulletin published by the Dominion Bureau of Statistics.

Safety Responsibility Legislation.—Between the years 1930 and 1933 all the provinces of Canada, with the exception of Quebec, enacted legislation under this heading which is sometimes referred to as Safety Responsibility Legislation, and at other times as Financial Responsibility Legislation. The following paragraphs give the latest amendments to this Legislation and the authorities responsible for the administration of motor-vehicles.

Prince Edward Island.—Provision was made in the Prince Edward Island Traffic Act, 1930, for cancellation of the licence of any person unable to satisfy judgment against him arising out of a motor-vehicle accident. Licence is to be reissued only when proof of financial responsibility is made to the Provincial Secretary. In 1946, "Unsatisfied Judgment Fund" legislation was passed whereby the injured party in an automobile accident might receive compensation from this Fund where the person at fault was unable to satisfy the judgment against him.

Administration.—The Provincial Secretary, Charlottetown. *Legislation.*—The Highway Traffic Act (1936, c. 2) and amendments.

Nova Scotia.—*Administration.*—Motor Vehicle Branch, Department of Highways and Public Works, Halifax. *Legislation.*—The Motor Vehicle Act (c. 6, 1932) and amendments, and the Motor Carrier Act (R.S.N.S. 1923, c. 78) as amended.

New Brunswick.—*Administration.*—Motor Vehicle Division, Department of Public Works, Fredericton. *Legislation.*—The Motor Vehicle Act (1934, c. 20) and amendments.

Quebec.—*Administration.*—Motor Vehicle Bureau, Provincial Revenue Offices, Treasury Department, Quebec. *Legislation.*—The Motor Vehicle Act (R.S.Q. 1941, c. 142) and amendments.

Ontario.—Safety Responsibility Legislation or Financial Responsibility Legislation as it is sometimes referred to came into force in Ontario in September, 1930.

At the 1947 session of the Ontario Legislature, the Highway Traffic Act was amended so as to provide for the automatic suspension of the driver's licence and motor-vehicle permit of: (1) every person convicted of any offence under the Act if any personal injury or property damage occurs in connection therewith; (2) every person convicted of any offence under the Act if the penalty imposed includes suspension of driver's licence or owner's permit; (3) every person convicted of a criminal offence involving the use of a motor-vehicle.

The suspensions remain effective until proof of financial responsibility is filed. The object of this law is to encourage safe driving by imposing this additional penalty on persons convicted of offences arising out of motor-vehicle accidents. Provision is also made for the forfeiture to the Crown of a motor-vehicle operated while the permit for same is under suspension. These amendments became effective July 1, 1947.

The Act was also amended to require the payment of all judgments arising out of motor-vehicle accidents either for personal injuries or property damage up to a maximum of $5,000 for one person or $10,000 for two persons and $1,000 for property damage arising out of one accident. If judgments are not satisfied by the judgment debtors, provision is made for their payment out of an Unsatisfied Judgment Fund to be created. The judgment debtor is then prohibited from holding a driver's licence or having a motor-vehicle registered in his name until the judgment debtor repays in full to the Fund the amount paid out, together with interest at 4 p.c. from the date of such payment, and also files proof of ability to satisfy a judgment for $11,000 which may arise out of any future accidents. This part of the Act is to be brought into effect by proclamation.

Administration.—Motor Vehicles Branch, Department of Highways, Toronto. *Legislation.*—The Highway Traffic Act (R.S.O. 1937, c. 288) and amendments. The Public Vehicle Act (R.S.O. 1937, c. 289) and the Commercial Vehicle Act (R.S.O. 1937, c. 290).

Manitoba.—In 1945, the Financial Responsibility Law of Manitoba was repealed and replaced with new Safety Responsibility Legislation.

Features under this Legislation include the immediate and automatic impoundment of any motor-vehicle after an accident if the operator is unable to produce proof of financial responsibility at the time. Impoundment continues until the owner or driver settles any claims for damages or bodily injury sustained, or deposits with the Provincial Treasurer security sufficient to cover any judgment which may be recovered or, until the owner of the vehicle has filed proof of financial responsibility for the future.

Driving privileges of financially irresponsible motorists are indefinitely suspended pending settlement of damage claims or deposit of security and the filing of proof of financial responsibility.

A trust fund called the Unsatisfied Judgment Fund provides for payment of judgments of bodily injuries and deaths in cases where the judgment debtor does not pay. This Fund also provides for the victims of hit-and-run motorists.

Administration.—Provincial Treasurer, Winnipeg. *Legislation.*—The Highway Traffic Act (R.S.M. 1940, c. 93) and amendments.

Saskatchewan.—Financial Responsibility Legislation in this Province was placed on the Statutes in 1933 and provides that, where a judgment is rendered in any court in Canada for damages on account of death or injury to any person or on account of damage to property in excess of $50 occasioned by a motor-vehicle and the person fails to satisfy the judgment within 30 days from the date upon which it becomes final, the Board shall suspend the operator's or chauffeur's licence issued to the person against whom the judgment is rendered and the registration of every motor-vehicle registered in his name. Judgment must be satisfied before

licences are reinstated and the person so liable must give proof of financial responsibility for future motor-vehicle accidents in the amount of $11,000 for a period of three years.

The Automobile Accident Insurance Act was passed by the Legislature and placed on the Statutes during 1946 and provides collision insurance, personal injury insurance, and public liability and property damage insurance in the amounts as set forth in the said Act. Saskatchewan citizens are provided with insurance against death or personal injury resulting directly from motor-vehicle accidents. Every person is automatically provided with public liability and property damage insurance to the extent of the amount paid for personal injuries or property damage which is payable by the insurance office.

Administration.—Treasury Department, Taxation Branch, Highway Traffic Board, Revenue Building, Regina. *Legislation.*—The Vehicles Act (1945, c. 98).

Alberta.—At the 1947 Session of the Alberta Legislature, a Statute was passed, viz., the Automobile Accident Indemnity Act (later the title was amended to the Motor Vehicle Accident Indemnity Act), the main provisions of which are: the suspension of the licences of all drivers directly or indirectly involved in an accident which results in bodily injury, or in damage to property exceeding $25 in value, if proof of financial responsibility on the part of the driver is not forthcoming and; an Unsatisfied Judgment Fund is set up on the basis of a fee of $1 per year, collected for each licensed motor-vehicle, in addition to the regular registration fee. Action may be taken against the Superintendent of the Fund where a judgment for an amount exceeding $100 has been obtained following a motor-vehicle accident, if the assets of the judgment debtor are insufficient to meet the award of the court, or in cases where the driver or owner of the motor-vehicle causing the accident is unknown. Minor amendments were made to this legislation at the 1948 Session of the Alberta Legislature.

Administration.—Motor Vehicle Branch, Department of the Provincial Secretary, Edmonton, and Alberta Highway Traffic Board, Edmonton. *Legislation.*—The Vehicles and Highway Traffic Act (R.S.A. 1942, c. 275) and amendments, the Public Service Vehicles Act (R.S.A. 1942, c. 276), and Rules and Regulations. The Vehicles and Highway Traffic Act is administered by the Department of the Provincial Secretary, and the Public Service Vehicles Act by the Alberta Highway Traffic Board, Department of Public Works.

British Columbia.—Financial Responsibility Legislation which has been in effect in this Province since 1932 provides for the suspension of driver's and motor-vehicle licences on failure to pay judgments; for contravention of certain convictions in connection with speed, and under Section 285 of the Criminal Code, etc., and such suspensions remain in effect until the party concerned files proof of financial responsibility, which he is required to keep in full force and effect. In 1947, new legislation was enacted which added to the Financial Responsibility Legislation already in effect, providing for the impounding of motor-vehicles which were involved in motor-vehicle accidents, and for which, at such time, a Motor-Vehicle Liability and Property Damage Insurance could not be produced.

Administration.—Enforcement of the Motor Vehicle Act, the Highway Act and the Motor Carrier Act is vested in the Commissioner of Provincial Police, Victoria, while the Highway Act is administered by the Minister of Public Works, the Motor Carrier Act by the Public Utilities Commission, and the Motor Vehicle Act by the Superintendent of Motor Vehicles.

Yukon.—*Administration.*—Territorial Secretary, Dawson, Yukon. Information regarding regulations may also be obtained from the Lands, Parks and Forests Branch, Department of Mines and Resources, Ottawa. *Legislation.*—The Motor Vehicle Ordinance, No. 14, 1914, and amendments.

Northwest Territories.—*Administration.*—Director, Lands, Parks and Forests Branch, Department of Mines and Resources, Ottawa. *Legislation.*—The Motor Vehicle Ordinance, assented to Mar. 26, 1941, and amendments.

Section 2.—Roads and Vehicles

Subsection 1.—Roads and Highways

With the rapid increase in the percentage of motor-car owners to population up to 1941, the demand for improved roads has become more and more insistent during the last 30 years. Furthermore, the advantages to be gained by attracting motoring tourists have been a powerful incentive to governing bodies to improve trunk roads and scenic highways within their jurisdictions. One sphere where the motor-car and truck has been of special economic advantage has been in rural areas. As a result, according to the Census of 1941, there was one motor-vehicle for every 1·8 farms. This widespread rural ownership of automobiles and trucks has, in turn, brought about an improvement of secondary rural roads.

Table 1 of road mileages includes all roads under provincial jurisdiction and in National Parks, local roads in the Maritime Provinces and Ontario and estimates of local roads in the four western provinces. There are great stretches of country in the northern portions of Quebec, Ontario, the Prairie Provinces and British Columbia with very few people and very few roads, but the southern portions are well supplied. The Trans-Canada Highway provides a strategic link between Eastern and Western Canada that permits motorists to traverse the Dominion without entering United States territory.

Statistics of urban streets have been collected since 1935 from cities and principal towns; the small municipalities omitted would increase the totals very little. For 1946 the total number of miles of street reported was 14,326, composed of: 3,368 miles of bituminous pavements; 918 miles of portland cement concrete; 2,044 miles of bituminous surfaces; 3,311 miles of gravel and crushed stone; and 390 miles of other surfaces; making a total of 10,031 miles of surfaced streets and 4,295 miles of earth roads. These figures for urban streets or roads are not included in the table of highway mileage.

1.—Classification of Highways, by Provinces, 1946

NOTE.—The date for which the mileage was reported is indicated for each province. The figures for Canada are the sums of the mileages so reported. Urban streets are not included in the figures. Dashes indicate that no mileages were reported under corresponding stub items.

Classification	P.E.I.[1] Mar. 31, 1946	N.S. Nov. 30, 1946	N.B. Oct. 31, 1945	Que. Mar. 31, 1947	Ont. Mar. 31, 1947	Man. Apr. 30, 1947	Sask. Mar. 31, 1947	Alta. Mar. 31, 1947	B.C. Mar. 31, 1945	Total
	miles	miles	miles	miles	miles	miles	miles	miles	miles	miles
SURFACED ROAD										
Portland cement concrete...	4	7	–	342	2,054	37	–	–	41	2,485
Bituminous pavement.....	205	902	–	3,207	2,476	–	–	–	114	6,904
Bituminous surface.....	–	53	977	1,089	3,524	515	372	735	1,452	8,717
Gravel—crushed stone.....	242	6,590	7,681	19,465	49,777	8,395	11,095	9,469	8,056	122,231[2]
Other surfaces.....	–	–	–	–	–	–	75	–	47	122
TOTALS, SURFACED ROAD...	451	7,552	8,658	24,103	57,831	8,947	11,542	10,204	9,710	140,459[2]
NON-SURFACED ROAD										
Improved earth.....	2,352	3,223	2,670	–	8,789	8,171	77,177	24,730	9,765	136,877
Other earth roads.....	903	4,776	984	16,226	6,381	74,236[3]	124,259	45,589	2,680	276,034
TOTALS, NON-SURFACED ROAD.....	3,255	7,999	3,654	16,226	15,170	82,407	201,436	70,319	12,445	412,911
Grand Totals.....	**3,706**	**15,551**	**12,312**	**40,329**	**73,001**	**91,354**	**212,978**	**80,523**	**22,155**	**553,370**[2]

[1] 1944 mileage.
[2] Includes 1,461 miles of gravel road of the Northwest Highway System in N.W.T. and Yukon.
[3] Includes road allowances.

The Alaska Highway.—The Alaska Highway, a 1,600-mile roadway, 24 to 36 feet wide, extends from Fort St. John, B.C.,* through White Horse, N.W.T., to Fairbanks, Alaska. It was virgin territory and a pioneer air route in the spring of 1942; on Nov. 20, 1942, it was officially opened for wheeled traffic. About 10,000 United States engineer troops and 4,000 civilians, of whom half were Canadians, hewed their way through the bush, bridged the rivers, overcame mountain grades and surfaced a roadbed, to permit a continuous journey by car. The maximum grade in hill country is 10 p.c.; in foothill country, 5 p.c. The Federal Government supplied the right-of-way and exempted all shipments of construction equipment and material from customs duty and the United States Government carried out the work. On Apr. 3, 1946, the Canadian section of the Highway, from Edmonton to the Alaska border, together with the Northwest Staging Route airfields, telephone system and other defence projects (see 1945 Year Book, pp. 706 to 711) were taken over by Canada from the United States under agreement between the two countries.

The Northwest Highway System, as it is now called, is presently operated by the Canadian Army, but is open for civilian traffic. Permits to travel over the highway are no longer required.

Subsection 2.—Motor-Vehicles

Registration.—Automobiles were registered in Canada for the first time in 1904 and Ontario was the only province to issue licences in that year. New Brunswick began registering cars in 1905; Quebec, Saskatchewan and Alberta in 1906; British Columbia in 1907; Manitoba in 1908; Nova Scotia in 1909; Prince Edward Island in 1913 and Yukon in 1914.

* Dawson Creek, about 30 miles to the southwest, is the railhead from which supplies are trucked in to Fort St. John. The existing road between Dawson Creek and Fort St. John has been improved and to all intents and purposes forms part of the main highway.

In 1905, only 565 motor-vehicles were registered in Canada, by 1915 the number had risen to 95,284 and by the end of the next decade to 724,048. With the exception of 1931-33 an annual increase was in evidence until 1941 when 1,572,784 motor-vehicles were registered. While the number of commercial vehicles continued to increase during the war years a considerable decline was shown in passenger cars due to restrictions on manufacture and the rationing of tires and gasoline. However, post-war recovery was rapid and a new peak of 1,622,463 motor-vehicles was established in 1946, including 1,234,006 passenger cars, 355,095 trucks, 5,788 buses, 17,163 motorcycles and 10,411 miscellaneous vehicles. The repatriation and sale of military vehicles, plus restored production and imports, contributed to the improvement of 7·8 p.c. or 125,382 vehicles over 1945. New motor-vehicles sold in Canada during 1946 totalled 120,044, comprising 77,742 passenger cars and 42,302 trucks and buses.

Revenues from motor-vehicle licences, operators' permits, etc., exclusive of Quebec Province which failed to report, amounted to $30,236,468 in 1946 compared with $23,992,834 in the preceding year.

2.—Motor-Vehicles Registered, by Provinces, 1936-46

NOTE.—Registrations given here include passenger cars, trucks, buses, motorcycles, service cars, etc., but not trailers or dealer licences. Figures for 1904-35 are given at p. 668 of the 1937 Year Book.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total[1]
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1936	7,632	46,179	33,402	181,628	590,226	74,940	102,270	97,468	106,079	1,240,124
1937	8,011	50,048	36,780	197,917	623,918	80,860	105,064	100,434	116,341	1,319,702
1938	7,992	51,214	37,110	205,463	669,088	88,219	109,014	107,191	119,220	1,394,853
1939	8,040	53,008	38,116	213,148	682,891	88,864	119,018	113,702	122,087	1,439,245
1940	8,070	57,873	39,000	225,152	703,872	90,932	126,970	120,514	128,044	1,500,829
1941	8,015	62,805	41,450	232,149	739,194	96,573	131,545	126,127	134,499	1,572,784
1942	7,537	58,872	37,758	222,622	715,380	93,147	130,040	125,482	132,893	1,524,153
1943	8,032	59,194	40,205	222,676	691,615	93,494	133,839	127,559	134,691	1,511,845
1944	8,412	57,933	39,570	224,042	675,057	93,297	140,992	127,416	135,090	1,502,567
1945	8,835	56,699	41,577	228,681	662,719	92,758	140,257	130,153	134,788	1,497,081
1946	9,192	62,660	44,654	255,172	711,106	101,090	148,206	138,868	150,234	1,622,463

[1] Totals include registrations in Yukon.

3.—Types of Motor-Vehicles Registered, by Provinces, 1946

Province	Passenger Cars[1]	Commercial Cars, Trucks, etc.[2]	Buses	Motor-cycles	Total[1,2]
	No.	No.	No.	No.	No.
Prince Edward Island	7,134	1,985	28	45	9,192
Nova Scotia	42,791	18,938	346	585	62,660
New Brunswick	30,670	13,388	268	328	44,654
Quebec	187,726	61,517	2,405	3,524	255,172
Ontario	585,604	116,305	2,215	6,982	711,106
Manitoba	73,976	26,109	149	856	101,090
Saskatchewan	100,905	46,439	67	795	148,206
Alberta	95,764	41,823	287	994	138,868
British Columbia	109,077	38,119	[3]	3,038	150,234
Yukon	359	883	23	16	1,281
Totals	**1,234,006**	**365,506**	**5,788**	**17,163**	**1,622,463**

[1] Includes taxis. [2] Includes service cars, tractors, etc. [3] Included with trucks.

Apparent Consumption of Automobiles.—The apparent consumption of automobiles in Canada in any year may be computed by deducting the number exported from the sum of the production and imports. Statistics regarding retail sales and the financing of motor-vehicle sales in Canada are given at pp. 821-823 of this volume. The figures as now presented for the years 1939-47 (Table 4), are not quite comparable with earlier statistics as they have been revised and improved in several respects over this period.

4.—Apparent Supply of New Automobiles, 1939-47

Year	Cars Made for Sale in Canada		Imports[1]		Re-exports of Imported Cars		Apparent Supply[2]	
	Passenger	Commercial	Passenger	Commercial	Passenger	Commercial	Passenger	Commercial
	No.	No.	No.	No.	No.	No.	No.	No.
1939	75,145	24,058	16,585	1,699	207	13	91,523	25,744
1940	94,633	53,169	15,386	1,633	145	10	109,874	54,792
1941	81,943	76,627	2,672	1,036	26	Nil	84,589	77,663
1942	8,596	93,903	327	718	9	2	8,914	94,619
1943	Nil	79,290	21	795	1	163	20	79,922
1944	"	66,013	35	3,249	5	33	30	69,229
1945	1,866	47,459	236	1,855	3	19	2,099	49,295
1946	63,501	41,318	18,642	3,600	6	72	82,137	44,846
1947	128,243	63,152	35,570	7,293	26	4	163,787	70,441

[1] Does not include repatriated Armed Forces vehicles. [2] Does not include military vehicles sold to public.

Finances of Road Transportation.—The cost of road transportation to the people of Canada may be summarized under the following headings: expenditures on roads and highways; expenditures of individuals and corporations on owned motor-vehicles; expenditures for freight and passenger services rendered by motor-vehicle public carriers such as taxi, bus and motor-transport companies; and expenditures on garages, service stations, etc. Since expenditures on roads and highways are made almost entirely by governmental bodies, fairly complete statistics are available regarding them but, owing to the tremendous number of individuals and organizations that would have to be canvassed and the difficulties involved, complete statistics are not available under the other headings. Sales of gasoline are given at p. 714 and revenues of motor-carriers at p. 711.

Expenditures on Roads and Highways. — Roads in Canada, except in the Territories and the National Parks are under the jurisdiction of provincial and municipal authorities. During the war years, capital expenditures on highways, bridges and ferries have shown a decided drop as compared with the years immediately preceding the War. On the other hand, maintenance expenditures have increased considerably.

5.—Construction, Maintenance and General Expenditures on Rural Highways, Bridges and Ferries in Canada, by Provinces, 1942-46

NOTE.—Provincial expenditures are for their respective fiscal years. Figures for each year since 1931 are given in the corresponding table of previous Year Books beginning with the 1937 edition.

Item and Province	1942	1943	1944	1945	1946
Construction Expenditures	$	$	$	$	$
Prince Edward Island	126,144	141,175	388,538	486,759	587,309
Nova Scotia	655,612	192,109	445,349	554,078	3,834,392
New Brunswick	1,060,580	795,852	2,845,019	2,820,685	7,032,089
Quebec	10,453,185	10,843,890	13,153,874	13,916,204	24,894,585
Ontario	7,269,659	2,482,488	3,505,222	4,928,485	24,262,557
Manitoba	121,347	25,334	118,197	596,680	2,143,505
Saskatchewan	1,016,372	1,733,860	2,067,989	2,346,936	4,372,502
Alberta	1,303,885	1,449,042	2,313,732	2,586,941	6,205,275
British Columbia	5,869,409	7,230,557	6,667,429	3,583,829	5,887,779
Yukon and N.W.T	–	–	–	370,537	1,369,060
Totals, Construction	**27,876,193**	**24,894,307**	**31,505,349**	**32,191,134**	**80,589,053**
Maintenance Expenditures					
Prince Edward Island	261,716	319,079	569,144	680,082	820,088
Nova Scotia	2,609,146	2,679,878	3,025,357	3,933,298	3,936,517
New Brunswick	1,711,808	1,697,931	2,684,747	2,950,899	4,144,259
Quebec	7,598,008	8,339,542	8,659,753	10,160,318	11,142,062
Ontario	13,928,047	18,374,484	17,601,135	21,118,003	24,415,012
Manitoba	1,000,643	1,062,455	1,246,130	1,468,625	1,189,168
Saskatchewan	981,100	1,071,410	1,202,737	1,420,260	1,784,940
Alberta	1,650,916	1,661,213	1,532,732	4,562,050	5,820,851
British Columbia	2,969,292	2,595,021	1,036,867	2,697,359	2,931,839
Yukon and N.W.T	–	1,500	–	4,621	2,062,000
Totals, Maintenance	**32,710,676**	**37,801,013**	**37,571,893**[1]	**48,995,515**	**58,246,736**
Administration and General Expenditures					
Prince Edward Island	26,529	40,012	139	56,673	58,671
Nova Scotia	1,481	326,739	323,276	341,948	442,939
New Brunswick	57,787	56,300	63,978	72,418	573,806
Quebec	1,012,114	995,430	1,133,170	1,273,144	1,564,402
Ontario	629,365	624,860	507,041	502,955	800,679
Manitoba	178,028	207,621	248,522	289,683	311,227
Saskatchewan	135,116	125,048	125,647	145,143	165,187
Alberta	8,227	9,298	6,473	8,421	22,461
British Columbia	204,421	14,369	360,696	277,532	686,319
Yukon and N.W.T	–	–	–	10,196	1,007,714
Totals, Administration and General	**2,253,068**	**2,399,677**	**2,774,099**[1]	**2,978,108**	**5,633,405**
Grand Totals	**62,839,937**	**65,094,997**	**71,851,341**[1]	**84,164,757**	**144,469,194**
Dominion-Provincial Distribution of All Expenditures					
Dominion — net expenditures and subsidies	5,141,755	7,132,612	3,917,448	1,073,581[2]	6,293,419
Provincial — net expenditures and subsidies	52,660,076	52,870,362	62,175,873	73,536,267	126,611,268
Municipal — net expenditures and subsidies	4,694,404	4,626,330	5,514,832	9,441,779	11,266,811
Expenditures by other sources[2]	343,702	465,693	243,188	113,130	297,696

[1] Includes expenditures in the Northwest Territories. [2] Includes payments from railways *re* elimination of grade crossings, etc.

Provincial Government Revenues from Motor-Vehicles.—The taxation of motor-vehicles, garages, chauffeurs, etc., is an important source of Provincial Government income. In every province licences or permits, duly issued by the provincial authorities, are required for: motor-vehicles of all kinds, trailers, operators or drivers, paid chauffeurs, dealers, garages and gasoline and service stations. A sales tax on gasoline is also levied by each province and to Mar. 31, 1947, there

was also a Federal tax of 3 cents but this was withdrawn on that date and for the most part provincial taxes were increased to absorb the Federal rate. The rates at present in effect are: for each of the three Maritime Provinces 13 cents; Quebec and Ontario 11 cents; Manitoba 9 cents; Saskatchewan 10 cents; Alberta 9 cents; British Columbia 10 cents and Yukon 3 cents. The more important sources from which provincial revenues from motor-vehicles are derived are shown in Table 6. Federal Government revenues from import duties, excise and sales taxes are not included.

6.—Provincial Revenues from the Taxation of the Distribution and Operation of Motor-Vehicles, 1946, with Comparative Totals for 1945

NOTE.—Provincial Governments report for their respective fiscal years, see Table 1, p. 706.

Province or Territory	Passenger Cars	Trucks and Buses	Motor-cycles	Dealer Licences	Operator and Chauffeur Licences	Tax on Operators of Motor-buses and Trucks	Gasoline Tax	Total, Including Miscellaneous Revenue
	$	$	$	$	$	$	$	$
P. E. Island	110,954	69,788	240	853	9,182	4,455	465,648	665,055
Nova Scotia	783,214	886,162	[1]	8,800	192,202	99,546	3,498,181	5,633,858
New Brunswick	597,171	778,784	2,083	3,167	155,469	35,261	2,832,391	4,479,074
Quebec	[2]	[2]	[2]	[2]	[2]	[2]	[2]	[2]
Ontario	5,146,957	5,552,992	7,298	29,315	1,299,116	768,803	31,260,377	44,801,702
Manitoba	891,753	360,267	3,192	9,460	164,753	296,162	3,320,949	5,096,584
Saskatchewan	1,427,719	810,265	5,222	28,132	251,413	348,445	4,724,071	8,153,396
Alberta	1,516,241	943,993	4,437	17,031	236,421	943,739	5,403,921	9,093,827
British Columbia	1,859,779	1,241,869	18,441	10,892	275,828	272,214	5,682,094	9,491,325
Yukon	8,304	[3]	[3]	Nil	975	Nil	26,842	36,121
Totals	**12,342,092**	**10,644,120**	**40,913**	**107,650**	**2,585,359**	**2,768,625**	**57,214,474**	**87,450,942**
Comparative Totals, 1945	**10,854,157**	**7,716,798**	**32,011**	**66,556**	**2,248,483**	**1,783,826**	**47,863,561**	**71,856,395**

[1] Included with miscellaneous. [2] Details for Quebec were not supplied by the Province.
[3] Included with passenger cars.

Motor-Carriers.*—The lack of statistical information in regard to the increasing amount of passenger and freight traffic on the highways of Canada led to the institution of a census of motor-carriers in 1941. The carriers were divided into two main classes: (1) passenger and (2) freight. Each of these was subdivided into two classes: (*a*) carriers with revenues less than $20,000, and (*b*) carriers with revenues of $20,000 or over. Bus companies handling urban traffic exclusively were compiled as a class. Many street railway systems operate motor-buses, but the statistics of such systems are not included here; they are included in electric railway statistics. Licensed carriers doing highway construction work, building air fields, etc., were excluded from the compilations. Taxi operators and urban delivery trucks also were excluded, except where their operations included inter-urban business. Carriers operating as both passenger and freight carriers were classed as passenger or freight according to the preponderance of the revenue. The passenger revenue of trucking companies and the freight revenue of bus companies were small percentages of their total revenues.

* Statistics of traffic carried are given at p. 712, under Section 3, Road Traffic. For statistics by provinces see the annual report, "Motor Carriers, Freight-Passenger", obtainable from the Dominion Statistician, Ottawa. Price 10 cents.

Operators with revenue of less than $8,000 in 1941 were excluded from the 1942 and subsequent compilations. The figures given below are, therefore, not comparable in all respects with those for 1941 published at pp. 602 and 603 of the 1943-44 Year Book.

7.—Capital, Revenues, Employees and Equipment of Motor-Carriers, 1945 and 1946

NOTE.—Large freight carriers include those with annual revenues of $20,000 or over; small freight carriers those with annual revenues of from $8,000 to $20,000.

Item	Freight Carriers				Passenger Carriers		Totals	
	Large		Small					
	1945	1946	1945	1946	1945	1946	1945	1946
Carriers.....No.	492	497	357	393	475	463	1,324	1,353
Investments—								
Land, buildings, equipment, etc. $	25,542,071	28,671,036	2,970,400	3,248,322	30,888,282	40,806,394	59,400,753	72,725,752
Revenue—								
Freight..... $	41,015,054	44,548,012	4,403,092	4,885,746	547,038	600,668	45,965,184	50,034,426
Passenger—								
Intercity and rural..... $	183,997	163,349	11,683	Nil	29,467,098	37,326,799	29,662,778	37,490,148
City..... $	Nil	242	Nil	"	9,240,049	10,124,042	9,240,049	10,124,284
Miscellaneous.. $	1,703,241	2,320,687	193,900	239,627	1,392,338	2,031,990	3,289,479	4,592,304
Totals, Revenue $	42,902,292	47,032,290	4,608,675	5,125,373	40,646,523	50,083,499	88,157,490	102,241,162
Working proprietors.....No.	279	261	309	355	296	278	884	894
Employees—								
As at July 15..No.	11,780	11,895	1,133	1,167	6,216	8,250	19,129	21,312
As at Dec. 15. "	11,671	11,774	1,129	1,129	6,931	8,201	19,731	21,104
Total wages... $	17,200,932	18,566,784	1,281,109	1,383,091	11,287,000	14,786,656	29,769,041	34,736,531
Equipment—								
Trucks.....No.	5,233	5,309	1,049	1,127	204	216	6,486	6,652
Tractor, semi-trailer units.. "	1,939	2,267	89	93	35	27	2,063	2,387
Trailers..... "	1,077	1,295	54	58	23	15	1,154	1,368
Buses..... "	24	40	9	7	3,289	3,777	3,322	3,824

Subsection 3.—Road Traffic

Up to the present the motor-vehicle has affected passenger traffic of the steam and electric railways more than freight traffic. This diversion of passenger traffic has been effected largely by the private automobile, although the motor-bus is rapidly becoming more important and now operates between all large centres. The motor-truck also carries a considerable amount of freight.

As explained at p. 710, certain statistics in regard to motor-carriers are collected, and those relating to freight and passengers carried are presented in Table 8. Traffic data were not available for the majority of the small operators. Many truck operators failed to report tons of freight carried and others reported only estimates; consequently these data are not very informative. A difficulty in compiling weights, which is quite understandable, is that much traffic was carried on a load basis and not a weight basis. Records of passengers appear to be fairly complete, possibly because tickets were sold and accounted for, and the unit was not so complex as for freight carried.

8.—Traffic Carried by Motor-Carriers, 1945 and 1946

NOTE.—Large freight carriers include those with annual revenues of $20,000 or over; small freight carriers those with annual revenues of from $8,000 to $20,000.

Item	Freight Carriers				Passenger Carriers		Totals	
	Large		Small					
	1945	1946	1945	1946	1945	1946	1945	1946
Passengers Carried—								
Regular Routes—								
Intercity and rural.....No.	474,613	441,720	14,714	Nil	93,738,719	101,708,443	94,228,046	102,150,163
City..... "	Nil	Nil	Nil	"	141,344,895	153,770,931	141,344,895	153,770,931
Special and Chartered Service—								
Intercity and rural.....No.	14,530	Nil	Nil	Nil	3,972,792	4,977,664	3,987,322	4,977,664
City..... "	Nil	"	"	"	297,602	142,918	297,602	142,918
Totals, Passengers Carried..No.	**489,143**	**441,720**	**14,714**	**Nil**	**239,354,008**	**260,599,956**	**239,857,865**	**261,041,676**
Totals, Freight Carried—Intercity and Rural.....ton	**8,003,553**	**10,199,498**	**2,739,093**	**1,632,762**	**110,985**	**112,124**	**10,853,631**	**11,944,384**

Motor-Vehicle Accidents.—Motorists are required to report accidents but comprehensive statistics are not available for all provinces. The Health and Welfare Division of the Bureau of Statistics compiles statistics on all deaths from motor-vehicle accidents and these are shown in Table **9**. A direct comparison of such statistics between the provinces is of little value due to differences in size, population, motor-vehicle density, etc., but, to put them on somewhat the same basis, the average number of deaths per 10,000 registered motor-vehicles has also been tabulated. These data still give no weight to differences in use of motor-vehicles, differences in climate, roads, tourist cars, etc., all of which are factors in accidents.

Table **10** shows the number of persons killed or injured in automobile accidents as reported by the motor-vehicle branches of the Provincial Governments. It is quite possible that the latter reported some persons as injured who subsequently died from injuries and these would be included in the fatalities of the vital statistics shown in Table **9**; also accidents that occurred late in December and resulted in deaths would be charged to December by the provincial authorities but to January of the next year in the vital statistics. Consequently, the figures of fatalities of Tables **9** and **10** are not in complete agreement.

9.—Deaths Resulting from Motor-Vehicle Accidents, by Provinces, 1936-46

NOTE.—This table was compiled in the Health and Welfare Division, Dominion Bureau of Statistics. Figures for the years 1926-35 will be found at p. 578 of the 1941 Year Book.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	DEATHS									
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1936.....	7	60	41	371	564	53	47	72	101	1,316
1937.....	7	97	67	405	774	66	47	55	124	1,642
1938.....	6	75	58	413	677	80	49	77	110	1,545
1939.....	7	84	92	390	682	63	65	81	120	1,584
1940.....	10	104	81	434	746	87	59	72	116	1,709
1941.....	9	104	89	485	835	79	45	78	128	1,852

9.—Deaths Resulting from Motor-Vehicle Accidents, by Provinces, 1936-46—concluded

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	DEATHS—concluded									
1942	8	72	52	363	610	52	58	62	132	1,409
1943	5	90	70	392	563	44	34	84	155	1,437
1944	11	73	56	406	526	53	43	80	124	1,372
1945	8	76	90	424	637	67	58	71	125	1,556
1946	4	84	68	475	700	94	69	89	146	1,729
	DEATHS PER 10,000 REGISTERED MOTOR-VEHICLES									
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1936	9·17	12·99	12·27	20·43	9·56	7·07	4·60	7·39	9·52	10·61
1937	8·73	19·38	18·22	20·46	12·41	8·16	4·47	5·48	10·66	12·44
1938	7·51	14·64	15·63	20·10	10·12	9·07	4·49	7·18	9·23	11·08
1939	8·71	15·85	24·14	18·30	9·99	7·09	5·46	7·12	9·83	11·01
1940	12·39	17·97	20·77	19·28	10·60	9·57	4·65	5·97	9·06	11·39
1941	11·23	16·56	21·47	20·89	11·30	8·18	3·42	6·18	9·52	11·78
1942	10·61	12·23	13·77	16·31	8·53	5·58	4·46	4·94	9·93	9·24
1943	6·23	15·20	17·41	17·60	8·14	4·71	2·54	6·59	11·51	9·51
1944	13·08	12·60	14·15	18·12	7·79	5·68	3·05	6·28	9·18	9·14
1945	9·05	13·40	21·65	18·41	9·61	7·22	4·14	5·46	9·27	10·39
1946	4·35	13·40	15·23	18·61	9·84	9·30	4·66	6·41	9·72	10·66

10.—Motor-Vehicle Accidents, 1946

NOTE.—Figures are as reported by provincial motor-vehicle authorities for the calendar year.

Item	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
Accidents	No.	No.	No.	No.	No.	No.	No.	No.	No.	No
Fatal—										
Resulting in death of one or more persons	6	85	61	394	629	71	60	77	117	1,500
Non-fatal—										
Resulting in injury to one or more persons	41	725	[1]	5,439	8,541	1,434	1,097	1,461	2,780	-
Resulting in property damage only	327	1,313	[1]	10,154	8,186	3,653	2,268	4,638	6,895	-
Totals, Accidents	**374**	**2,123**	**1,393**	**15,987**	**17,356**	**5,158**	**3,425**	**6,176**	**9,792**	**61,784**
Persons Killed										
Pedestrians	3	39	29	207	292	34	12	15	47	678
Motorcyclists (drivers and passengers)	Nil	Nil	2	15	23	4	3	2	6	55
Drivers of other motor-vehicles	1	18	8	79	147	39	21	21	27	361
Passengers and attendants of other motor-vehicles	1	23	21	95	179	[2]	25	37	59	440
Drivers and other occupants of horse-drawn vehicles	Nil	Nil	Nil	10	7	2	1	4	2	26
Pedal cyclists	"	9	4	32	40	Nil	1	3	6	95
Other persons	1	Nil	Nil	Nil	Nil	"	2	5	Nil	8
Totals, Persons Killed	**6**	**89**	**64**	**438**	**688**	**79**	**65**	**87**	**147**	**1,663**

For footnotes, see end of table, p. 714.

10.—Motor-Vehicle Accidents, 1946—concluded

Item	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Persons Injured										
Pedestrians	10	309	214	2,659	3,161	609	164	231	890	8,247
Motorcyclists (drivers and passengers)	–	8	10	153	397	60	33	44	195	900
Drivers of other motor-vehicles	21	189	181	1,124	2,693	880	480	398	802	6,768
Passengers and attendants of other motor-vehicles	49	411	302	3,010	5,136	[2]	905	725	1,764	12,302
Drivers and other occupants of horse-drawn vehicles	1	10	9	195	130	30	36	6	23	440
Pedal cyclists	3	34	30	504	711	241	70	81	246	1,920
Other persons	1	Nil	Nil	Nil	Nil	39	12	50	Nil	102
Totals, Persons Injured	**85**	**961**	**746**	**7,645**	**12,228**	**1,859**	**1,700**	**1,535**	**3,920**	**30,679**
Property Damage...$	**23,839**	**327,374**	**246,616**	[3]	**3,345,384**	**465,504**	**622,276**	**650,834**	**1,352,671**	**7,034,498**[4]

[1] Not segregated. [2] Included in "drivers of other motor-vehicles". [3] No record.
[4] Total for provinces reporting.

Gasoline Consumption.—All provinces require retail sales of gasoline to be reported and a tax is imposed on all gasoline consumed by motor-vehicles using the highways and streets and also on that used for an increasing number of other purposes. However, the taxable gasoline is still largely consumed by motor-vehicles and indicates, in a general way, the increase or decrease in their use. Net sales are the differences between the total or gross sales reported and the quantities on which the tax is refunded in whole or in part, or on which the tax is not imposed at the time of sale.

Figures to the end of 1940 show a steady increase in gasoline sales since depression years. Later figures are, of course, materially affected by the conservation measures taken in 1941, and the system of gasoline rationing effective from April, 1942 to August, 1945.

11.—Sales of Gasoline, by Provinces, 1941-46

Province	1941	1942	1943	1944	1945	1946
	gal.	gal.	gal.	gal.	gal.	gal.
P. E. Island	5,174,759	6,628,067	7,881,403	9,295,639	4,715,743	5,945,412
Nova Scotia	41,354,887	40,885,976	42,465,349	43,462,061	37,727,413	44,570,328
New Brunswick	26,288,682	25,499,817	27,255,758	28,077,021	29,175,358	43,315,683
Quebec	165,839,507	149,918,783	147,048,452	178,879,214	168,304,460	217,542,507
Ontario	410,711,924	343,811,002	309,487,964	315,976,426	323,814,957	450,782,323
Manitoba	54,212,671	58,566,931	63,375,584	70,399,123	56,119,024	71,115,777
Saskatchewan	112,779,554	101,808,034	104,175,400	119,840,189	118,463,733	136,065,534
Alberta	93,068,504	97,502,012	114,969,882	120,159,267	102,753,583	77,650,355
British Columbia	70,995,551	73,186,336	86,932,371	84,383,083	74,621,447	96,645,879
Totals, Gross Sales	**980,426,039**	**897,806,958**	**903,592,163**	**970,472,023**	**915,695,718**	**1,143,633,798**
Refunds and exemptions	233,017,682	286,087,504	373,747,304	395,615,510	253,079,186	210,998,783
Totals, Net Sales	**747,408,357**	**611,719,454**	**529,844,859**	**574,856,513**	**662,616,532**	**932,635,015**

PART IV.—WATERWAYS*

The Canada Shipping Act.—Legislation regarding all phases of shipping was consolidated under the Canada Shipping Act (c. 44, 1934). The Act was a sequel to the passage of the Statute of Westminster in 1931, under which the Parliament of Canada accepted full responsibility for the regulation of Canadian shipping. The Canada Shipping Act is a comprehensive piece of legislation and constitutes, in fact, the incorporation in the shipping law of Canada of features of international agreements and of British and previous Canadian legislation. A brief summary of the Act is given at pp. 681-683 of the 1938 Year Book.

Section 1.—Equipment and Facilities

The developments and equipment to facilitate water traffic are classified under the sub-headings of shipping, aids to navigation and miscellaneous works, canals and harbours. Subsection 5 is added giving figures of administrative activities regarding pilotage service, steamship inspection and personnel shipped and discharged.

Subsection 1.—Shipping

Since all waterways including canals and inland lakes and rivers are open upon equal terms, except in the case of the coasting trade, to the shipping of all countries of the world, the commerce of Canada is by no means entirely dependent upon Canadian shipping. However, a large part of the inland and coast-wise traffic is carried in ships of Canadian registry.

Canadian Registry.—Under Part I of the Canada Shipping Act, every ship that falls under the definition of "British Ship" given in Sect. 6 of the Act and is controlled as to management and use in Canada must, unless registered elsewhere in the Empire, be registered in Canada. An exception is made in the case of ships not exceeding 10 tons register and engaged solely in coastal or inland navigation. A ship (whatever her qualification for British registry) that is not registered in any part of His Majesty's dominions, is not entitled to the privileges accorded to British ships. Vessels about to be built *may* be recorded, and vessels being built or equipped *must* be recorded, by a registrar of British ships under the Act.

For a record of the number and tonnage of ships engaged in the carrying trade of Canada, see pp. 732-741. The tables are included there under traffic statistics because they relate more directly to traffic and services than merely to the shipping available. For an account of the shipping services operated by the Federal Government, see pp. 720-723.

* Information and statistics dealing with this subject have been supplied as follows: aids to navigation, canals, harbours, administrative services, and marine services, by the Department of Transport and the National Harbours Board; graving docks and part of the financial statistics, by the Department of Public Works; shipping subsidies by the Director of Steamship Subsidies, Department of Trade and Commerce; Panama Canal, by the Governor of the Panama Canal Zone; other canal traffic and statistics of shipping, by the Transportation Division, Dominion Bureau of Statistics.

1.—Vessels on Canadian Shipping Registry, by Provinces, as at Dec. 31, 1941-45

NOTE.—Figures for the years 1935-39 are given at p. 581 of the 1941 Year Book and for 1940 at p. 690 of the 1947 edition.

Province or Territory	1941		1942		1943		1944		1945	
	No.	Net Tons	No.	Net Tons	No.	Net Tons	No.	Net Tons	No.	Net Tons
P. E. Island	89	5,313	86	5,157	86	5,161	85	4,925	80	4,719
Nova Scotia	1,932	80,548	2,082	57,369	2,233	54,673	2,371	52,274	2,573	51,747
New Brunswick	870	38,927	872	34,629	882	31,564	915	31,421	639	29,100
Quebec	1,151	422,476	1,175	422,926	1,226	577,510	1,326	896,795	1,326	917,112
Ontario	1,252	390,766	1,226	370,645	1,208	355,282	1,208	349,223	1,221	358,459
Manitoba	96	9,791	97	9,813	106	11,378	112	11,441	110	11,407
Saskatchewan	2	201	2	201	2	201	2	201	2	201
British Columbia	3,257	318,764	3,294	304,482	3,316	308,276	3,335	294,759	3,455	296,127
Yukon	18	5,025	18	5,025	15	4,259	15	4,259	15	4,259
Totals	**8,667**	**1,271,811**	**8,852**	**1,210,247**	**9,074**	**1,348,304**	**9,369**	**1,645,298**	**9,421**	**1,673,131**

Subsection 2.—Aids to Navigation and Miscellaneous Works

Included under this heading are the lighthouses and the whole system of marine danger signals on the east and west coasts of Canada, on Hudson Bay and Strait, the St. Lawrence River and Gulf, the inland rivers and lakes, and at the entrances to harbours — a very extensive system designed to provide safe navigation in all Canadian waters. In addition, a pilotage service is maintained in waters where navigation is difficult; this service is described under marine services at p. 721. As a further aid to safe navigation, there are chains of radio signal and direction-finding stations which are described under radiotelegraphy, at pp. 768-770.

Aids to navigation, excepting very minor ones, are listed in three annual publications of the Department of Transport covering the Atlantic Coast, Inland Waters and Pacific Coast, respectively. A summary table showing marine danger signals maintained in Canada during the fiscal years 1929-40 is given at p. 581 of the 1941 Year Book.

2.—Marine Danger Signals Maintained in Canada, Years Ended Mar. 31, 1942-48

NOTE.—In addition to the aids to navigation listed, approximately 8,960 unlighted buoys, balises, dolphins, and beacons are maintained. The figures are supplied by the Department of Transport.

Description	1942	1943	1944	1945	1946	1947	1948
	No.	No.	No.	No.	No.	No.	No.
Lights	2,050	2,050	2,082	2,095	2107	2,320	2,469
Lightships	8	7	7	7	6	8	8
Light-keepers	1,144	1,135	1,129	1,132	1,132	1,122	1,102
Fog whistles	11	12	12	13	13	8	9
Sirens	4	4	4	3	3	2	2
Diaphones	166	167	167	168	170	169	169
Fog bells	48	47	48	49	49	39	37
Hand fog horns	154	153	153	151	149	135	137
Hand fog bells	4	4	4	4	4	9	10
Gas, and combination gas, whistling and bell buoys	457	463	469	479	435	541	552
Whistling buoys	44	44	42	42	41	40	39
Bell buoys	123	123	119	122	122	118	112
Submarine bells	2	2	2	2	1	–	–
Fog guns and bombs	13	14	14	14	13	12	12
Fog alarm stations only	13	13	13	13	13	10	10

A great deal has been done to improve navigable waters by dredging in channels and harbours, by the removal of obstructions, and by the building of remedial works to maintain or control water levels. Probably the largest task of this nature has been the St. Lawrence River Ship Channel. An extensive floating plant is in service to maintain and improve the deep-water channel from Montreal to the sea for ocean-going shipping. Incidental to these developments of navigable waters are works to guard shorelines and prevent erosion, and for the control of roads and bridges that cross navigable channels. In order to prolong the season of navigation in important waters that freeze over in winter, ice-breaking operations are carried on at both the beginning and end of winter. This is particularly the case in connection with sea-going shipping from Montreal: these operations are primarily intended to prevent flood conditions during the spring ice break-up.

3.—Duration of the Season of Open Navigation on the St. Lawrence Ship Channel, 1933-47

NOTE.—Figures for the years 1882-1911 are given at p. 756 of the 1934-35 Year Book and for 1912-32 at p. 615 of the 1942 edition.

Year	Channel Open, Quebec to Montreal[1]	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour	Year	Channel Open, Quebec to Montreal[1]	First Arrival from Sea, Montreal Harbour	Last Departure for Sea, Montreal Harbour
1933	Mar. 23	Apr. 14	Dec. 6	1941	Apr. 14	Apr. 19	Dec. 17
1934	" 28	" 26	" 8	1942	" 17	May 2	" 16
1935	" 30	" 15	" 9	1943	" 29	" 24	" 13
1936	" 28	" 13	" 11	1944	" 20	Apr. 20	" 9
1937	Apr. 9	" 19	" 8	1945	" 1	" 9	" 3
1938	" 12	" 18	" 4	1946	" 1	" 12	" 18
1939	" 29	" 29	" 12	1947	" 16	" 19	" 5
1940	" 23	" 24	" 5				

[1] "Channel Open" means the route can be navigated although there may be floating ice in the river.

Subsection 3.—Canals

Before the period of extensive railway construction, which commenced for Canada in the 1850's, the water routes, more especially the St. Lawrence, the Great Lakes, and the Ottawa River, were the chief avenues of transportation. These routes were interrupted at certain points, necessitating portages and, to eliminate the toil of unloading, transporting and reloading at the portages, canals were constructed.

The earliest mention of canals in Canada is in connection with the Lachine Canal, begun by early French settlers in 1700. Only after the conquest of Canada by the British, however, were improvements of the main water routes made. In the early part of the nineteenth century increased domestic and foreign trade and the introduction of steam navigation resulted in more attention being given to this work. Although some of the early canals were constructed primarily for military purposes, they soon became essential to the commercial life of the country. However, since the development of railways in Canada and, even more since the growth of motor-vehicle traffic, the canals, with the exception of those on the Great Lakes-St. Lawrence River Route, are playing a less important part in the transportation activities of the country.

The principal canals of Canada are under the jurisdiction of the Federal Department of Transport and each is accessible from the Atlantic Ocean. They serve six routes: (1) Montreal to Port Arthur and Fort William, via the St. Lawrence River and Great Lakes; (2) Montreal to the International Boundary near Lake

Champlain, via the Richelieu River; (3) Montreal to Ottawa, via the Ottawa River; (4) Ottawa to Perth and Kingston, via the Rideau and Cataraqui Rivers; (5) Trenton, at the mouth of the Trent River on Lake Ontario, to the mouth of the Severn River on Lake Huron; and (6) St. Peters, Nova Scotia, on the Atlantic Ocean, to the Bras d'Or Lakes. The aggregate length of these six routes is 1,844 miles, the total of actual canal being 509 miles.

The names of the various canals along these routes, their locations and lengths, together with the number and dimensions of the locks thereon and other information may be found in the bulletin *Canals of Canada*, published by the Department of Transport.

The following table shows the length and lock dimensions of canals under the administration of the Department of Transport, as at the end of 1947.

Under the jurisdiction of the Federal Department of Public Works are the St. Andrews Lock (length, width and draught, respectively, 215, 45 and 17 feet) at Selkirk on the Red River, Man., and the lock at Poupore, Que. There are also a few small isolated locks, each controlled under the authority of the province in which it is situated.

4.—Length and Lock Dimensions of Canals Under the Control of the Department of Transport, 1947

Name	Location	Length of Canal	Locks			
			No.	Minimum Dimensions		
				Length	Width	Depth
		miles		ft.	ft.	ft.
St. Lawrence—						
Lachine	Montreal to Lachine	8·74	5	270	45	14[1]
Soulanges	Cascades Point to Coteau Landing	14·67	5	280	46	15[1]
Cornwall	Cornwall to Dickinsons Landing	11·00	6	270	43·67	14[1]
Farran Point	Farran Point Rapids	1·28	1	800	50	16[1]
Rapide Plat	Morrisburg	3·89	2	270	45	14[1]
Galop	Iroquois to Cardinal	7·36	3	270	45	14[1]
Welland Ship	Port Weller, Lake Ontario, to Port Colborne, Lake Erie	27·60	8	859	80	30[2]
Sault Ste. Marie	Sault Ste. Marie, Ont.	1·38	1	900	60	18·25
Richelieu River—						
St. Ours	St. Ours, Que	0·12	1	339	45	12
Chambly	Chambly to St. Johns, Que	11·78	9	120·5	23·25	6·5
Ottawa River—						
Ste. Anne	Junction of St. Lawrence and Ottawa Rivers	0·12	1	200	45	9
Carillon	Carillon Rapids, Ottawa River	0·94	2	200	45	9
Grenville	Long Sault Rapids, Ottawa River	5·94	5	200	45	9
Miscellaneous—						
Rideau	Ottawa to Kingston	123·53	47	134	33	5·5
	Rideau Lake to Perth (Tay Branch)	6·82	2	134	33	5·5
Trent	Trenton to Peterborough Lock, Peterborough	88·74	18	175	33	8[3]
	Peterborough Lock to Swift Rapids	135·71	24	134	33	6
	Swift Rapids to Big Chute[4]	8·00	Nil	–	–	–
	Big Chute to Port Severn	8·11	1	100	25	6
	Sturgeon Lake to Lindsay (Scugog Branch)	10·00	1	142	33	6
	Lindsay to Port Perry (Scugog Branch)	25·00	Nil	–	–	–
Murray	Isthmus of Murray—Bay of Quinte	7·53[5]	"	–	–	–
St. Peters	St. Peters Bay to Bras d'Or Lakes, Cape Breton, N.S.	0·50	1	300	48	18[6]

[1] Navigable depths are occasionally less at times of extremely low water. [2] Minimum depth between locks 23 ft. [3] Notice must be given by vessels of more than 6 feet 10 inches draught. [4] Marine railways in this section limit navigation to vessels 60 feet long 13·5 feet wide and 4·0 feet draught. [5] Minimum depth of canal with Lake Ontario at elevation 244 ft. above sea-level is 9·5 ft. [6] The depth of canal prism is 17 ft.

Subsection 4.—Harbours

Water transportation cannot be studied with any degree of completeness without taking into consideration the co-ordination of land and water transportation at many of the ports. Facilities provided to enable interchange movements include the necessary docks and wharves, some for passenger traffic but most of them for freight, warehouses for the handling of general cargo, and special equipment for such bulk freight as lumber, coal, oil, grain, etc. Facilities may include cold-storage warehouses, harbour railway and switching connections, grain elevators, coal bunkers, oil-storage tanks and, in the chief harbours, dry-dock accommodation.

Eight of the principal harbours of Canada are administered by the National Harbours Board. Seven other harbours come under the supervision of the Department of Transport and are administered by commissions that include municipal as well as Federal Government appointees. In addition, there are about 300 public harbours coming under the direct supervision of the Department of Transport.

At most ports, in addition to the harbour facilities operated by the National Harbours Board or other operating commission, there are dock and handling facilities owned by private companies such as railway, pulp and paper, oil, sugar industries, etc. At a number of ports there are also graving docks which are dealt with separately.

5.—Facilities of Six of the Principal Harbours, as at Dec. 31, 1947

NOTE.—The facilities include those under the control of other agencies as well as those of the National Harbours Board at these ports.

Item	Halifax	Saint John	Quebec	Three Rivers	Montreal	Vancouver
Minimum depth of approach channel..... ft.	50	30	30	32·5	32·5	35
Harbour railway.....miles	31	63	23	5	60	75
Piers, wharves, jetties, etc.... No.	46	20	36	3	105	28
Length of berthing..... ft.	33,416	15,175	32,505	8,690	51,060	31,436
Transit-shed floor space.....sq. ft.	1,236,804	812,000	743,642	173,600	2,063,033	1,415,514
Cold-storage warehouse capacity.....cu. ft.	1,655,350	900,000	500,000	Nil	2,909,210	1,312,104
Grain Elevators—						
Capacity..... bu.	2,200,000	3,000,000	4,000,000	2,000,000	15,162,000	18,716,500
Loading rates.....bu. per hr.	75,000	150,000	90,000	32,000	400,000	312,000
Floating crane capacity..... tons	75	65	75	Nil	75	50
Coal-dock storage capacity... "	91,000	61,000	215,000	300,000	1,380,000	Nil
Oil-tank storage capacity..... gal.	115,995,000	9,800,000	44,344,000	Nil	30,000,000	96,339,592

National Harbours Board.—A description of the origin and functions of the National Harbours Board is given at pp. 679-681 of the 1940 Year Book. The Board is responsible for the administration and operation of the following properties (representing a capital investment of approximately $225,000,000): port facilities such as wharves and piers, transit sheds, grain elevators, cold-storage warehouses, terminal railways, etc., at the harbours of Halifax, Saint John, Chicoutimi, Quebec, Three Rivers, Montreal, Vancouver and Churchill; grain elevators at Prescott and Port Colborne; and the Jacques Cartier Bridge at Montreal and the Second Narrows Bridge at Vancouver. Operating revenues and expenses for these properties are given in Table **19**, p. 730.

Public Harbours and Harbour Masters.—As stated above, there are 300 public harbours in Canada, created by proclamation under Part X of the Canada Shipping Act, 1934. These harbours are under the jurisdiction of the Minister

of Transport and are administered under rules and regulations approved by the Governor in Council. Harbour masters have been appointed by the Minister of Transport for 131 of these harbours, their remuneration being made from fees levied on vessels under the terms of the Act.

Graving Docks.—The Department of Public Works of the Federal Government has constructed five dry docks. The dock at Kingston, Ont., is under lease to the Kingston Shipbuilding Company, while the old Esquimalt dry dock was temporarily transferred to the Department of National Defence on Nov. 1, 1934. This transfer is to be effective until such time as the dock is commercially required, when it will be returned to the control of the Department of Public Works. The large dry docks at Lauzon, Que., and Esquimalt, B.C., can be divided into two parts and were built at a cost of approximately $3,850,000 each. Under the Dry Dock Subsidies Act (9-10 Edw. VII, c. 17, 1910), several docks have been subsidized by payments of 3 to 4½ p.c. per annum on the original cost for a given number of years, as shown in Table 7.

6.—Dimensions of Graving Docks Owned by the Federal Government

Location	Length	Width at—			Depth of Water on Sill	Rise of Tide	
		Coping	Bottom	Entrance		Spring	Neap
	ft.	ft.	ft.	ft.	ft.	ft.	ft.
Lauzon, Que., *Champlain*	1,150·0	120·0	105·0	120·0	40·0 H.W.	18	13·3
Lauzon, Que., *Lorne*	600·3	100·0	59·5	62·0	25·7 H.W.	18	13·3
Esquimalt, B.C. (old dock)	450·8[1]	90·0	41·0	65·0	28·8 H.W.[2]	7 to 10	3 to 8
Esquimalt, B.C.	1,173·8	149·0	126·0	135·0	40·0 H.W.	7 to 10	3 to 8
Kingston, Ont.	353·5	55·0	47·0	55·0	16·8⅜ L.W.	–	–

[1] Face of caisson to vertical face at head, 481·0 ft.; length of pad on which keel blocks rest, 403·5 ft.
[2] Over keel blocks at H.W. 10 ft. tide, 26·1 ft.

7.—Dimensions and Cost of Graving Docks Subsidized under the Dry Docks Subsidies Act, 1910

Location	Length	Width	Depth Over Sill	Total Cost	Subsidy
	ft.	ft.	ft.	$	
Collingwood No. 1, Ont.[1]	518·3	59·8	13·0	500,000	3 p.c. for 20 years
Collingwood No. 2, Ont.[1]	410·0	95·0	16·0	306,965	3 p.c. for 20 years
Port Arthur, Ont.[1]	701·0	77·5	16·2	1,258,050	3 p.c. for 20 years
Montreal, Que. (floating dock), *Duke of Connaught*	601·0	100·0	38·0	3,000,000	3½ p.c. for 35 years
Prince Rupert, B.C. (floating dock)[1]	600·0	100·0	32·0[2]	2,199,168	3½ p.c. for 35 years
Saint John, N.B.	1,157·8	131·5	40·3	5,500,000	4½ p.c. for 35 years
North Vancouver, B.C. (floating dock)	556·5	98·0	28·0[3]	2,500,000	4½ p.c. for 35 years

[1] Subsidy payments have been completed. [2] 28 ft. over blocks. [3] Over sill (H.W.).

Subsection 5.—Marine Services and Operations of the Federal Government

The services covered by this Subsection are those dealing with steamship inspection, pilotage service, sea-faring personnel and accidents to shipping, and the operations are those of the Canadian Government Merchant Marine, and the Canadian National (West Indies) Steamships.

Steamship Inspection.—The Steamship Inspection Service provided for under Part VII of the Canada Shipping Act, 1934, consists of a headquarters staff, at Ottawa, and staffs of inspectors at the principal ocean and inland ports. The Act provides for a Board, known as the Board of Steamship Inspection, which decides on questions arising out of the administration of the Act. The Steamship Inspection Service is responsible for the administration and carrying out of the provisions of the Act respecting the periodic inspection of power-driven ships and the issue of inspection certificates; the assignment of load lines; the conditions under which dangerous goods may be carried in ships; the protection against accident of workers employed in loading or unloading ships; and also for the administration and carrying out of the provisions relating to the certification and employment of marine engineers.

8.—Steamship Inspection, by Inspection Divisions, Year Ended Mar. 31, 1947

Port	Vessels Subject to Inspection when in Commission		Vessels Inspected				Vessels Not Inspected	
			Registered or Owned in Canada		Registered or Owned Elsewhere			
	No.	gross tonnage	No.	gross tonnage	No.	gross tonnage	No.	gross tonnage
Halifax	143	228,605	141	225,763	2	2,842	Nil	Nil
Saint John	107	300,767	45	109,923	Nil	Nil	62	190,843
Quebec	82	86,147	78	85,306	"	"	4	842
Sorel	97	99,089	64	88,988	"	"	33	10,101
Montreal	197	720,222	122	370,770	3	9,499	55	113,611
Kingston	–	–	66	93,098	Nil	Nil	Nil	Nil
Toronto	233	387,371	230	383,228	1	2,482	2	1,661
Midland	69	109,880	58	106,199	Nil	Nil	11	3,681
Collingwood	56	48,650	50	46,599	1	1,895	5	156
Port Arthur	151	31,814	54	25,594	Nil	Nil	98	6,386
Vancouver	349	381,509	281	363,817	1	5,841	68	17,693
Victoria	80	123,045	58	111,845	Nil	Nil	22	11,200
Totals	**1,564**	**2,517,099**	**1,247**	**2,011,130**	**8**	**22,559**	**360**	**356,174**

Pilotage.—This service functions under the provisions set forth in Part VI of the Canada Shipping Act, 1934. Qualified pilots may offer their services to the stranger in local and confined waters. At the same time, pilotage might also be considered as a method of insurance.

There are 42 pilotage districts in Canada, 9 of which (Sydney, Bras d'Or Lakes, Halifax, Saint John, Quebec, Montreal, St. Lawrence-Kingston-Ottawa, Churchill, and British Columbia) are under the Minister of Transport as pilotage authority. The other districts function under local pilotage authorities appointed by the Governor in Council under the provisions of the Canada Shipping Act.

Table 9 shows, by major ports, the number and aggregate tonnage of ships using pilots during the fiscal years 1945-46 and 1946-47. Corresponding statistics are not available for the St. Lawrence-Kingston-Ottawa district.

9.—Pilotage Service by Districts, Years Ended Mar. 31, 1946 and 1947

District	1946		1947	
	Ships	Tonnage	Ships	Tonnage
Bras d'Or, N.S.	12	2,571	15	15,525
Sydney, N.S.	2,220	4,300,214	1,416	2,491,710
Saint John, N.B.	1,405	3,532,965	963	2,945,341
Halifax, N.S.	3,269	10,819,247	2,135	7,097,214
Quebec, Que.	2,766	8,050,185	2,753	8,708,280
Montreal, Que.	4,872	9,757,632	4,192	9,404,529
British Columbia	2,138	8,332,026	2,456	10,065,042
Churchill, Man.	1	1,503	20	76,634

Seamen Shipped and Discharged.—Seamen shipped and discharged at Canadian ports under the provisions of the Canada Shipping Act, 1934, during the fiscal years 1940-41 to 1946-47, are shown in the following table.

10.—Number of Seamen Shipped and Discharged at Canadian Ports, Years Ended Mar. 31, 1940-47

NOTE.—Figures for the years 1908-17 are given at p. 690 of the 1938 Year Book and for 1918-39 at p. 587 of the 1941 edition.

Year	Seamen Shipped	Seamen Discharged
	No.	No.
1940	22,892	20,760
1941	28,782	25,134
1942	23,064	20,312
1943	19,255	15,250
1944	26,068	20,491
1945	29,230	25,056
1946	30,361	27,042
1947	43,973	42,205

Canadian Government Merchant Marine.—The circumstances under which the Canadian Government became possessed of, and responsible for, the operations of a merchant marine are explained at p. 776 of the 1934-35 Year Book. A table showing the operating results from 1919 to 1936 is given at p. 689 of the 1937 Year Book.

The original fleet of the Canadian Government Merchant Marine, Ltd., consisted of 66 vessels with a total deadweight tonnage of 391,212. The original cost of the fleet was $79,661,921 and the capital loss thereon was $74,239,356, the total capital recovery of $5,422,565 being made up as follows: (1) the sale of 56 vessels for $2,378,018; (2) the proceeds of insurance on 4 vessels lost, amounting to $2,111,475; (3) the sale of 6 vessels to the Canadian National (West Indies) Steamships, Ltd., for $933,072.

The charter of the Canadian Government Merchant Marine, Ltd., and its sudsidiary companies, although inactive since 1936, had not been surrendered and in 1940 the Company was reconstituted and is operating on behalf of the Canadian Government certain ships seized in prize and either requisitioned for use by the Canadian Government or condemned by the Court.

Canadian National (West Indies) Steamships, Ltd.—In conformity with the Canada-West Indies Trade Agreement of 1926 (16-17 Geo. V., c. 16) the Federal Government has provided direct steamship services to the West Indies through the medium of Canadian National (West Indies) Steamships, Ltd.

At the end of 1947, the Canadian National Steamships, Ltd., owned and operated the following ten vessels between Canada and the British West Indies.

R.M.S. *Lady Nelson*
R.M.S. *Lady Rodney*
M.V. *Canadian Cruiser*
M.V. *Canadian Challenger*
M.V. *Canadian Constructor*
S.S. *Canadian Conqueror*
S.S. *Canadian Highlander*
S.S. *Canadian Leader*
S.S. *Canadian Observer*
S.S. *Canadian Victor*

During the Second World War three ships of the Canadian National Steamships, Ltd., famous "Lady" fleet, the *Lady Drake*, *Lady Somers*, and *Lady Hawkins* were destroyed through enemy action. The remaining two, *Lady Rodney* and *Lady Nelson* were placed under charter with the Department of National Defence to serve as troop and hospital ships respectively.

The *Lady Rodney* returned to regular peace-time service on July 20, 1947, while her sister ship the *Lady Nelson* made her first post-war voyage on Aug 21, 1947.

During 1946 and 1947 the Canadian National Steamships, Ltd., purchased three diesel vessels, the M.V. *Canadian Cruiser*; M.V. *Canadian Challenger*; M.V. *Canadian Constructor*. Each has accommodation for 12 passengers, and cargo facilities which provide 16,000 cu. ft. of refrigerator space for perishable goods, and 370,000 cu. ft. for general cargo.

The S.S. *Lorne Park*, S.S. *Cartier Park*, and S.S. *Maisonneuve Park* which the Canadian National Steamships, Ltd., operated under bareboat charter from the Park Steamship Company Limited, were purchased in January, 1947, and renamed the *Canadian Leader*, *Canadian Victor* and *Canadian Highlander*, respectively.

The S.S. *Chomedy* and S.S. *Colborne*, formerly owned by the Company, were sold to other interests.

11.—Financial Statistics of Canadian National (West Indies) Steamships, Ltd., 1937-47

NOTE.—Statistics for the years 1929–36 are given at p. 620 of the 1942 Year Book.

Year	Operating Revenues	Operating Expenses	Operating Net	Depreciation	Interest	Book Loss or Surplus
	$	$	$	$	$	$
1937	4,676,684	4,018,146	+658,538	328,287	808,432	−481,275
1938	4,915,355	4,169,116	+746,239	328,641	818,613	−404,109
1939	4,642,306	4,018,447	+623,859	328,829	816,366	−524,429
1940	5,750,341	4,545,306	+1,205,035	329,079	816,661	−12,733
1941	6,756,464	5,029,107	+1,727,357	262,645	816,701	+593,216
1942	5,600,496	4,220,219	+1,380,277	160,634	816,701	+273,880
1943	4,492,189	2,949,216	+1,542,973	239,363	813,073	+438,837
1944	5,378,059	3,160,568	+2,217,491	243,158	651,246	+1,271,387
1945	4,412,252	2,569,626	+1,842,626	279,466	612,999	+1,116,086
1946	6,669,129	4,671,148	+1,997,981	288,092	596,499	+1,302,052
1947	7,857,471	6,534,600	+1,322,871	493,594	573,298	+522,677

Section 2.—Financial Statistics of Waterways

The principal statistics available that give any idea of the cost of water-borne traffic consist of the record of public expenditures on waterways. Such expenditures may be classified as capital expenditures, or investments and expenditures for maintenance and operation. Revenues from operation are also recorded. Undoubtedly, in so far as capital expenditures for the permanent improvements of waterways are concerned, those of the Federal Government cover the major part. There has been some expenditure by municipalities on local harbour facilities, and private capital expenditure is also confined almost entirely to terminal or dockage facilities. The investment in shipping, however, with the exception of the Canadian Government Merchant Marine and the Canadian National (West Indies) Steamships, Ltd., has come almost entirely from private sources. No figures are available regarding private investments in shipping except those appearing in the reports of the operating companies which cover only a portion of the field. Neither are there statistics showing the revenues of ship operators from passenger and freight traffic.

Capital Expenditures.—So far as capital expenditures on Canadian waterways are concerned, the only figures available are those compiled from the Balance Sheet of the Dominion or the annual reports of the Departments of Transport, Public Works and Finance, but such investments or capital expenditures cannot be regarded as any indication of the present worth of the undertakings represented. The costs of building canals and other waterways and permanent works to facilitate water transportation in Canada are represented in such reports at their original book values, no deductions having been made from the cumulative totals for depreciation from year to year or for abandonment of earlier works where they had been superseded, as in the first Welland Canals for instance. To this extent such figures are an overstatement of the present value of the works in use. There is a further limitation that should be noted in regard to such figures: they do not include the costs of maintenance and improvements or the operation of these works, such charges having been made to the Consolidated Deficit Account as annual expenditures and not to capital account. Table **12**, which shows capital expenditures on canals, marine service and miscellaneous water-transport facilities to have reached the grand total of over $383,772,000 must be interpreted with the above qualifications in mind. In Table **13** the capital values of the fixed assets administered by the National Harbours Board are shown as at Dec. 31, 1946 and 1947: these are in addition to the capital expenditures of Table **12**. These figures reflect the capital situation in regard to the national harbours of Canada far better than do those of Table **12** in the case of waterways and facilities, inasmuch as they include all buildings, machinery and durable plant improvements; they have also been subject to deductions for depreciation and the scrapping or abandonment of plant and more nearly approach the present value of the properties under the administration of the National Harbours Board.

Table **14** shows the amounts advanced by the Federal Government to the Harbours Boards for capital expenditures from 1945 to 1947. The total for 1947 represents a decline of 11 p.c. from 1946.

12.—Capital Expenditures of the Federal Government on Canals, Marine Service and Miscellaneous Water Transport Facilities, as at Mar. 31, 1946 and 1947

NOTE.—Compiled from the Annual Reports of the Department of Transport, the Department of Finance and the Department of Public Works.

Item	Expenditures		
	Years Ended Mar. 31—		Total to Mar. 31, 1947
	1946	1947	
	$	$	$
Canals			
Quebec Canals—			
Beauharnois (old)...	Nil	250	1,635,219
Carillon and Grenville.....	"	Nil	4,191,727
Chambly (Richelieu R.).....	"	200	780,619
Lachine.....	Cr. 6,649	Nil	13,981,652
Lake St. Francis....	Nil	"	75,907
Lake St. Louis.....	"	"	298,176
Soulanges.....	"	1,200	7,898,670
Ste. Annes.....	"	Nil	1,320,216
St. Ours (Richelieu R.).....	"	"	735,964
Ontario — St. Lawrence Canals—			
Cornwall.....	"	6,300	7,239,503
Williamsburg Canals	"	Nil	1,334,552
Farran Point.....	"	"	877,091
Rapide Plat.....	"	"	2,159,881
Galops.....	"	"	6,143,468
Galops Channel....	"	"	1,039,896
North Channel....	"	"	1,995,143
River Reaches.....	"	"	483,830
St. Peters, N.S.....	"	"	648,547
Culbute Lock and Dam (Ottawa R.)..	"	"	382,391
Rideau.....	"	"	4,214,211
Tay.....	"	"	489,599
St. Lawrence Ship (surveys).....	"	"	133,897
Sault Ste. Marie....	"	"	4,935,809
Trent.....	Cr. 2,350	4,668	19,955,556
Murray.....	Nil	Nil	1,248,947
Welland Ship.....	Cr. 6,661	4,091	131,885,789
Prior Welland Canals.....	Cr. 6,775	69,951	27,379,151
Canals generally....	Nil	Nil	34,967
Adjustment suspense	"	"	165,361
Totals, Canals....	**Cr.22,435**	**86,660**	**243,665,739**
Marine Service			
River St. Lawrence Ship Channel.....	948,701	970,534	87,603,247
Tug *Ocean Eagle*.....	Nil	Nil	91,072
Construction of Icebreaker.....	"	"	760,699
Hopper Barge *Chesterfield*.....	"	"	233,941
Totals, Marine Service.....	**948,701**	**970,534**	**88,688,959**

Item	Expenditures	
	Years Ended Mar. 31, 1946 and 1947	Total to Mar. 31, 1947
	$	$
Miscellaneous Facilities[1]		
Bare Point breakwater.....	Nil	217,996
Burlington Bay Canal.....	"	308,328
Burlington Channel improvements.....	"	1,392,490
Cape Tormentine Harbour...	"	95,000
Esquimalt graving dock.....	"	7,799,761
Georgian Bay to Montreal waterway survey.....	"	918,797
Halifax elevator site.....	"	86,512
Kingston graving dock.....	"	556,589
Lake St. Peter.....	"	1,164,235
Lévis graving dock.....	"	971,593
Miscellaneous wharves.....	"	1,201,132
Port Arthur, Fort William and River Kaministikwia improvements.....	"	16,249,020
Port Colborne Harbour.....	"	904,459
Rainy River Lock and Dam.	"	134
Sorel Harbour improvements	"	1,806,541
St. Andrews Rapids and Red River improvements.....	"	1,569,777
Tiffin Harbour improvements	"	481,622
Toronto Harbour improvements.....	"	9,331,987
Upper St. Lawrence River Channel improvements.....	"	468,098
Victoria, B.C., Harbour improvements.....	"	5,131,025
Victoria, Ont., Harbour improvements.....	"	761,802
Totals.....	—	**51,416,898**

	Years Ended Mar. 31—		Total to Mar. 31, 1947
	1946	1947	
	$	$	$
Summary			
Canals.....	Cr.22,435	86,660	243,665,739
Marine service.. ..	948,701	970,534	88,688,959
Miscellaneous facilities.....	Nil	Nil	51,416,898
Grand Totals.....	**926,266**	**1,057,194**	**383,771,596**

[1] These are works not covered elsewhere in these tables, and shown in the "Public Accounts", as Schedule "K" to the Balance Sheet.

13.—Capital Values of Fixed Assets Administered by the National Harbours Board, as at Dec. 31, 1946 and 1947

NOTE.—Compiled from the Annual Reports of the National Harbours Board.

Item	1946	1947	Item	1946	1947
	$	$		$	$
Harbour dredging	12,270,897	12,249,552	Harbour buildings	744,907	747,148
Real estate	12,760,107	12,785,466	Central heating plants	148,379	147,491
Vehicular bridges	300,573	300,573	Harbour shops	333,705	335,964
Roads, fences and boundaries	1,760,539	1,760,539	Electric power systems	1,068,861	1,168,462
Sewers and drains	663,600	672,649	Water supply systems	744,339	745,437
Miscellaneous structures	751,136	752,635	Floating equipment	2,055,402	1,956,820
Wharves and piers	89,490,536	89,483,393	Shore equipment	858,978	894,216
Permanent sheds	19,713,510	20,243,051	Miscellaneous small plant	565,162	567,387
Shed hoists and electrical cranes	248,973	248,973	Engineering — general surveys	606,403	606,403
Railway systems	7,004,861	7,068,683	Works under construction	599,276	238,541
Grain elevator systems	41,908,269	41,863,783	Sundry expenditure—undistributed	5,395,832	5,395,832
Cold-storage systems	5,723,481	5,748,840	Bridge construction, right-of-way, etc	19,164,920	18,950,041
Office furniture and appliances	144,625	154,839	**Totals**	**225,027,271**	**225,086,718**

14.—Amounts Advanced by the Federal Government to the Harbour Boards for Capital Expenditures, 1945-47

NOTE.—Compiled from the Annual Reports of the National Harbours Board.

Harbours and Properties	1945	1946	1947	Harbours and Properties	1945	1946	1947
	$	$	$		$	$	$
Halifax	181,344	212,320	34,797	Prescott elevator	Nil	Nil	Nil
Saint John	Nil	5,600	20,000	Port Colborne elevator	"	819	"
Chicoutimi	"	Nil	Nil	Churchill	"	3,562	1,751
Quebec	"	16,257	55,302	Vancouver	18,315	43,372	215,997
Three Rivers	867	1,550	2,444	Second Narrows bridge	Nil	Nil	Nil
Montreal	44,676	223,432	119,570	Head Office	"	"	"
Jacques Cartier bridge	Nil	Nil	Nil	**Totals**	**245,202**	**506,912**	**449,861**

Waterway Expenditures and Revenues on Consolidated Fund Account.—Expenditures under this heading (Tables **15** to **17**) are mainly for the operation and maintenance of various facilities for water transport, but unfortunately the line between operation and maintenance expenditure is not as finely drawn as is desirable.

In addition to the recurrent expenditures to facilitate water transportation shown here, the Federal Government expends annually a considerable amount to cover deficits of the Canadian National (West Indies) Steamships, Ltd., and of the National Harbours Board, for mail subsidies and steamship subventions as shown in Table **20**. Operating expenditures and revenues of facilities administered by the National Harbours Board are shown separately in Table **19**. The National Harbours Board operates as a statutory corporation. The improvement in the financial results since control was unified under the Board, is indicated by the increase of consolidated operating income from $2,452,000 in 1935 to $4,803,130 in 1947. Revenues in connection with waterways of the Department of Transport and the Department of Public Works are shown in Table **18** p. 729.

15.—Expenditures on Canals Charged to Consolidated Deficit Account, Years Ended Mar. 31, 1946 and 1947

NOTE.—Compiled from the Annual Reports of the Department of Transport.

EXPENDITURES ON IMPROVEMENTS

Item	Years Ended Mar. 31—		Total to Mar. 31, 1947	Item	Years Ended Mar. 31—		Total to Mar. 31, 1947
	1946	1947			1946	1947	
	$	$	$		$	$	$
Main Canals—				Secondary Canals—			
Quebec Canals—				Carillon and Grenville	3,913	15,708	653,366
Beauharnois (old)	Nil	Nil	355,640	Chambly (Richelieu R.)	2,308	2,461	1,257,063
Hungry Bay Dyke	"	"	47,223	Rideau and Tay	4,980	10,001	1,110,745
Lachine	14,062	"	3,133,797	Ste. Annes	Nil	Nil	232,812
Lake St. Francis	Nil	"	55,324	St. Ours (Richelieu R.)	3,233	"	199,633
Quebec Dredging Fleet	"	"	96,722	St. Peters, N.S.	9,799	16,778	915,304
Soulanges	"	"	609,535	Trent	17,108	102,572	4,457,755
Ontario-St. Lawrence Canals—	"	"	322,406	Murray	Nil	10,976	153,530
Cornwall	7,994	2,474	781,085	Miscellaneous—			
Williamsburg	Nil	1,747	460,963	Bay Verte, Chignecto, N.S.	Nil	Nil	44,388
Welland Canals—				Culbute Lock and Dam (Ottawa R.)	"	"	60,923
Welland Ship	30,655	38,500	1,476,358	St. Lawrence Ship (surveys, etc)	901	5,312	630,815
Prior Welland Canals	Nil	Nil	2,650,121	Surveys and inspections	Nil	Nil	572,990
Sault Ste. Marie	61,446	537	548,244	Canals generally	"	"	190,509
				Totals	**156,399**	**207,066**	**21,017,251**

EXPENDITURES ON OPERATION AND MAINTENANCE

Item	Year Ended Mar. 31, 1946			Year Ended Mar. 31, 1947		
	Operation	Maintenance	Total	Operation	Maintenance	Total
	$	$	$	$	$	$
Administration, Ottawa	42,951	Nil	42,951	44,005	Nil	44,005
Quebec Canals—						
Head office	35,552	"	35,552	41,280	"	41,280
Carillon and Grenville Canals	43,806	80,777	124,583	44,844	64,449	109,293
Chambly (Richelieu R.)	54,275	30,267	84,542	57,771	37,245	95,016
Hungry Bay and Ste. Barbe Dykes	Nil	2,786	2,786	Nil	2,576	2,576
Lachine	255,381	147,775	403,156	246,568	149,266	395,834
Quebec Dredging Fleet	31,600	16,508	48,108	32,283	11,634	43,917
Soulanges	100,955	63,206	164,161	97,594	77,673	175,267
Ste. Annes	7,070	5,212	12,282	8,016	5,051	13,067
St. Ours (Richelieu R.)	6,391	4,234	10,625	8,212	8,981	17,193
Ontario - St. Lawrence Canals—						
Head office	38,809	10,348	49,157	40,158	10,941	51,099
Cornwall	123,276	93,081	216,357	117,775	106,745	224,520
Williamsburg Canals	87,411	20,149	107,560	84,753	25,048	109,801
St. Peters, N.S.	17,765	4,001	21,766	19,376	3,600	22,976
Rideau and Tay Canals	123,076	74,988	198,064	136,432	118,128	254,560
Sault Ste. Marie	57,089	26,239	83,328	56,738	39,500	96,238
Trent	185,914	50,195	236,109	202,729	57,232	259,961
Murray	9,615	4,846	14,461	10,742	4,659	15,401
Welland Canals	546,689	240,140	786,829	585,096	299,967	885,063
Totals	**1,767,625**	**874,752**	**2,642,377**	**1,834,372**	**1,022,695**	**2,857,067**

16.—Marine Service Expenditures Charged to Consolidated Deficit Account, Years Ended Mar. 31, 1946 and 1947

NOTE.—Compiled from the Annual Reports of the Department of Transport.

Item	1946	1947	Item	1946	1947
	$	$		$	$
Marine Service—Administration	14,937	14,660	Breaking Ice—Thunder Bay	30,000	30,000
Floating Equipment—Administration	20,666	23,254	North Atlantic Ice Patrol	Nil	9,000
Nautical Services—Administration	28,678	27,364	Steamship Inspection	218,535	227,640
Maintenance and Operation of Steamers (incl. ice-breakers)	1,525,532	2,025,393	Government Wharves	Nil	Nil
Navigation and Shipping—Miscellaneous	48,364	57,910	Agencies, Salaries and Office Expenses	278,528	293,901
Life Saving Service	41,606	42,462	St. Lawrence Ship Channel—Maintenance and Operation	215,342	197,058
Marine Signal Service	84,076	102,960	Grants to Sailors' Institutes	600	400
Administration of Pilotage	156,621	168,727	Pensions to Pilots	2,398	2,083
Subsidies for Wrecking Plants	45,000	45,000	Compassionate Allowances	2,133	4,102
Aids to Navigation (Construction, Maintenance and Supervision)	2,178,940	2,693,197	Government Employees' Compensation Act	22,610	20,778
Maintenance and Repairs to Wharves	2,984	2,405	Marine Service—War Appropriations	293,695	103,357
			Totals	**5,211,245**	**6,091,651**

17.—Expenditures on Waterways Charged to Consolidated Fund Account by Department of Public Works, Years Ended Mar. 31, 1946 and 1947

NOTE.—Compiled from the Annual Reports of the Departments concerned by the Comptroller of the Treasury, Department of Finance.

Year and Item	Dredging	Construction	Improvements and Repairs	Staff and Sundries	Total
1946	$	$	$	$	$
HARBOURS[1] AND RIVERS					
Prince Edward Island	46,354	4,852	32,618	17,760	101,584
Nova Scotia	249,843	178,699	385,251	61,928	875,721
New Brunswick	88,164	37,480	104,877	294,101	524,621
Quebec	290,996	278,889	170,653	354,909	1,095,447
Ontario	393,529	116,599	132,590	133,007	775,725
Manitoba	39,734	199	2,066	63,475	105,474
Saskatchewan	Nil	Nil	Nil	923	923
Alberta	"	"	1,000	494	1,494
British Columbia	317,793	367,636	89,525	345,925	1,120,879
Yukon	Nil	Nil	2,121	Nil	2,121
Northwest Territories	"	6,770	33	344	7,147
General	"	Nil	Nil	22,589	22,589
TOTALS, HABROURS[1] AND RIVERS	1,426,412	991,124	920,734	1,295,455	4,633,725
Dredging plant	Nil	143,025	27,486	Nil	170,511
Roads and bridges	"	370,537	27,487	60,342	458,366
Totals, 1946	**1,426,412**	**1,504,685**	**975,707**	**1,355,798**	**5,262,602**
1947					
HARBOURS[1] AND RIVERS					
Prince Edward Island	111,418	342,664	76,792	17,909	548,783
Nova Scotia	583,302	745,001	459,761	66,199	1,854,263
New Brunswick	102,408	25,789	92,296	287,939	508,432
Quebec	273,546	1,504,918	352,640	421,410	2,552,514
Ontario	624,284	319,495	329,797	150,335	1,423,911
Manitoba	52,185	242,803	21,092	66,352	382,432
Saskatchewan	183	Nil	Nil	1,219	1,402
Alberta	19,539	"	4,829	17,397	41,765
British Columbia	332,910	437,577	255,206	445,676	1,471,369
Yukon	Nil	Nil	Nil	Nil	Nil
Northwest Territories	"	38,266	1,729	"	39,995
General	"	Nil	Nil	25,105	25,105
TOTALS, HARBOURS[1] AND RIVERS	2,099,775	3,656,513	1,594,142	1,499,541	8,849,971
Dredging plant	Nil	201,073	27,191	Nil	228,264
Roads and bridges	"	338,644	31,773	61,708	432,125
Totals, 1947	**2,099,775**	**4,196,230**	**1,653,106**	**1,561,249**	**9,510,360**

[1]Exclusive of harbours under the National Harbours Board as shown in Table 19.

18.—Revenues of the Federal Government in Connection with Waterways, Years Ended Mar. 31, 1946 and 1947

NOTE.—Compiled from Annual Reports of the Departments concerned by the Comptroller of the Treasury, Department of Finance.

Item	1946	1947
	$	$
Department of Transport		
CANALS SERVICE		
Lachine	260,656	261,349
Soulanges	1,024	1,153
Chambly	1,543	1,722
Ste. Anne Lock	314	207
Carillon and Grenville	350	470
Beauharnois	62,616	63,198
Cornwall	43,155	52,652
Williamsburg	3,531	11,738
St. Peters	192	207
Welland Canals	376,935	357,063
Sault Ste. Marie	392	870
Rideau	14,232	15,242
Trent	83,507	87,877
Murray	287	309
Fines and forfeitures	465	265
Sundries	24	Nil
Sale of publications	655	1,370
Premium, discount and exchange	81	6
Sundry services	72	1,575
Sundry sales	4,407	34
Salvage material	Nil	127
Rental of equipment	4,379	5,564
Refund of previous year's expenditures	5,686	1,637
TOTALS, CANALS SERVICE	864,503	864,636
MARINE SERVICE		
Fines and forfeitures	45,888	39,494
Steamship inspection	167,046	172,700
Wharf revenue	169,392	186,616
Harbour dues	31,340	41,069
Measuring surveyors' fees	4,244	4,560
Examinations — masters' and mates' fees	5,401	5,239
Pilots licence fees (Pilotage)	76	327
Marine registry fees	125	140
Marine steamers' earnings	200[1]	1,491
Signal station dues	1,418	943
Rents	9,450	10,252
Miscellaneous sales including salvage material	3,325	Nil
Sale of publications	1,651	1,730
Premium, discount and exchange	92	4
Sundry services	59	948
Nautical discharge certificates	491	504
Shipping masters' fees	Nil	Nil
Dominion lighthouse depot—Prescott—Cash Surplus—War 1939-45	152 639	2,410
Power service	Nil	10
Salvage material	"	2
Sundry sales	"	12,367
Rental, employees' quarters	"	515
MARINE SERVICE—concluded		
Rental of equipment	9,438	9,682
Refund of previous year's expenditures	17,527	10,938
—War 1939-45	106,789	24,368
Sale surplus assets—War 1939-45	81	Nil
TOTALS, MARINE SERVICE	726,672	526,309
BOARD OF TRANSPORT COMMISSIONERS		
Licences to ships	1,606	1,911
Sale of publications	272	55
TOTALS, BOARD OF TRANSPORT COMMISSIONERS	1,878	1,966
Totals, Dept. of Transport	**1,593,053**	**1,392,011**
Department of Public Works		
EARNINGS OF DRY DOCKS		
Champlain Dock, Lauzon, Que	86,895	71,065
Lorne Dock, Lauzon, Que	38,404	26,650
Esquimalt new dock	184,521	141,399
Esquimalt old dock	Nil	10,972
Selkirk repair slip	1,933	1,547
TOTALS, EARNINGS	311,752	251,633
WORKS AND PLANTS LEASED		
Kingston dry dock	6,050	9,025
Ferry privileges	485	452
Dredges and plants	23,714	13,022
TOTALS, LEASES	30,249	22,499
Sale of old furniture, materials etc	Nil	1
Sale of real estate	267	Nil
Rents from water lots, etc	20,505	12,661
Refunds against expenditures reported in previous years	5,547	12,462
Sundry receipts	210	2,150
Totals, Dept. of Public Works	**368,529**	**301,406**

[1] Exclusive of a refund of $770·04, made to the Norwegian Shipping and Trade Mission in connection with salvage service rendered to the S.S. *Benca*.

19.—Operating Revenues and Expenditures of Harbours, Elevators and Bridges under the National Harbours Board, 1942-47

NOTE.—Locally controlled commissions for the harbours shown below were abolished Nov. 1, 1935

Item and Year	Operating Revenues	Operating Expenses	Operating Income
	$	$	$
Halifax—			
1942	1,832,318	889,120	943,198
1943	1,848,330	1,000,664	847,666
1944	1,801,217	1,116,104	685,113
1945	1,653,732	1,033,935	619,797
1946	1,243,649	834,713	408,936
1947	1,161,261	800,168	361,093
Saint John—			
1942	1,133,509	319,114	814,395
1943	1,492,579	440,134	1,052,445
1944	1,423,537	512,482	911,055
1945	1,458,507	494,698	963,809
1946	933,497	459,627	473,870
1947	945,198	488,756	456,442
Chicoutimi—			
1942	30,067	16,887	13,180
1943	32,016	25,880	6,136
1944	31,924	18,402	13,522
1945	30,723	20,719	10,004
1946	32,666	17,178	15,488
1947	40,573	21,407	19,166
Quebec—			
1942	620,030	760,012	−139,982
1943	762,644	643,458	119,186
1944	913,706	669,903	243,803
1945	944,190	797,714	146,476
1946	672,264	678,427	−6,163
1947	627,732	691,609	−63,877
Three Rivers—			
1942	185,738	22,603	163,135
1943	199,023	18,011	181,012
1944	224,934	55,490	169,444
1945	294,648	32,165	262,483
1946	229,882	29,822	200,060
1947	235,765	50,242	185,523
Montreal—			
1942	3,797,440	2,167,596	1,629,844
1943	3,786,305	2,039,507	1,746,798
1944	4,698,030	2,212,489	2,485,541
1945	5,484,859	2,928,685	2,556,174
1946	4,897,323	2,937,201	1,960,122
1947	4,990,919	3,083,883	1,907,036
Vancouver—			
1942	1,568,977	588,502	980,475
1943	1,736,959	670,930	1,066,029
1944	2,138,667	916,768	1,221,899
1945	2,199,550	956,434	1,243,116
1946	2,184,238	918,664	1,265,574
1947	2,206,235	1,142,027	1,064,208
Churchill—			
1942	144,783	139,348	5,435
1943	95,860	132,372	−36,512
1944	71,028	128,635	−57,607
1945	66,785	152,666	−85,881
1946	72,713	173,225	−100,512
1947	218,061	284,725	−66,664
Port Colborne Elevator—			
1942	171,280	73,100	98,180
1943	129,905	74,153	55,752
1944	239,703	97,107	142,596
1945	292,777	145,711	147,066
1946	223,631	140,494	83,137
1947	208,871	142,265	66,606
Prescott Elevator—			
1942	233,719	82,400	151,319
1943	112,692	74,418	38,274
1944	257,750	110,575	147,175
1945	195,723	119,422	76,301
1946	111,911	101,812	10,099
1947	136,750	119,687	17,063
Jacques Cartier Bridge (Montreal)			
1942	537,406	102,903	434,503
1943	520,120	97,020	423,100
1944	600,238	99,098	501,140
1945	604,629	105,422	499,207
1946	730,701	113,337	617,364
1947	835,097	118,779	716,318
Second Narrows Bridge (Vancouver)			
1942	161,535	58,193	103,342
1943	144,645	61,024	83,621
1944	137,585	62,037	75,548
1945	169,701	63,677	106,024
1946	189,076	61,925	127,151
1947	224,447	67,226	157,221

Canadian Maritime Commission.—By authority of an Act (11 George VI, c. 52) passed in the 1947 session of Parliament, the Canadian Maritime Commission was constituted for the purpose of examining into, keeping records of, and advising the Minister of Transport on matters pertaining to Canadian shipping and shipbuilding services. Under the Act, the duties of the Commission are listed as follows:—

(1) exercise and perform on behalf of the Minister such powers, duties and functions of the Minister under the Canada Shipping Act, 1934, as the Minister may require;

(2) administer, in accordance with regulations of the Governor in Council, any steamship subventions voted by Parliament; and

(3) exercise or perform any other powers, duties or functions conferred on or required to be performed by the Commission by or pursuant to any other Act or order of the Governor in Council.

Since the Canadian Maritime Commission was created, it has assumed all responsibilities for the administration of steamship subventions which had formerly been under the jurisdiction of the Department of Trade and Commerce.

As of Feb. 1, 1948, the Park Steamship Company, a Crown Company formed to administer and operate wartime shipping constructed in Canada as a war measure, was transferred from the Department of Reconstruction and Supply to the Canadian Maritime Commission.

Most of the vessels constructed during the war years for operation by the Park Steamship Company have since been sold. Private Canadian operators purchased them under agreement that they would not be transferred out of Canadian registry except by permission of the Crown; a Government announcement, dated May 13, 1948, made public that such transfers might be made providing sanction was first obtained from the Canadian Maritime Commission, which body would deal with each application on its individual merits. The proceeds from the sale of such vessels are to be deposited in escrow and used for replacement by new merchant vessels of modern design and of a type and cost approved by the Commission.

Shipping Subsidies.—The figures given in Table **20** represent the amounts paid in connection with contracts made under statutory authority by the Department of Trade and Commerce and Canadian Maritime Commission for trade services, including the conveyance of mails on certain routes.

20.—Mail Subsidies and Steamship Subventions, Years Ended Mar. 31, 1946-48

Service	1946	1947	1948
	$	$	$
Pacific Coast Services—			
Prince Rupert, B.C., and Queen Charlotte Islands	22,000	32,000	194,320
Vancouver and northern ports of British Columbia	15,000	37,000	224,680
Victoria, Vancouver, way ports and Skagway	10,000	10,000	6,875
Victoria and west coast Vancouver Island	10,000	10,000	10,000
Local Services—			
Baddeck and Iona	12,000	12,000	12,000
Campobello, N.B. and Lubec, Me	Nil	1,789	3,000
Chester and Tancook Island (winter)	2,500	2,700	2,640
Dalhousie and Miguasha	12,000	12,000	12,000
Deer Island, Campobello Island and St. Stephen, N.B.	Nil	167	2,000
Grand Manan and the mainland	33,000	60,962	85,000
Halifax, Canso and Guysborough	6,944	25,022	20,000
Halifax, LaHave and LaHave River ports	3,000	3,000	3,000
Halifax, Sherbrooke, Spry Bay and Tor Bay	6,500	6,500	11,200
Halifax and west coast of Cape Breton	6,000	6,000	6,000
Ile aux Coudres and Les Eboulements	3,500	3,500	3,500
Ile aux Grues and Montmagny	Nil	2,500	2,500
Ile aux Coudres and Quebec or Lévis	4,000	4,000	4,000
Mulgrave and Arichat	25,000	25,000	25,000
Mulgrave and Canso	64,000	64,000	64,000
Mulgrave and Guysborough, calling at intermediate ports	14,000	14,000	14,000
Murray Bay and north shore (winter service)	50,000	50,000	50,000
Owen Sound and Manitoulin Islands	35,000	41,051	66,000
Pelee Island and the mainland	11,000	11,000	11,000
Pictou, Mulgrave and Cheticamp	10,875	11,000	11,000
Pictou, Souris and the Magdalen Islands	61,832	60,000	60,000
Prescott, Ont., and Ogdensburg, N.Y.	11,640	Nil	Nil
Prince Edward Island and Newfoundland	45,000	54,000	54,000
Prince Edward Island and Nova Scotia	37,000	78,226	100,000
Quebec, Natashquan and Harrington, and other ports on the north shore of the Gulf of St. Lawrence	127,500	127,500	281,500
Quebec or Montreal and Gaspe, and other ports on the south shore of the Gulf of St. Lawrence	90,000	90,000	138,000
Rimouski, Matane, and the north shore of the Lower St. Lawrence	75,000	75,000	75,000

20.—Mail Subsidies and Steamship Subventions, Years Ended Mar. 31, 1946-48 —concluded

Service	1946	1947	1948
	$	$	$
Local Services—concluded			
Rivière-du-Loup and Tadoussac, and other north-shore ports	21,000	21,000	21,000
Saint John and Minas Basin ports	10,000	Nil	10,000
Saint John, Westport and Yarmouth, and other way ports	23,500	30,500	31,500
Sydney and Bay St. Lawrence, calling at way ports	35,000	35,000	35,000
Sydney and Bras d'Or Lake ports, and ports on the west coast of Cape Breton and Prince Edward Island	22,500	22,500	22,500
Sydney and Whycocomagh	20,500	20,500	20,500
Yarmouth, N.S. and Boston, Mass.	43,000	43,000	28,667
Administration expenses	13,981	16,185	17,660
Totals	**993,772**	**1,118,602**	**1,739,042**

In addition to the regular subsidies assistance was given during the year ended Mar. 31, 1947 and 1948, to certain subsidized lines, from the Steamship Subsidies Stabilization Fund, established by Order in Council, July 2, 1942, and amended by Order in Council, July 25, 1946, for the purpose of refunding actual amounts paid out as war bonuses to crews and increased costs of fuel and marine insurance over the basic period Sept. 15 to Oct. 11, 1941. This Fund ceased to operate in 1948. Amounts paid were:—

Service	*1947*	*1948*
	$	$
Vancouver and northern British Columbia ports	264,427	340,655
Mulgrave and Canso	8,274	6,353
Mulgrave and Arichat	2,326	1,787
Grand Manan and the Mainland	4,702	Nil
Victoria and west coast Vancouver Island	29,351	34,452
Murray Bay and north shore (winter service)	23,057	3,134
Pelee Island and mainland	1,747	3,339
Pictou, Souris and Magdalen Islands	14,118	18,191
Prince Edward Island and Newfoundland	3,026	8,246
Prince Edward Island and Nova Scotia	2,995	11,352
Quebec, Natashquan and Harrington	40,666	50,202
Quebec or Montreal and Gaspe	13,457	9,457
Rimouski, Matane and north shore	24,718	18,843
Rivière-du-Loup and St. Simeon and/or Tadoussac	2,348	4,205
Saint John, Westport and Yarmouth	546	Nil
Sydney and Bay St. Lawrence	5,002	2,065
Sydney and west coast Cape Breton Island and Prince Edward Island	2,161	3,526
Sydney and Whycocomagh	2,768	3,727
TOTAL	445,690	519,534

Section 3.—Water Traffic and Services

Complete statistics, comparable with those given for the railways, showing all the freight carried by water, are not available. To obtain a record of the traffic handled by small independent coasting vessels would be difficult. However, there is a record of the number and tonnage of ships calling at all ports at which there are customs collectors, of cargoes of vessels trading between Canadian and foreign ports and of all cargoes that pass through the canals.

Subsection 1.—Shipping Traffic

A brief description of the early development of Canadian shipping is given at pp. 597-598 of the 1941 edition of the Year Book. Shipping statistics are compiled from reports collected by customs officers at customs ports: consequently they are affected by customs regulations and include only data for vessels trading in and out of ports at which such officers are employed.

For years prior to and including the year ended Mar. 31, 1937, the statistics were summarized by the customs officer at each port and compiled by the Department of National Revenue; for subsequent years, compilations were made by the Dominion Bureau of Statistics. Effective Apr. 1, 1940, each vessel departing from port makes a statistical report which is forwarded to the Bureau and from these reports all compilations of shipping statistics are made.

Cargoes are now required to be reported in tons of 2,000 lb. or in tons of 40 cu. ft. Although previous reports did not define the ton, it is quite probable that for many cargoes the long ton of 2,240 lb. was used. Reports are not made now for vessels of less than 10 registered net tons and the tonnage of tugs is the gross ton and not the net ton used for cargo vessels. Fishing vessels are not required by customs regulations to report when operating from certain ports; consequently, the data are not on the same basis as data for cargo vessels.

21.—Vessels Entered at Canadian Ports, 1936-47

Year Ended Mar. 31	In Foreign Service[1]		In Coasting Service		Totals	
	No.	Net Tons Registered	No.	Net Tons Registered	No.	Net Tons Registered
1936	37,800	41,746,953	69,809	42,979,361	107,609	84,726,314
1937	41,755	45,030,914	73,033	45,973,830	114,788	91,004,744
1938	42,582	45,603,055	75,537	44,471,834	118,119	90,074,889
1939	43,601	44,775,116	73,386	45,386,457	116,987	90,161,573
1940	46,241	46,666,396	78,212	44,361,232	124,453	91,027,628
1941	25,122	32,579,900	79,951	50,471,166	105,073	83,051,066
Calendar Year						
1941	26,203	31,452,400	77,592	48,111,082	103,795	79,563,482
1942	24,066	25,640,763	73,366	43,990,764	97,432	69,631,527
1943	22,901	26,345,562	65,066	40,300,778	87,967	66,646,340
1944	23,786	28,356,681	64,999	43,776,497	88,785	72,133,178
1945	24,431	29,655,984	65,410	48,098,201	89,841	77,754,185
1946	26,461	30,367,071	67,014	45,559,014	93,475	75,926,085
1947	27,868	35,926,095	73,401	51,766,383	101,269	87,692,478

[1] Sea-going and inland international.

22.—Vessels Entered at Each of the Principal Canadian Ports, 1946

NOTE.—For details of shipping at all ports in Canada, see "Shipping Report" of the Dominion Bureau of Statistics.

Province and Port	In Foreign Service[1]		In Coasting Service		Totals	
	No.	Net Tons Registered	No.	Net Tons Registered	No.	Net Tons Registered
Prince Edward Island—						
Charlottetown	17	7,629	88	29,973	105	37,602
Totals, Prince Edward Island[2]	**39**	**13,108**	**206**	**39,240**	**245**	**52,348**
Nova Scotia—						
Digby	74	40,349	522	624,737	596	665,086
Halifax	792	2,817,828	577	681,175	1,369	3,499,003
North Sydney	1,304	281,027	923	114,364	2,227	395,391
Sydney	263	648,688	628	453,389	891	1,102,077
Yarmouth	355	17,037	389	17,573	744	34,610
Totals, Nova Scotia[2]	**4,898**	**4,612,847**	**6,285**	**2,441,024**	**11,183**	**7,053,871**

For footnotes, see end of table, p. 734.

22.—Vessels Entered at Each of the Principal Canadian Ports, 1946—concluded

Province and Port	In Foreign Service[1]		In Coasting Service		Totals	
	No.	Net Tons Registered	No.	Net Tons Registered	No.	Net Tons Registered
New Brunswick—						
Campobello	647	20,969	72	12,420	719	33,389
Saint John	374	1,188,507	1,042	943,225	1,416	2,131,732
Totals, New Brunswick[2]	**6,659**	**1,510,262**	**2,405**	**1,180,974**	**9,064**	**2,691,236**
Quebec—						
Baie Comeau	25	75,776	727	261,117	752	336,893
Montreal	1,462	3,385,885	2,097	2,418,883	3,559	5,804,768
Port Alfred	178	647,773	359	611,234	537	1,259,007
Quebec	196	419,054	2,243	1,763,867	2,439	2,182,921
Three Rivers	183	304,664	1,774	1,453,741	1,957	1,758,405
Totals, Quebec[2]	**2,291**	**5,068,990**	**9,842**	**7,466,327**	**12,133**	**12,535,317**
Ontario—						
Amherstburg	491	336,475	74	58,839	565	395,314
Cobourg	628	2,045,209	31	28,792	659	2,074,001
Cornwall	41	47,336	265	307,978	306	355,314
Fort William	339	1,149,064	736	1,618,421	1,075	2,767,485
Hamilton	263	963,180	558	554,764	821	1,517,944
Kingston	402	247,232	413	534,952	815	782,184
Midland	66	195,503	241	590,803	307	786,306
Port Arthur	356	859,134	1,007	2,913,210	1,363	3,772,344
Port Colborne	124	276,703	380	753,297	504	1,030,000
Port McNicoll	2	6,648	148	482,918	150	489,566
Prescott	278	379,327	202	246,648	480	625,975
St. Catharines	18	37,036	246	316,106	264	353,142
Sarnia	525	962,261	753	1,086,329	1,278	2,048,590
Sault Ste. Marie	358	1,308,929	477	907,982	835	2,216,911
Thorold	92	196,948	255	361,234	347	558,182
Toronto	533	1,257,155	1,366	1,419,939	1,899	2,677,094
Windsor	324	627,550	325	410,145	649	1,037,695
Totals, Ontario[2]	**6,567**	**13,065,359**	**9,654**	**14,408,869**	**16,221**	**27,474,228**
Manitoba (Churchill)	**9**	**36,842**	**Nil**	**Nil**	**9**	**36,842**
British Columbia—						
Nanaimo	371	57,711	3,238	1,777,152	3,609	1,834,863
New Westminster	171	350,764	2,598	1,565,220	2,769	1,915,984
Ocean Falls	17	28,806	1,019	596,089	1,036	624,895
Port Alberni	138	174,361	438	502,665	576	677,026
Powell River	186	72,935	3,309	1,197,692	3,495	1,270,627
Prince Rupert	1,407	266,189	1,976	536,829	3,383	803,018
Union Bay	49	56,104	837	488,533	886	544,637
Vancouver	1,389	3,288,806	18,739	8,368,291	20,128	11,657,097
Victoria	1,407	1,593,851	3,417	3,340,993	4,824	4,934,844
Totals, British Columbia[2]	**5,993**	**6,055,660**	**38,507**	**19,950,720**	**44,500**	**26,006,380**
Yukon and Northwest Territories	**5**	**4,003**	**115**	**71,860**	**120**	**75,863**
Grand Totals	**26,461**	**30,367,071**	**67,014**	**45,559,014**	**93,475**	**75,926,085**

[1] Sea-going and inland international.

[2] Includes other small ports not shown separately.

Vessels in coasting service and vessels fishing in Canadian waters are not required by customs regulations to report any details of cargoes loaded or unloaded so that cargo data are available only for vessels in foreign service. The cargoes are not cargoes on board but cargoes unloaded and loaded at the respective ports.

23.—Cargoes Loaded and Unloaded at Canadian Ports by Vessels in Foreign Trade, by Provinces, 1942-46

Province and Year	Loaded		Unloaded	
	Tons Weight	Tons Measurement[1]	Tons Weight	Tons Measurement[1]
Prince Edward Island—				
1942	5,431	Nil	3	Nil
1943	6,173	40	6	"
1944	19,798	Nil	4	"
1945	15,180	76	2,041	"
1946	15,120	Nil	4,187	"
Nova Scotia—				
1942	2,873,968	12,151	2,084,832	47,523
1943	3,168,353	1,911	2,233,412	12,755
1944	3,202,023	17,237	2,266,903	499
1945	2,969,241	49,686	1,738,822	Nil
1946	3,486,483	45,891	2,183,951	156
New Brunswick—				
1942	2,364,881	329,771	318,251	67,612
1943	2,858,989	325,278	409,502	70,609
1944	2,319,590	452,036	443,021	62,217
1945	2,309,061	475,140	512,334	129,738
1946	1,942,402	111,458	467,441	64,944
Quebec—				
1942	2,249,926	213,040	3,727,419	36,027
1943	1,863,890	74,622	4,219,193	8
1944	2,946,991	172,111	3,691,563	36,755
1945	6,853,392	340,639	3,691,905	58,740
1946	5,330,566	417,599	4,978,384	64,801
Ontario—				
1942	3,754,877	3,000	18,924,782	Nil
1943	6,511,700	Nil	19,548,919	"
1944	7,501,458	"	19,504,912	"
1945	5,955,203	"	16,926,183	3
1946	3,483,132	30,629	16,924,368	Nil
British Columbia—				
1942	1,743,212	73,131	1,891,243	8,074
1943	1,518,639	187,404	1,368,389	669
1944	2,160,090	163,885	1,647,041	3,083
1945	3,184,483	180,911	1,452,746	16,767
1946	4,300,958	15,994	1,748,006	3,916
Yukon—				
1942	934	Nil	463	Nil
1943	7,138	"	292	"
1944	764	"	5	"
1945	875	"	67	"
1946	915	"	57	"
Totals—				
1942	**12,993,229**	**631,093**	**26,946,993**	**159,236**
1943	**15,934,882**	**589,255**	**27,779,713**	**84,041**
1944	**18,150,714**	**805,269**	**27,553,449**	**102,554**
1945	**21,287,435**	**1,046,452**	**24,324,098**	**205,248**
1946	**18,650,823**[2]	**621,571**	**26,306,419**[2]	**133,817**

[1] Tons measurement=40 cubic feet.

[2] Includes 91,247 tons loaded and 25 tons unloaded at Manitoba ports.

Subsection 2.—Canal Traffic

The canals of Canada are open to the vessels and traffic of all nations upon equal terms and thus United States traffic constitutes an important part of the total carried through certain canals, especially the Welland Ship Canal. This is shown in Tables **24** and **26**. More complete details of the traffic through canals may be found in the annual report "Canal Statistics" published by the Dominion Bureau of Statistics.

24.—Traffic Through Canadian Canals, by Nationality of Vessels and Origin of Freight, Navigation Seasons, 1936-47

NOTE.—Figures include duplications where cargoes use two or more canals. For Canadian canal traffic from 1886-99, see the 1902 Year Book, p. 398; for figures for 1900-10, the 1933 edition, p. 697; and for 1911-35, p. 703 of the 1938 edition.

Navigation Season	Nationality of Vessel				Origin of Freight Carried				
	Canadian		United States[1]		Canada		United States		Total
	No.	Registered Tonnage	No.	Registered Tonnage	Tons	P.C. of Total	Tons	P.C. of Total	Tons
1936..	25,251	17,085,749	2,708	3,208,829	13,465,460	62·7	8,003,356	37·3	21,468,816
1937..	24,669	17,904,774	2,869	3,526,939	11,911,241	51·0	11,439,759	49·0	23,351,000
1938..	25,365	19,803,447	2,374	2,932,799	12,988,349	52·7	11,648,113	47·3	24,636,462
1939..	24,768	18,240,632	2,757	3,095,648	14,150,305	60·5	9,240,772	39·5	23,391,077
1940..	23,646	18,513,994	3,194	4,056,089	12,257,336	53·6	10,613,217	46·4	22,870,553
1941..	24,418	20,211,209	3,456	5,420,815	10,334,174	44·1	13,119,193	55·9	23,453,367
1942..	22,150	18,952,917	3,751	8,404,363	7,764,804	37·2	13,134,835	62·8	20,899,639
1943..	20,855	18,273,304	2,617	5,686,958	7,838,429	36·5	13,637,765	63·5	21,476,194
1944..	20,780	18,191,826	1,911	4,541,575	8,002,746	38·8	12,612,761	61·2	20,615,507
1945..	21,064	19,068,308	1,553	3,426,069	10,491,263	47·0	11,829,136	53·0	22,320,399
1946..	17,199	16,206,415	1,794	3,221,008	8,904,733	47·7	9,750,186	52·3	18,654,919
1947..	18,542	18,613,576	2,332	3,796,293	10,288,481	47·8	11,225,458	52·2	21,513,939

[1] Figures include a small percentage of vessels of other foreign nationalities.

25.—Tonnage of Canal Traffic, by Canal and Class of Product, Navigation Season, 1947

NOTE.—Figures include duplications where cargoes use two or more canals.

Canal	Agricultural Products	Animal Products	Manufactures and Miscellaneous	Forest Products	Mineral Products	Total
	tons	tons	tons	tons	tons	tons
Sault Ste. Marie	1,074,507	152	568,220	201,050	284,401	2,128,330
Welland Ship	2,405,302	918	3,227,001	501,299	5,671,055	11,805,575
St. Lawrence River	1,199,011	5,667	1,964,028	590,725	3,420,163	7,179,594
Richelieu River	Nil	40	58,475	Nil	2,571	61,086
St. Peters	3,169	746	11,095	58	19,194	34,262
Murray	Nil	Nil	1,000	Nil	Nil	1,000
Ottawa River	"	"	6,607	"	248,220	254,827
Rideau	"	"	258	253	997	1,508
Trent	"	"	141	450	30,014	30,605
St. Andrews	641	2,340	5,869	8,007	295	17,152
Totals	**4,682,630**	**9,863**	**5,842,694**	**1,301,842**	**9,676,910**	**21,513,939**

26.—Canal Traffic, by Direction and Origin, Navigation Season, 1947

NOTE.—Figures include duplications where cargoes use two or more canals.

Canal	From Canadian to Canadian Ports		From Canadian to United States Ports[1]		From United States to United States Ports[1]		From United States[1] to Canadian Ports	
	Up	Down	Up	Down	Up	Down	Up	Down
	tons	tons	tons	tons	tons	tons	tons	tons
Sault Ste Marie	423,491	1,116,134	3,420	271,594	29,652	37,832	243,534	2,673
Welland Ship	1,003,678	2,574,415	467,624	6,904	438,113	789,762	35,593	6,489,486
St. Lawrence River	1,749,280	1,770,465	495,881	15,355	67,378	84,896	16,449	2,979,890
Richelieu River	23,808	1,158	26,107	Nil	Nil	Nil	Nil	10,013
St. Peters	12,847	19,717	1,511	"	"	"	"	187
Murray	Nil	1,000	Nil	"	"	"	"	Nil
Ottawa River	4,884	246,750	"	3,193	"	"	"	"
Rideau	580	928	"	Nil	"	"	"	"
Trent	Nil	30,605	"	"	"	"	"	"
St. Andrews	10,639	6,513	"	"	"	"	"	"
Totals	**3,229,207**	**5,767,685**	**994,543**	**297,046**	**535,143**	**912,490**	**295,576**	**9,482,249**

For footnote, see end of table, p. 737.

26.—Canal Traffic, by Direction and Origin, Navigation Season, 1947—concluded

Canal	Traffic by Direction		Origins of Cargo		Total Cargo	Comparison with 1946
	Up	Down	Canada	United States[1]		
	tons	tons	tons	tons	tons	tons
Sault Ste. Marie	700,097	1,428,233	1,814,639	313,691	2,128,330	+188,201
Welland Ship	1,945,008	9,860,567	4,052,621	7,752,954	11,805,575	+1,225,429
St. Lawrence River	2,328,988	4,850,606	4,030,981	3,148,613	7,179,594	+1,429,016
Richelieu River	49,915	11,171	254,827	Nil	61,086	+21,805
St. Peters	14,358	19,904	1,508	"	34,262	+13,585
Murray	Nil	1,000	51,073	10,013	1,000	−6,260
Ottawa River	4,884	249,943	30,605	Nil	254,827	−6,468
Rideau	580	928	1,000	"	1,508	+69
Trent	Nil	30,605	17,152	"	30,605	−6,007
St. Andrews	10,639	6,513	34,075	187	17,152	−350
Totals	**5,054,469**	**16,459,470**	**10,288,481**	**11,225,458**	**21,513,939**	**+2,859,020**

[1] Figures for the United States include a small percentage to or from ports of other foreign countries.

The figures in Tables 24 and 26 include duplications where the same freight passes through two or more canals, but in Table 27 duplications in the traffic passing through the St. Lawrence and Welland Ship Canals and the Canadian lock at Sault Ste. Marie, which amounted to 3,242,872 tons in 1946 and 3,425,347 tons in 1947, have been eliminated.

Grain transhipped at Georgian Bay, Lake Erie, or other ports above Montreal is treated as new cargo and as most of this grain has passed through either the Canadian or United States locks at Sault Ste. Marie there are still duplications in the data because of this treatment. These duplications cannot be avoided when net totals for the Canadian canals are computed because it is impossible to ascertain which lock at Sault Ste. Marie was used by the grain reloaded at Port Colborne or other transhipping port.

27.—St. Lawrence-Great Lakes Traffic Using St. Lawrence, Welland Ship and Sault Ste. Marie Canals, 1947

Canals Used	Up-Bound Freight	Down-Bound Freight	Total
	tons	tons	tons
Traffic Using Canadian Canals—			
St. Lawrence only	1,389,465	3,039,568	4,429,033
St. Lawrence and Welland Ship	801,127	1,592,935	2,394,062
St. Lawrence, Welland Ship and Sault Ste. Marie[1]	138,396	218,103	356,499
Welland Ship only	749,338	6,983,407	7,732,745
Welland Ship and Sault Ste. Marie[1]	256,147	2,221,711	2,477,858
Sault Ste. Marie only	478,540	990,887	1,469,427
Totals, Traffic Using Canadian Canals	**3,813,013**	**15,046,611**	**18,859,624**
Total Traffic Using United States Locks at Sault Ste. Marie Only	**18,120,254**	**88,747,414**	**106,867,668**
Totals, Canal Traffic	**21,933,267**	**103,794,025**	**125,727,292**

[1] Through both Canadian and United States locks at Sault Ste. Marie.

Traffic through the Sault Ste. Marie canals, Canadian and United States, has been approximately twice as heavy as the traffic through the Panama Canal during the latest ten years for which records are available, and in 1940 was almost three

times as heavy. It has varied from a low of 20,484,000 tons in 1932, which was less than the Panama traffic, to a high of 120,200,814 tons in 1942. The dominant traffic, from a tonnage aspect, is iron ore. During the past 50 years this has fluctuated from 4,901,000 tons in 1892, an average of 50,000,000 tons in the 1920's, a low of 3,607,000 tons in 1932 and to a peak of 94,326,578 tons in 1942. Although wheat has ranged as low as only 7 p.c. of the iron-ore tonnage, its value has generally been greater than that of the iron-ore traffic, and has been the most valuable single commodity passed through the canals; in 1928 the value of wheat passed through the canals was 40 p.c. of the value of all traffic. Other grains have been about one-quarter to one-fifth of the wheat tonnage and a smaller ratio of the value.

Bituminous coal has generally been second in tonnage to iron ore increasing from 15,405,415 tons during the 1946 season to 15,529,045 tons in 1947.

The Panama Canal. — The Panama Canal, which was opened to commercial traffic on Aug. 15, 1914, has been a waterway of great importance to British Columbian ports, from which vessels leave direct for British and European ports throughout the year. As an alternative route to that of the transcontinental railway lines, such a passage by water is of vital importance in the solution of the larger transportation problems of the Continent. During the First World War the great expectations based upon the opening of the Canal were not realized, owing to the scarcity of shipping. However, with the post-war decline in ocean freight rates, an increase in traffic between Canada's Pacific ports and Europe took place and, while the proportion carried in vessels of Canadian registry was comparatively small, the cargo tonnage nevertheless assumed considerable proportions. During the war years 1940-45, the volume of Canadian traffic through the Canal was greatly reduced.

28.—Traffic To and From the East and West Coasts of Canada via the Panama Canal, Years Ended June 30, 1929-47

NOTE.—Figures for the years 1921-28 are given at p. 707 of the 1938 Year Book.

Year	Originating on—		Destined for—		Year	Originating on—		Destined for—	
	West Coast	East Coast	West Coast	East Coast		West Coast	East Coast	West Coast	East Coast
	long tons	long tons	long tons	long tons		long tons	long tons	long tons	long tons
1929.....	2,650,646	231,128	266,433	539,767	1939.....	2,873,452	348,410	163,526	296,881
1930.....	1,968,996	185,776	267,282	556,562	1940.....	2,272,450	313,118	185,540	108,648
1931.....	2,307,257	137,756	271,621	492,532	1941.....	1,366,873	178,700	99,693	220,228
1932.....	2,383,211	89,443	167,855	529,317	1942.....	374,073	135,655	36,709	152,807
1933.....	2,896,162	121,875	134,511	328,038	1943.....	723,528	95,788	Nil	21,611
1934.....	2,201,180	196,204	189,277	498,706	1944[1].....	363,220	17,283	30,044	Nil
1935.....	2,490,203	248,658	176,698	547,974	1945[1].....	679,079	65,395	366,118	30,540
1936.....	2,705,567	298,884	223,174	506,673	1946.....	1,756,989	184,850	111,161	62,516
1937.....	2,780,243	379,783	240,221	589,011	1947.....	2,981,348	316,898	132,521	99,745
1938.....	1,962,220	391,906	213,781	398,710					

[1] Approximate—exact figures not available.

29.—Commercial Traffic Through the Panama Canal, Years Ended June 30, 1937-47

NOTE.—Figures for the years 1915-28 are given at p. 708 of the 1938 Year Book and for 1929-36 at p. 636 of the 1942 edition.

Year	Atlantic to Pacific		Pacific to Atlantic		Totals	
	Vessels	Cargo Tonnage	Vessels	Cargo Tonnage	Vessels	Cargo Tonnage
	No.	long tons	No.	long tons	No.	long tons
1937	2,865	9,895,632	2,522	18,212,743	5,387	28,108,375
1938	2,946	9,688,560	2,578	17,697,364	5,524	27,385,924
1939	3,146	9,011,267	2,757	18,855,360	5,903	27,866,627
1940	2,763	9,819,600	2,607	17,479,416	5,370	27,299,016
1941	2,353	9,488,446	2,374	15,462,345	4,727	24,950,791
1942	1,227	4,684,922	1,461	8,922,522	2,688	13,607,444
1943	824	4,945,267	998	5,654,699	1,822	10,599,966
1944	671	3,354,349	891	3,649,138	1,562	7,003,487
1945	924	4,234,935	1,015	4,368,672	1,939	8,603,607
1946	1,516	6,118,085	2,231	8,859,855	3,747	14,977,940
1947	2,021	8,294,820	2,239	13,375,698	4,260	21,670,518

Subsection 3.—Harbour Traffic

The freight movement through a large port takes a number of different forms. The overseas movement, i.e., the freight loaded into or unloaded from sea-going vessels, frequently constitutes a surprisingly small part of the total. Usually the volume coming in and going out by coastwise vessels is larger. Then there is the 'in transit' movement in vessels that pass through the harbour without loading or unloading. Finally there is the movement from one point to another within the harbour, which in many ports amounts to a large volume. It is not possible to obtain statistics of the total freight handled in all the ports and harbours of Canada, as many of them are small and without the staff necessary to obtain a detailed record of freight handled. The National Harbours Board reports annually the water-borne cargo loaded and unloaded at the eight ports under its control. Six of these are among the principal ports of Canada and the cargo handled in each is shown in Table **30**. The figures include freight carried by coastwise and inland international, as well as by sea-going shipping; they include all cargo loaded or unloaded whether by facilities under the Board or at private docks and terminals in these ports. Cross-harbour movements, ballast (non-revenue), bunkers, ships' stores, mail and passengers' baggage are excluded.

30.—Principal Commodities in Water-Borne Cargo Landed from and Loaded to Vessels at Each of Six Principal Ports, 1946 and 1947

Port and Commodity	1946		1947	
	Inward	Outward	Inward	Outward
	tons	tons	tons	tons
Montreal—				
Grain	634,954	1,796,314	322,578	1,827,029
Coal, bituminous	1,108,649	Nil	1,128,739	38
Gasoline	227,980	598,845	316,939	674,916
Flour, wheat	Nil	638,316	19,713	840,145
Petroleum oil, fuel	49,397	331,484	445,459	523,935
Petroleum oil, crude	249,163	34,075	510,054	316,804
Sugar, raw	178,442	Nil	217,298	Nil
Motor-vehicles and parts	24,941	140,922	2,590	132,412
Lumber (planks, boards and flooring) and square timber	4,295	150,799	10,900	108,723
Meats, canned, cured, prepared or preserved	514	144,219	290	103,919
Petroleum oil, refined, not otherwise specified	31,680	93,593	4	79,821
Manganese ore	41,227	79,843	38,640	65,558
Railway equipment, not otherwise specified	16	110,567	44	13,936

30.—Principal Commodities in Water-Borne Cargo Landed from and Loaded to Vessels at Each of Six Principal Ports, 1946 and 1947—continued

Port and Commodity	1946		1947	
	Inward	Outward	Inward	Outward
	tons	tons	tons	tons
Montreal—concluded				
Paper, newsprint	Nil	99,813	1,989	101,729
Phosphate rock	65,641	30,204	71,045	13,700
Kerosene	83,872	8,806	368,772	23,787
Cement, common or portland	921	83,265	1,366	99,608
Pulpboard (except wallboard)	7	79,198	1	31,362
Gypsum, crude	75,940	Nil	102,183	8,680
Coal, anthracite	74,654	189	43,174	9,684
Molasses	50,132	13,498	54,101	6,237
Iron ore	38,779	22,470	114,548	87,510
Wood-pulp	1	52,202	2,711	54,511
Cheese	73	49,971	32	28,147
Totals, 24 Commodities	**2,941,278**	**4,558,593**	**3,773,170**	**5,158,191**
Grand Totals, All Commodities	**3,405,018**	**5,694,082**	**4,323,466**	**6,484,407**
Vancouver—				
Grain	2,410	1,718,394	Nil	1,336,909
Logs, masts, piling, pitprops, poles, posts, spars and ties (railway)	917,930	111,509	1,103,301	164,696
Petroleum oil, crude	865,037	–	972,498	Nil
Petroleum oil, fuel	449,273	324,007	588,464	316,944
Lumber (planks, boards and flooring) and square timber	484,943	276,507	499,022	411,938
Sand and gravel	364,997	15,086	384,093	19,491
Paper, newsprint	224,006	29,114	209,827	19,487
Gasoline	102,428	119,189	181,080	136,982
Coal, bituminous	137,521	52,333	135,392	37,057
Flour, wheat	3	176,919	18	259,209
Wood-pulp	146,167	18,326	179,404	22,536
Fish (including shellfish), canned or preserved	35,686	66,751	35,190	66,194
Fertilizers and fertilizer materials	7,985	67,256	6,695	72,785
Cement, common or portland	68,597	5,953	93,331	7,596
Hogged fuel	Nil	68,335	Nil	59,467
Rock and stone	3,045	60,581	3,279	99,913
Kerosene	35,408	15,614	84,696	28,734
Totals, 17 Commodities	**3,845,436**	**3,125,874**	**4,476,290**	**3,059,938**
Grand Totals, All Commodities	**4,379,263**	**3,865,318**	**5,104,197**	**3,856,733**
Halifax—				
Petroleum oil, crude	1,007,252	Nil	995,834	Nil
Petroleum oil, fuel	60,538	252,032	68,309	348,171
Coal, bituminous	264,401	406	248,039	1,410
Gasoline	94,322	134,327	131,845	133,459
Grain	4,916	216,535	447	232,593
Flour, wheat	23	180,697	Nil	102,649
Motor-vehicles and parts	22,064	81,944	2,493	60,414
Logs, masts, piling, pitprops, poles, posts, spars and ties (railway)	32	95,524	Nil	66,014
Lumber (planks, boards and flooring) and square timber	30	88,813	28	177,622
Meats, canned, cured, prepared or preserved	206	58,305	42	30,181
Fish (including shellfish), fresh or frozen	50,585	4,430	37,749	67
Sugar, raw	53,317	Nil	26,716	Nil
Fish (including shellfish), dried, pickled, salted or smoked	13,828	39,357	9,930	30,623
Totals, 13 Commodities	**1,571,514**	**1,152,370**	**1,521,432**	**1,183,203**
Grand Totals, All Commodities	**1,738,442**	**1,647,270**	**1,845,481**	**1,731,978**
Saint John—				
Grain	Nil	476,848	Nil	371,846
Flour, wheat	30	300,556	20	400,815
Coal, bituminous	278,805	1,916	162,774	321
Lumber (planks, boards and flooring) and square timber	8,658	155,417	7,423	220,420
Sugar, raw	140,279	Nil	157,857	Nil

30.—Principal Commodities in Water-Borne Cargo Landed from and Loaded to Vessels at Each of Six Principal Ports, 1946 and 1947—concluded

Port and Commodity	1946		1947	
	Inward	Outward	Inward	Outward
	tons	tons	tons	tons
Saint John—concluded				
Motor-vehicles and parts	34,868	100,889	2,098	50,616
Paper, newsprint	Nil	106,186	365	93,071
Gasoline	78,360	12,546	122,981	10,644
Petroleum oil, fuel	80,941	4,121	82,859	5,231
Logs, masts, piling, pitprops, poles, posts, spars and ties (railway)	3,969	78,175	5,642	130,401
Potatoes	1,208	52,245	21	113,239
Totals, 11 Commodities	**627,118**	**1,288,899**	**542,040**	**1,396,604**
Grand Totals, All Commodities	**973,777**	**1,868,911**	**909,076**	**2,104,630**
Three Rivers—				
Pulpwood	871,013	Nil	1,255,316	Nil
Coal, bituminous	417,444	"	349,971	224
Grain	72,571	184,615	328,360	376,991
Logs, masts, piling, pitprops, poles, posts, spars and ties (railway)	Nil	144,353	Nil	63,182
Paper, newsprint	"	88,993	"	79,946
Lumber (planks, boards and flooring) and square timber	4,257	41,344	7,090	37,301
Gasoline	22,673	Nil	23,626	1,030
Sulphur	9,669	"	21,681	Nil
Petroleum oil, fuel	6,039	1,308	12,257	2,468
Sand and gravel	6,746	Nil	1,797	27
Totals, 10 Commodities	**1,410,412**	**460,613**	**2,000,098**	**561,169**
Grand Totals, All Commodities	**1,427,222**	**475,302**	**2,032,335**	**575,794**
Quebec—				
Pulpwood	451,986	100,011	590,801	88,504
Coal, bituminous	349,948	1,202	382,880	360
Gasoline	114,892	240	148,539	Nil
Logs, masts, piling, pitprops, poles, posts, spars and ties (railway)	493	105,538	576	75,526
Petroleum oil, fuel	95,297	457	200,590	3,232
Lumber (planks, boards and flooring) and square timber	9,030	47,717	9,218	66,799
Cement, common or portland	43,040	613	49,818	686
Totals, 7 Commodities	**1,064,686**	**255,778**	**1,382,422**	**235,107**
Grand Totals, All Commodities	**1,158,884**	**381,875**	**1,532,159**	**322,859**

PART V.—CIVIL AIR TRANSPORTATION*

NOTE.—For military air transportation see Chapter XXVIII.—Defence of Canada.

Section 1.—History and Administration

Subsection 1.—Historical Developments

The flight of McCurdy's (now The Hon. J. A. D. McCurdy, Lieutenant-Governor of Nova Scotia) *Silver Dart* at Baddeck, N.S., on Feb. 23, 1909, was the first aeroplane flight by a British subject in the British Empire and since that time aviation has played an increasingly important part in the economic and sociological life of Canada. Canada, as one of the leading countries in the world of civil aviation,

* Descriptive and administrative information has been prepared from material supplied under the direction of A. D. McLean, O.B.E., Controller of Civil Aviation, Department of Transport, and W. S. Thompson, C.B.E., Director of Public Relations, Canadian National Railways, Department of Transport: statistics have been compiled by G. S. Wrong, Director, Transportation Division, Dominion Bureau of Statistics.

owes aviation development to a number of factors—the vast expanse of the country, the many rivers and lakes which provided natural landing places for aircraft in summer and winter, and the relentless efforts of those Canadians who had confidence in the future of aviation. Among the latter were the thousands of young Canadians who experienced aerial fighting under war conditions.

Bush flying, a type of operation with distinctly Canadian characteristics, flourished between the two wars, but it was not until Nov. 25, 1927, that the first all-Canadian inter-city air-mail delivery was made in Canada from Ottawa to London, Ont. The inauguration of inter-city air service launched a new phase in Canadian aviation and opened the way for the development of the trans-Canada airways system. Simultaneously, the flying clubs movement was given impetus by Government money grants and gifts of aircraft, in order to provide training grounds for the personnel required by Canada's civil aviation industry.

The density of Canada's population was not sufficient to encourage the investment of private capital in a much-needed trans-Canada air service, and, accordingly, the responsibility for the development of a transcontinental air service was assumed by the Federal Government when the Trans-Canada Air Lines came into being by Act of Parliament, in 1937. Day and night scheduled operations of Trans-Canada Air Lines required, in many cases, the extensive development of airports in order to bring them up to high operational standards. The construction of aerodromes and runways, the installation of radio ranges at intervals of approximately every 100 miles, the installation of lights, the laying of land-lines, the erection of terminal facilities and the rapid expansion of meteorological facilities was a tremendous task as all these developments proceeded simultaneously and, by the end of 1938, scheduled flights carrying mail and express were operating between Montreal, Que., and Vancouver, B.C. On Apr. 1, 1939, scheduled passenger service was inaugurated between these two cities thus marking a new era in Canadian aviation. The growth of Trans-Canada Air Lines since its inception has been rapid, and this Government-owned service ranks now among the finest. Its development gave much impetus to the development of the trans-Canada airways system by the Department of Transport, which to-day is one of the most complete and integrated airways networks in the world.

The trans-Canada airway made possible not only a safe trans-Canada scheduled air service but, during the Second World War, the ferrying of aircraft to the training stations became a matter of hours flying instead of weeks of transportation by rail and sea, and reassembling at their destinations. The network of the Canadian airways, apart from reliable commercial service, stands as a major factor in the defence of Canada, capable of being geared to handle many hundreds of aircraft.

At the termination of the Second World War, many service-trained Canadian airmen turned to commercial flying and were absorbed by the larger operating companies, many others turned to barnstorming, charter flying, crop dusting and aerial photography, and flying services of all kinds sprang up across the country.

With war-time travel restrictions removed, domestic and international scheduled traffic increased as equipment, frequencies of schedules and many new routes became available.

The Control of Civil Aviation.—The control of civil aviation in Canada is under the jurisdiction of the Federal Government and is administered under the authority of the Aeronautics Act, 1919, and amendments thereto. The Aeronautics

Act is in three parts. Broadly speaking, Part I deals with the technical side of civil aviation, comprising matters of registration of aircraft, licensing of airmen, the establishment and maintenance of airports and facilities for air navigation, air-traffic control, accident investigation and the safe operation of aircraft. This part of the Act is administered by the Controller of Civil Aviation under the supervision of the Director of Air Services, Department of Transport. Part II of the Act deals with the social and economic aspects of commercial air services and assigns to the Air Transport Board certain statutory functions with respect to the issue of licences to operate commercial air services, and the subsequent economic regulation of commercial air services in accordance with the dictates of the public interest. Part III of the Act deals with matters of internal Government administration in connection with the Act.

With the cessation of hostilities, the Air Services Branch (Civil Aviation, Meteorological and Radio Services) found it necessary to make certain changes in its organization in order to expedite the demands made upon it by civil flying activities. In making the necessary changes in organization it was important to anticipate the development of civil flying, and, as a result of surveys and careful consideration given to the problem, a District Controller of Air Services was appointed in the spring of 1948, for each of six districts in Canada, with headquarters at Vancouver, Edmonton, Winnipeg, Toronto, Montreal, and Moncton. The District Controller has jurisdiction in his district over civil aviation, meteorology, and aviation radio, and is charged with the responsibility of co-ordinating these services to the most efficient service possible in the public interest.

Since the autumn of 1936, when the administration of civil aviation was transferred from the Department of National Defence to the then new Department of Transport, civil aviation has, in turn, been under the jurisdiction of the Minister of Transport, the Minister of Munitions and Supply and the Minister of Reconstruction and Supply. On May 4, 1948, an Order in Council was passed and revested in the Minister of Transport jurisdiction over civil aviation, meteorological and radio services. However, under the provisions of the same Order in Council the administration of the Trans-Canada Air Lines Act, 1937, was to remain under the jurisdiction of the Minister of Reconstruction and Supply.

Trans-Canada Airway.—An article describing this Airway appears at pp. 703-705 of the 1940 Year Book.

Pre-War Civil Aviation and the Defence Program.—An article describing the developments of importance in civil aviation prior to the outbreak of war in 1939, and also the contribution that civil aviation made to the air defence program, is given at pp. 608-612 of the 1941 Year Book. An article describing the development and progress of the British Commonwealth Air Training Plan is given at pp. 1090-1099 of the 1946 Year Book.

Administration.—The 1942 Year Book, at pp. 638-639, outlines the administrative arrangements for the control of civil aviation. Present control under the Air Transport Board is given at pp. 682-683.

Subsection 2.—Recent Developments

Disposal of Airports.—Most of the airports and aerodromes built for or adapted to war use by the British Commonwealth Air Training Plan have been acquired by the Department of Transport since the cessation of hostilities. Post-war civilian use was envisioned for many of these aerodromes when they were

built; those declared surplus by the Royal Canadian Air Force have been transferred, through the medium of the Crown Assets Allocation Committee, to the Department of Transport and have, in most cases, been retained for civilian use. Most airports leased from municipalities are being returned to them; many of the newly constructed fields also have been leased to interested municipalities or other responsible bodies.

Many of the R.C.A.F. buildings on the airports taken over have been retained for departmental or municipal use or have been made available at nominal yearly charges to reorganized local flying clubs. Buildings not required for these purposes or as storage warehouses for the War Assets Corporation have been turned over to the Crown Assets Allocation Committee to alleviate housing and other building shortages.

New Developments.—Scheduled operations began on the Great Lakes air route in the summer of 1947. This route saves approximately 125 miles on the trip between Toronto and Winnipeg and by virtue of the many weather reporting stations on both sides of the Lakes makes possible a greater degree of accuracy in the up-to-the-minute weather forecasting which is so necessary for efficient airline operations. The route across northern Ontario now serves as an alternative to the Great Lakes air route.

In connection with the Great Lakes air route, airports and radio ranges were constructed at Wiarton, Ont., and Gore Bay, on Manitoulin Island. Arrangements were made with the United States authorities for the use of Kinross airport at Sault Ste. Marie, Michigan, U.S.A., and negotiations were made for the construction of 100-mile intermediate airports and radio ranges on the south shore of Lake Superior at Grand Marais, and Houghton, Michigan, U.S.A. The Grand Marais and Houghton airports and radio ranges were constructed by the State of Michigan with funds supplied by Canada, and on sites provided by the State or local municipalities. From Houghton the route swings northwest to Fort William-Port Arthur, Ont., thus putting the Lakehead cities on the new Trans-Canada Airway. From the Lakehead the new route goes to Graham, Ont., where a radio range was installed, and thence to Kenora, Ont., where it joins the original Trans-Canada Airway.

The Great Lakes route along the south shore of Lake Superior was planned in co-operation with the United States and the State of Michigan authorities and was chosen because the cold and hilly north shore in Canada prohibited the construction of suitable intermediate airports, and a direct flight from Sault Ste. Marie, Ont., to the Lakehead entailed a trip of more than 250 miles over water.

Many wartime developments, particularly in the field of radio aids to flying, have now been adopted for use in civil aviation, and the effect of these developments has been to increase safety factors and improve the consistency of scheduled flights on transatlantic as well as domestic routes. Impetus to the development of the Instrument Landing System was provided by the Second World War, and many of these installations are now in operation in the United States. Some Instrument Landing System installations have been made in Canada, and the present program calls for one or more of these installations at each major Canadian airport.

Numerous devices have had as their objective, landings in dense fog, but none of these devices has, as yet, been found to be completely adaptable to civil flying. However, safe landings have been made in conditions of very low forward visibility. Research is being carried forward with "blind" landings as the goal and considerable progress has been made in this direction.

Royal Canadian Flying Clubs.—In the spring of 1948 there were 42 member clubs of the Royal Canadian Flying Clubs Association and, at that time, the clubs were making a considerably better showing than for the corresponding period in the previous year, due possibly to weather conditions.

At the end of 1947, the clubs owned 246 aircraft of a wide variety ranging from small "Cubs" to the twin-engine Cessna T-50's. Of this number 203 were in active use. The remainder awaiting a certificate of airworthiness, were reduced to spare parts, or had become obsolete. The clubs marked up a total of 41,000 flying hours and membership totalled 5,436. Of this number 1,738 members were under active flying training.

Ex-R.C.A.F. personnel have shown considerable interest in the club movement and some are acting on boards of directors; however, only a small percentage of ex-R.C.A.F. members are actually flying.

Many members of the clubs fly for recreation only, but the clubs have facilities for commercial-flying training and many young members look forward to a career in aviation.

Scheduled Air Transport Services over Canadian Territory*

Trans-Canada Air Lines.—Air traffic over the Trans-Canada Air Lines was heavier in 1947 than in any previous year and service extensions made possible an increase of 34 p.c. in carrying capacity. While the transcontinental route flown by T.C.A. has been shortened since July 1, 1947, by operation of the Great Lakes air route, over 1,380,000 more revenue miles were flown in 1947 than in 1946.

Flight equipment at the close of 1947 included 30 Douglas DC-3 and 11 Lockheed Lodestar aircraft. Introduction of pressurized North Stars was delayed by production problems, but three newly delivered aircraft were being used for pilot training at the close of the year and were being prepared for domestic operations.

Since July 1, 1947, all transcontinental flights have been scheduled over the shorter Great Lakes air route, reducing the flight time between Toronto, Ont., and Winnipeg, Man., and providing Sault Ste. Marie and the Lakehead cities with their first main line air service. A daily scheduled service between Winnipeg, Man., Saskatoon, Sask., and Edmonton, Alta., now connects with the transcontinental service. Northern Ontario is served by a local operation between Toronto, North Bay, Porquis and Kapuskasing. Medicine Hat and Swift Current, Sask., have been included in the transcontinental schedule. A new international operation was inaugurated on Apr. 1, 1947, with a service between Halifax and Yarmouth, N.S., Saint John, N.B., and Boston, U.S.A.

T.C.A.'s route miles increased by 1,248 to a total of 7,759 during 1947, and six more cities were included as points of call.

* See map at the front of this edition.

The rapid development of the system is shown by the large increase in the number of revenue passengers carried which rose from 21,569 in 1939 to 427,967 in 1947 while the ton miles of mail transported advanced from 306,252 to 1,275,909 ton miles in the same comparison. Revenue freight carried, which had been 67,729 lb. in 1939, reached 2,041,315 lb. in 1947.

Of the 846,722 revenue passengers carried by all civil aircraft in Canada during 1947, 427,967 or 50·5 p.c. originated on T.C.A. aircraft, while of the total revenue passenger mileage of 237,986,178 in 1947, the T.C.A. logged 179,808,562 miles or 75·6 p.c. Similarly 48·3 p.c. of mail poundage and 6·5 p.c. of total revenue freight was carried by T.C.A. Table 1 gives a summary of Trans-Canada Air Lines traffic and Table 2 shows the operating revenues and expenses.

1.—Passenger, Freight and Mail Traffic of Trans-Canada Air Lines, 1939-47

Source: Trans-Canada Air Lines Annual Report.

Year	Revenue Passenger Traffic[1]		Revenue Freight Traffic[2]		Mail Traffic
	No.	Passenger miles	lb.	ton miles	ton miles
1939	21,569	12,068,661	67,729	41,749	306,252
1940	53,180	28,782,217	138,773	79,584	442,036
1941	85,154	44,248,124	286,116	132,352	720,150
1942	102,762	51,334,839	527,635	247,314	1,072,571
1943	140,276	78,508,427	1,114,206	526,363	1,623,802
1944	156,884	84,425,354	1,117,747	510,760	1,760,486
1945	183,121	106,088,111	1,261,935	500,687	1,571,180
1946	305,442	155,777,319	1,453,743	513,493	1,210,716
1947	427,967	179,808,562	2,041,315	764,105	1,275,909[3]

[1] Includes non-scheduled service. [2] Includes excess baggage. [3] Includes first class mail carried from Oct. 15 to Dec. 31.

2.—Operating Revenues and Expenses of Trans-Canada Air Lines, 1939-47

Source: Trans-Canada Air Lines Annual Report.

Year	Passenger	Freight[1]	Mail	Total Operating Revenue[2]	Operating Expenses[3]	Net Surplus (+) or Deficit (−)[4]
	$	$	$	$	$	$
1939	643,915	27,554	1,632,873	2,350,474	2,586,744	−411,657
1940	1,574,217	48,681	2,832,363	4,592,383	3,855,734	+539,263
1941	2,348,428	97,153	3,058,121	5,807,794	5,306,136	+302,437
1942	3,065,453	202,480	3,211,922	7,337,318	6,628,399	+494,915
1943	4,213,599	390,163	3,515,807	9,379,501	8,974,902	+147,889
1944	4,456,768	376,516	3,802,395	9,192,522	8,948,388	+7,409
1945	5,462,940	361,177	4,250,939	10,512,588	10,250,272	+32,772
1946	8,047,124	378,185	3,780,509	12,810,805	13,926,061	−1,269,624
1947	10,450,524	534,359	3,808,197	15,297,347	16,796,492	−1,761,043

[1] Express and excess baggage. [2] Includes other revenue. [3] Interest and exchange charges excluded each year except in 1946 and 1947. [4] Includes interest on capital invested.

Canadian Pacific Air Lines.—New air routes developed by Canadian Pacific Air Lines in 1947 included scheduled services between the following points:—

(1) Vancouver and Prince Rupert, B.C.
(2) Vancouver, B.C. and Calgary, Alta., via the Okanagan Valley.
(3) Winnipeg and Flin Flon, Man.
(4) Seven Islands and Knob Lake, Que.

In order to meet the requirements of the new services developed, nine twin-engined aircraft were acquired and 26 of the smaller and older type planes were disposed of.

As a result of a survey of Canada's air transport requirements, conducted by the Air Transport Board, Canadian Pacific Air Services relinquished, during 1947, most of the non-schedule or charter licences held by them.

Independent Air Lines.—In addition to Trans-Canada Air Lines and Canadian Pacific Air Lines, there are seven other domestic air lines licensed to operate scheduled services in Canada. These are:—

(1) Maritime Central Airways, Charlottetown, P.E.I.
(2) Northern Airways Limited, Carcross, Yukon.
(3) Leavens Brothers Air Services Limited, Toronto, Ont.
(4) M and C Aviation Company Limited, Prince Albert, Sask.
(5) Central Northern Airways Limited, Winnipeg, Man.
(6) Queen Charlotte Airlines Limited, Vancouver, B.C.
(7) Quebec Airways Limited, Montreal, Que.

Most of the independent air lines are operating non-scheduled services which, with few exceptions, are charter services from designated bases. It is in this field that the greatest development has taken place in recent years. These non-scheduled air services not only provide effective means of access to sections of Canada that are inaccessible by other means of transportation, but also act as feeders to the scheduled air lines.

It is in the charter-service field of commercial aviation that ex-service men have shown the greatest interest, inasmuch as they can commence operations in a modest way and the capital required is not exorbitant.

As at Mar. 31, 1948, the following operating certificates were in effect:—

Certificates	*No.*
Scheduled domestic	32
Scheduled foreign	11
Non-scheduled	208
Flying training	89
TOTAL	340

Commonwealth and Foreign Scheduled Services.—Operating certificates issued to Commonwealth and foreign scheduled services flying into Canada number nine and consist of the following:—

(1) Pan-American Airways, Inc., operating between Seattle, Wash., and Fairbanks, Alaska, with refuelling stop at Port Hardy, B.C., and points of call at Juneau, Alaska, and White Horse, Yukon.
(2) United Air Lines, Inc., operating between Vancouver, B.C., and Bellingham, Wash.
(3) American Airlines Inc., operating between Toronto, Ont., and Buffalo, N.Y., and also the Canadian portion of the route between Buffalo, N.Y., and Windsor, Ont., and Detroit, Mich. (Two certificates.)
(4) Colonial Airlines, Inc., operating between Montreal, Que., and Burlington, Vt.; between Ottawa, Ont., and Burlington via Montreal; between Montreal and Syracuse, N.Y.; and between Ottawa and Syracuse, N.Y. (Two certificates.)
(5) British Overseas Airways Corporation with Canadian Terminal at Montreal Airport (Dorval).
(6) Northeast Airlines Inc., between Boston, Mass., and Montreal, Que.
(7) Northwest Airlines Inc., between Fargo, N.D., and Winnipeg, Man.
(8) British Commonwealth Pacific Airlines, between Vancouver, B.C., and Sydney, N.S.W., Australia; and between Vancouver, B.C., and Auckland, New Zealand via Fiji Islands, Canton Island, Honolulu, and San Francisco.
(9) Western Air Lines Inc., between Lethbridge, Alta., and Great Falls, Montana.

Trans-Atlantic Air Service

The spur given to the development of a transatlantic flying service by trade rivalry and national prestige in pre-war days was mild in effect compared to the overpowering demand of war emergency. Under the 1935 Air Agreement, the United Kingdom, was proceeding with what, at that time appeared to be a vigorous policy of flying-boat construction to link Europe and America by transatlantic air service. Canada, under that Agreement, had assumed responsibility for meteorological services in Newfoundland. It is only now, in the light of the accomplished fact, that it is realized how much essential material was missing then for the successful operation of such a service. Weather reports were scant and inadequate for present day needs; aids to air navigation were almost non-existent; communication facilities were sketchy in the extreme; added to all this, the flying boats could, so far as the northern routes were concerned, operate only during the summer months.

The wartime necessity for the speedy delivery of aircraft in Europe introduced in the matter of a few months, changes which in the normal course of events would probably have taken as many years. A large airport was constructed at Goose Bay, Labrador. The Gander Airport in Newfoundland was greatly improved. Long-distance aids to navigation were installed wherever possible and were interlinked by radio-communication facilities with each other and with centres on the mainland on both sides of the Atlantic. Weather stations were established not only at Continental points but in Iceland and Greenland; and a fleet of weather ships cruised continuously in more or less fixed areas in the Atlantic to give accurate weather data at frequent intervals.

While these services were still in process of development it became apparent that the maintenance of morale of the Canadian troops in Britain could be greatly improved if a rapid and reliable system of mail delivery could be established. The British Government placed a converted Lancaster bomber at the disposal of the Canadian Department of Transport, which in turn, turned it over to Trans-Canada Air Lines for the operation of the Canadian Government Trans-Atlantic Air Service. Six similar aircraft were added to this Service in the course of the next few months as they became available from the assembly line at Malton, Ont.

The first flight of the Canadian Government Trans-Atlantic Air Service between Canada and the United Kingdom took place on July 22, 1943. From then until Mar. 31, 1947, this Service had carried 8,370 passengers, 215,000 lb. of goods and 2,403,500 lb. of mail between Canada and Great Britain.

Changed conditions at the end of the Second World War made it necessary to drop the 1935 Agreement, whereby, the former Trans-Atlantic Air Service was to have been operated by the United Kingdom with assistance, by way of money contributions, from Ireland and Canada. The vast contribution that Canada made towards aerial warfare in the Second World War left her with a large and vigorous transatlantic commercial air service. This introduced a factor into Empire relations which made it unnecessary to continue the 1935 Agreement as it no longer accurately reflected the position of Canada as an operator of world air routes.

Trans-Canada Air Lines (Atlantic) Limited.—On May 1, 1947, Trans-Canada Air Lines (Atlantic) Limited, assumed responsibility for the operation previously provided by the Canadian Government Trans-Atlantic Air Service.

Since that time, the operation has had full commercial status, and up to Dec. 31, 1947, 15,815 revenue passengers crossed the Atlantic and of these 14,393 travelled on scheduled flights. The remaining 1,422 passengers were largely immigrants from the United Kingdom carried under a charter arrangement with the Province of Ontario. These figures do not include passengers carried by other companies under sub-contract with T.C.A. (Atlantic). A total of 251,562 mail ton miles were logged and 531,008 freight ton miles including air express, cargo and excess baggage. Operating revenues on the Atlantic Service were $5,483,298 against operating expenses of $5,341,898 and the surplus after interest payments was $136,303. From 1943, Trans-Canada had operated a wartime transatlantic service between Montreal and Great Britain for the Canadian Government. The Company and its personnel thus acquired considerable experience in transatlantic flights.

The experience gathered during the war years has been of immense value to T.C.A. (Atlantic) not only in the training of air crews in flying the route but also for Company personnel who have taken an active part in so many phases of transatlantic operation. The radio-communications system for T.C.A. (Atlantic) operation, with headquarters at Moncton, N.B., is operated by Trans-Canada Air Lines, as agent for the Department of Transport. Aircraft maintenance crews, during the War, serviced not only their own aircraft but those of the British Overseas Airways Corporation, thereby establishing a technical background for the problems of long-distance operation of aircraft.

The Department of Transport is deeply interested in this Service. The closely integrated Canadian Meteorological Service now has stations at both Goose Bay, Labrador, and Gander, Newfoundland, as well as at Montreal, Que., which are largely devoted to transatlantic operations. The radio range system extends from Montreal, Que., through intermediate points to both Goose Bay and Gander. Canada contributes the cost of one ship as part of an ocean weather station, stationed on the North Atlantic route, at an estimated annual cost of $350,000.

The collapse of the vast system set up to meet war requirements was avoided by the quick action of the Provisional International Civil Aviation Organization (PICAO) in calling a meeting of the interested countries at Dublin, Ireland, in March, 1946, at which time provision was made for the retention of all the services essential to successful operation. These services are provided by the nations concerned on an agreed and equitable basis, Canada bearing her share of the cost. In this connection, search and rescue facilities were provided by the R.C.A.F. to assist aircraft in trouble at the Canadian end of the route. The Search and Rescue Organization includes not only aircraft to search for lost aeroplanes, but the integration of control and communications systems to enable ships on the Atlantic to render assistance. It keeps all concerned fully informed almost constantly of the position and general well-being of every aircraft in the area.

In the summer of 1948, T.C.A. (Atlantic) was flying seven scheduled round trips per week between Canada and Great Britain. However, due to the heavy traffic, most of these scheduled trips were operated in two sections for the summer months.

The Northern Route to Great Britain either by way of Goose Bay, Labrador, or Gander, Newfoundland, is followed during the summer months. Treaty agreement with Newfoundland requires that all transatlantic services, with the exception of T.C.A. (Atlantic), shall use Gander, weather permitting. T.C.A. (Atlantic)

is the only transatlantic operator that is permitted to use Goose Bay as a regular point of call, other operators being permitted to use it only as a bad weather alternate.

On May 1, 1948, the Bermuda service was inaugurated by T.C.A. with two round trips per week, one flight originating in Montreal, Que., and one in Toronto, Ont.

By treaty agreement with Portugal, T.C.A. has the right to land in the Azores should weather conditions make the operation of the Northern Route undesirable.

Experience during the winter of 1946-47 indicated the desirability of establishing a refuelling base in the eastern Maritimes for the benefit of the numerous transatlantic operators. When the Southern Route, by way of the Azores, is used, the safety of the operation is considerably enhanced if an alternate to Gander is available at a convenient point on the mainland. During the winter of 1947-48, several operators obtained temporary authority to use Sydney, N.S., since the airport at that point is sufficiently developed to accommodate the types of aircraft now used in transatlantic operations. Most transatlantic operators favour Sydney, N.S., and further development at this airport will be carried out with a view to making it a regular refuelling base for transatlantic operations.

Trans-Canada Air Lines (Atlantic), Limited, employs North Star aircraft exclusively on the transatlantic and Bermuda runs. On May 14, 1948, they made their appearance on the Toronto-New York international run and on June 1, 1948, in domestic service as well. The North Star is a Canadian development of the original Douglas DC-4 and uses British Rolls-Royce Merlin engines. The performance of this aircraft is such that it is considered a triumph of Canadian aeronautical engineering.

Section 2.—Airports and Aircraft

Subsection 1.—Summary Statistics of Civil Aviation

From commercial operators of aircraft, aeroplane clubs, etc., the Bureau of Statistics collects and compiles civil aviation statistics, with the exception of data on licences and accidents, which are reported by the Civil Aviation Division of the Department of Transport.

Commercial companies are in two classes, those engaged principally in flying between Canada and the United States and those engaged exclusively or almost exclusively in flying between Canadian stations, see Table 8, p. 756. Regular flying on the Montreal to Vancouver portion of the Trans-Canada Airway began toward the end of 1938. The statistics for 1939 were the first to include extensive operations of the Trans-Canada Air Lines. The companies operating in the north country carry passengers, freight and supplies into and out of the mines and account for the large volume of freight carried by air in Canada. Because of this feature of civil aviation in Canada, it is difficult to make comparisons with other countries where the traffic is principally inter-urban passenger traffic between well-established airports.

3.—Summary Statistics of Civil Aviation, 1941-46

NOTE.—Figures for 1921-23 will be found at p. 616 of the 1924 edition of the Year Book, for 1924-29 at p. 661 of the 1930 edition; for 1930-34 at p. 698 of the 1936 edition, for 1935-39 at p. 640 of the 1942 edition and for 1940 at p. 720 of the 1947 edition.

Item	1941	1942	1943	1944	1945	1946
Aircraft Miles Flown—						
Revenue.....No.	11,810,668	12,781,867	14,584,115	15,568,559	18,618,970	25,844,570
Non-revenue..... "	697,722	547,276	709,434	620,803	1,468,462	2,567,423
Totals..... "	12,508,390	13,329,143	15,293,549	16,189,362	20,087,432	28,411,993
Passengers Carried—						
Revenue[1].....No.	181,219	198,205	282,886	371,397	490,809	802,811
Non-revenue[2]..... "	15,048	13,345	12,375	11,695	17,887	33,737
Totals..... "	208,059	229,047	314,642	403,938	525,407	836,548
Passenger Miles—						
Revenue.....No.	53,891,516	70,554,377	100,530,892	111,127,010	153,504,833	206,776,408
Non-revenue[2]..... "	2,832,198	2,652,224	2,859,572	2,759,319	5,658,612	8,971,573
Totals..... "	56,723,714	73,206,601	103,390,464	113,886,329	159,163,445	215,747,981
Freight Carried—						
Revenue[3]..... lb.	14,719,700	11,055,142	11,546,777	10,522,932	12,615,119	23,437,925
Non-revenue..... "	1,733,361	1,243,938	1,515,288	1,247,743	1,447,642	1,607,801
Totals..... "	16,559,611	12,651,939	13,853,563	12,430,645	14,462,400	25,226,986
Freight Ton Miles—						
Revenue.....No.	956,482	1,125,912	1,500,179	1,406,679	1,337,145	1,892,391
Non-revenue..... "	169,055	148,038	218,141	261,507	313,072	420,286
Totals..... "	1,125,537	1,273,950	1,718,320	1,668,186	1,650,217	2,312,677
Mail Carried[4]..... lb.	3,411,971	5,470,209	7,586,809	7,296,265	6,418,944	5,930,338
Ton miles.....No.	894,578	1,484,314	2,103,867	2,072,129	2,096,289	1,534,919
Hours Flown by Aircraft—						
Transportation revenue.....No.	88,536	92,314	101,169	105,815	125,570	164,648
Transportation non-revenue..... "	7,049	5,227	6,438	5,308	12,391	20,929
Patrols, surveys, etc.. "	37,238	20,335	9,055	11,299	14,609	26,011
Totals..... "	132,823	117,876	116,662	122,422	152,570	211,588
Hours flown by crew....No.	241,154	235,573	257,815	279,943	369,148	449,844
Hours flown by passengers..... "	379,777	480,534	562,337	712,373	1,048,344	1,302,358
Horse power hours flown by aircraft.....'000	113,797	127,246	165,487	183,556	216,288	[5]
Gasoline consumption[6].. gal.	4,389,648	4,653,555	5,661,301	6,169,355	7,855,067	11,556,480
Lubricating oil consumption[6]..... "	104,758	104,441	117,050	100,240	121,963	155,206
Licensed civil airports (all types).....No.	180	177	175	136	146	161
Licensed Civil Aircraft (all types)—						
Gross weight—						
Up to 2,000 lb.....No.	227	132	52	71	169	639
2,001- 4,000 lb..... "	86	64	48	44	47	73
4,001-10,000 lb..... "	96	89	73	87	111	176
Over 10,000 lb..... "	31	33	41	45	54	68
Totals, Aircraft.... "	440	318	214	247	381	956

For footnotes, see end of table, p. 752.

3.—Summary Statistics of Civil Aviation, 1941-46—concluded

Item	1941	1942	1943	1944	1945	1946
Ownership, Commercial—						
Up to 2,000 lb.....No.	109	75	33	7	117	434
2,001- 4,000 lb..... "	58	46	35	18	34	57
4,001-10,000 lb..... "	71	61	54	53	77	124
Over 10,000 lb..... "	30	32	38	45	50	56
Ownership, Other—						
Up to 2,000 lb.....No.	118	57	19	64	52	205
2,001- 4,000 lb..... "	28	18	13	26	13	16
4,001-10,000 lb..... "	25	28	19	34	34	52
Over 10,000 lb..... "	1	1	3	Nil	4	12
Licensed Civil Air Personnel—						
Commercial pilots....No.	77	108	67	68	96	88
Limited commercial pilots..... "	322	324	218	181	457	1,149
Transport pilots..... "	158	188	235	318	485	828
Private pilots..... "	760	656	242	255	389	1,123
Air engineers..... "	832	944	983	850	962	1,269

[1] Exclusive of passengers carried between foreign stations. [2] Includes employees other than crews. [3] Exclusive of freight carried between foreign stations. [4] Compiled on a different basis from those of the Post Office shown at p. 779. [5] Not available. [6] For Canadian carriers only.

Subsection 2.—Ground Facilities

Early ground facilities for civil aviation in Canada consisted chiefly of municipal or flying-club airports adjacent to the larger urban centres, and of numerous terminals from which commercial flying services operated, mainly into the northern mining regions. A large air terminal was built at St. Hubert, Que., seven miles east of Montreal, with immigration, customs and postal facilities available. These earlier airports formed the nucleus which, with many additions and improvements, became the chain of aerodromes constituting the Trans-Canada airways operated by the Department of Transport. The development of this airway and the use and expansion of the ground facilities for military purposes during the Second World War affected the status and facilities of many former municipal airports.

4.—Civil Airports by Type, as at Dec. 31, 1946

Type	Landing Surfaces			
	Land Only	Water Only	Land and Water	Total
	No.	No.	No.	No.
Public	20	17	Nil	37
Federal Government	25	4	"	29
Intermediate	49	Nil	"	49
Provincial	Nil	7	"	7
Private	9	17	"	26
Municipal airports	8	3	2	13
Totals	**111**	**48**	**2**	**161**

Subsection 3.—Aircraft

The construction in Canada of aircraft and equipment is essential to the development of flying. Before the War several manufacturers were producing original types especially suited to operation in Canada, and a number of manufacturers from England and the United States formed branches in Canada for the

assembly and servicing of their products. There were also a number of plants for the manufacture of landing gear, especially skis and pontoons, designed to meet the particular requirements of Canadian conditions. Plants equipped to manufacture civil aircraft and parts were changed over during the War to the production of military types and the industry expanded by many additional plants and firms. The principal statistics of the aircraft industry are shown for the latest available year in the Manufactures Chapter (Table 9, p. 554).

Section 3.—Finance and Employees

Subsection 1.—Federal and Other Expenditures and Revenues

The status of civil aviation in Canada has changed considerably in recent years as regards both civil and military requirements. Until the institution of the Trans-Canada Air Lines, the development of civil aviation was limited to the provision of private, commercial and administrative services for the more remote sections of Canada, chiefly in the northern mining, forestry and trapping regions. Recently, however, the Federal Government has improved existing airports and constructed others for civil and for military purposes. In addition to direct expenditures, the Department of Transport has given assistance to municipalities for the construction and development of airports amounting to $3,707,311.

5.—Investment, Operation and Maintenance Expenditures and Revenues of the Department of Transport in Connection with Civil Aviation, Years Ended Mar. 31, 1945-47.

NOTE.—Compiled from Department of Transport records. The Departmental Investment Section has been revised from previous years to include Canadian Government Transatlantic Air Service; the Operation and Maintenance Expenditures Section has been revised to include expenditures from war appropriations; and the Revenues Section has been revised to include revenue relating to War Appropriations under the appropriate classification of Revenue instead of showing the total in one amount as heretofore.

Item	1945	1946	1947	Total as at Mar. 31, 1947
Departmental Investment	$	$	$	$
Airways and Airports—				
Civil Aviation—				
Ordinary appropriations	Nil	*-1,334,324*	Nil	849,053
Capital appropriations	803,240	750,323	1,195,890	11,049,646
War appropriations	6,682,241	2,899,518	99,066,057	111,086,445
Air Ministry of United Kingdom	Nil	4,913,090	Nil	4,913,090[1]
Radio Aviation—				
Ordinary appropriations	Nil	2,847	Nil	336,180
Capital appropriations	706,495	494,430	647,358	5,408,597
War appropriations	141,253	173,476	663,010	1,290,936
Meteorological Aviation—				
Ordinary appropriations	Nil	Nil	1,420	12,486
War appropriations	43,392	150,469	57,098	469,299
Totals, Airways and Airports	**8,376,621**	**8,049,829**	**101,630,833**	**135,415,732[2]**
Canadian Government Transatlantic Air Service	**362,162**	**2,548,104**	**1,678,103**	**4,788,369**
Totals, Departmental Investment	**8,738,783**	**10,597,933**	**103,308,936**	**140,204,101**

[1] Property constructed at Montreal (Dorval), Que., to Feb. 15, 1946, and North Bay, Ont., to Dec. 31, 1945, acquired by Federal Government under agreements of June 24, 1943, and June 5, 1944, respectively.
[2] The above does not include expenditures for Construction and Development of Airways and Airports from Unemployment Relief Appropriations to the extent of $3,811,164 made by Department of National Defence prior to establishment of Department of Transport in 1936, nor Grants to Municipalities to assist in development of Airways and Airports to the extent of $3,707,311, nor expenditures made by Department of National Defence—Air, or other Government Departments. There was also a payment of $87,100,814 covering acquisition of United States Air (War) and other war installations in Canada and Labrador.

5.—Investment, Operation and Maintenance Expenditures and Revenues of the Department of Transport in Connection with Civil Aviation, Years Ended Mar. 31, 1945-47—concluded.

Item	1945	1946	1947
	$	$	$
Operation and Maintenance Expenditures and Revenues			
Expenditures—			
Air services administration	8,876	5,545	8,725
Control of civil aviation (including administration of Aeronautics Act and Regulations)	229,137	252,208	356,479
Grants to aeroplane clubs	5,050	33,950	30,000
Assistance to M & C Aviation Co. Ltd	Nil	9,729	271
Airways and Airports Operation and Maintenance—			
Main facilities	850,896	1,241,513	2,026,334
Radio aviation	800,220	918,211	1,070,332
Meteorological aviation	462,895	477,967	599,162
War appropriations expenditure	3,912,908	5,033,675	4,370,172
Government Employees Compensation Act	8,691	7,668	13,050
Totals, Expenditures	**6,278,673**	**7,980,466**	**8,474,525**
Revenues and Receipts—			
Private air pilots' certificates	2	452	1,934
Aircraft registration fees	345	1,505	4,720
Airport licences	20	120	630
Airworthiness certificates	110	1,790	3,685
Scheduled air transport service licences	15	Nil	Nil
Fines—Aeronautics Act and Regulations	160	"	140
Airport landing fees	86,386	115,593	157,217
Passenger tolls	619	354	2,776
Rental at airports	22,259	38,279	195,131
Outside and hangar space rental	7,241	19,106	148,103
Rental of equipment	3,885	8,657	24,220
Rental—employees' quarters	49,057	52,750	59,038
Miscellaneous rental	539	1,690	3,633
Power service	Nil	4,266	9,207
Airport radio service to aircraft	22,884	26,374	27,524
Radio message tolls	17,145	21,195	22,746
Mess receipts	25,759	29,402	30,182
Miscellaneous revenue	5,867	7,165	42,776
Refund of previous years' expenditure	24,454	31,673	409,997
Totals, Revenues and Receipts	**266,747**	**360,371**	**1,143,659**

No statistics are available regarding expenditures on flying operations by the Federal and Provincial Governments or by private individuals.

The capital expenditures made by commercial air carriers for property as reported for the end of 1946 are shown in Table 6.

6.—Cost of Property, Revenues and Expenditures for Scheduled and Other Commercial Air Carriers in Canada, 1946

Item	Commercial Canadian Carriers		
	Scheduled	Other	Total
	$	$	$
Property Account—			
Aircraft	6,929,690	785,334	7,715,024
Aircraft engines	1,310,829	132,490	1,443,319
Buildings and improvements	1,577,126	85,553	1,662,679
Miscellaneous	1,992,190	156,730	2,148,920
Totals, Cost of Property	**11,809,835**	**1,160,107**	**12,969,942**
Revenues and Expenditures—			
Revenues	20,623,551	1,364,438	21,987,989
Expenditures	21,392,491	1,384,949	22,777,440

Subsection 2.—Employees and Salaries and Wages

The numbers of civil air personnel licensed in recent years is shown in Table 3, p. 752. However, those figures include pilots and engineers in the employ of the Federal Government and of private individuals as well as those not employed at all in the ordinary sense.

7.—Employees and Salaries and Wages in Civil Aviation in Canada, 1946

Class of Employee	Scheduled		Non-Scheduled		Totals	
	No.	$	No.	$	No.	$
General officers	158	869,541	19	69,814	177	939,355
Clerks	600	925,984	30	34,339	630	960,323
Pilots	200	1,263,286	59	156,579	259	1,419,865
Co-pilots	170	591,352	2	4,797	172	596,149
Despatchers	70	204,249	3	4,360	73	208,609
Communication operators	327	579,766	1	3,920	328	583,686
Stewards or other attendants	140	247,936	1	1,233	141	249,169
Air engineers	252	620,966	29	61,926	281	682,892
Mechanics	1,641	3,332,612	75	120,027	1,716	3,452,639
Airport employees	826	1,334,087	14	16,997	840	1,351,084
Stores employees	148	244,125	8	12,157	156	256,282
Other employees	624	1,313,467	16	21,453	640	1,334,920
Totals	**5,156**[1]	**11,527,371**[1]	**257**	**507,602**	**5,413**[1]	**12,034,973**[1]

[1]Exclusive of 115 employees paid $295,044—Canadian domiciled employees of international carriers.

Section 4.—Aerial Traffic

Table 3, pp. 751-752, shows large increases in passenger traffic during the years from 1941 to 1946. The amount of freight carried by aircraft grew rapidly, increasing from 2,372,467 lb. in 1931 to a pre-war record of 24,317,610 lb. in 1937; it decreased considerably during the war years, amounting to 14,462,400 lb. in 1945, due mainly to the decline in the gold-mining industry and the restrictions in the use of aircraft for trapping and other operations. However, recovery was rapid in 1946 and a new record of 25,226,986 lbs. was established. In the years before the War, a large part of the air freight was mine machinery and supplies to gold-mining companies. Many of these mines, located in the northern parts of Quebec, Ontario and the Western Provinces and in the Northwest Territories, were accessible only by canoe in the summer and dog team in the winter or by aircraft, and aircraft transportation was the cheapest and most effective method of transportation. Further information regarding air-mail services appears in Part VIII of this Chapter, p. 779.

Statistics for international carriers include traffic over Canadian territory for both Canadian and foreign operators; a small traffic across Canadian territory and between foreign stations is also included. Statistics for Canadian carriers operating international routes are included both as "International" and "Canadian" but duplications are excluded in the totals.

8.—Operations of Civil Aircraft in Canada, 1946

NOTE.—The basis of presentation of these statistics differs from that of previous years.

Item	Canadian Carriers			Foreign International	Total
	Scheduled	Non-scheduled	Non-commercial		
Aircraft Miles Flown—					
Revenue transportation ..... No.	21,692,323	3,099,171	Nil	1,053,076	25,844,570
Non-revenue transportation ..... "	2,109,059	278,131	143,204	37,029	2,567,423
Totals ..... "	23,801,382	3,377,302	143,204	1,090,105	28,411,993
Passengers Carried[1]—					
Revenue ..... No.	508,907	63,416	Nil	230,488	802,811
Between foreign stations ..... "	Nil	Nil	"	6,673	6,673
Non-revenue ..... "	18,929	2,041	2,708	3,386	27,064
Totals ..... "	527,836	65,457	2,708	240,547	836,548
Passenger Miles—					
Revenue ..... No.	189,474,887	4,210,510	Nil	13,091,011	206,776,408
Non-revenue ..... "	8,325,799	210,353	202,004	233,417	8,971,573
Totals ..... "	197,800,686	4,420,863	202,004	13,324,428	215,747,981
Freight Carried[1]—					
Revenue ..... lb.	18,344,679	4,109,111	Nil	984,135	23,437,925
Between foreign stations ..... "	Nil	Nil	"	181,260	181,260
Non-revenue ..... "	1,219,881	20,310	271,803	95,807	1,607,801
Totals ..... "	19,564,560	4,129,421	271,803	1,261,202	25,226,986
Freight Ton Miles—					
Revenue ..... No.	1,702,172	142,121	Nil	48,098	1,892,391
Non-revenue ..... "	401,683	1,272	9,726	7,605	420,286
Totals ..... "	2,103,855	143,393	9,726	55,703	2,312,677
Mail carried ..... lb.	4,811,819	103,811	Nil	1,014,708	5,930,338
Mail ton miles ..... No.	1,482,460	3,364	"	49,095	1,534,919
Hours Flown by Aircraft—					
Transportation revenue ..... No.	138,145	19,602	Nil	6,901	164,648
Transportation non-revenue ..... "	16,653	2,682	1,386	208	20,929
Patrols, surveys, etc ..... "	894	15,341	9,776	Nil	26,011
Totals ..... "	155,692	37,625	11,162	7,109	211,588
Hours flown by crew ..... No.	379,280	36,032	12,848	21,684	449,844
Hours flown by passengers ..... "	1,173,245	40,666	1,791	86,656	1,302,358
Gasoline consumption ..... gal.	9,700,052	549,497	277,721	1,029,210[2]	11,556,480
Lubricating oil consumption ..... "	134,318	13,267	6,659	2,245[2]	156,489

[1] Excludes traffic interchanged between carriers. [2] Purchased in Canada.

PART VI.—WIRE COMMUNICATIONS*

Section 1.—Telegraphs

The early history of telegraphic communication in Canada is given at p. 778 of the 1934-35 Year Book.

Federal Government Telegraph and Telephone Service.†—The Government Telegraph and Telephone Branch which previously provided this service under the Department of Public Works is continuing its functions under the Department of Transport. This transfer was made in order to consolidate the principal Government communication services under one Department. Its general object

* Revised by G. S. Wrong, Director, Transportation Division, Dominion Bureau of Statistics. This Division issues annual reports dealing with telegraph and telephone statistics.

† Revised by G. C. W. Browne, Director of Radio, Radio Division, Department of Transport.

is to furnish wire communications for outlying and sparsely settled districts where commercial companies do not enter into the field and where the population must receive adequate communication services in the public interest. The responsibility for the control of installations of Government telephones in Ottawa now belongs to the Department of Finance.

The Government Telegraph and Telephone Service provides telegraph and telephone services to scattered settlements along the coast of Cape Breton Island; cable services to Campobello, Grand Manan and other islands in the Bay of Fundy, to Prince Edward Island and a number of small islands in the Gulf of St. Lawrence; cable connections with Pelee and Manitoulin Islands in Ontario as well as telephone lines on the latter; some lines to northern outlying districts in Saskatchewan; telegraph lines from Edmonton to the Athabaska and Peace River country in Alberta in addition to an extensive telephone system in the latter area; telegraph and telephone communications around the coast of Vancouver Island and adjacent islands; service to fishing, lumber and mining centres in the interior; an overland telegraph and telephone line serving communities from Ashcroft, B.C., to Dawson in the Yukon.

Telegraph Systems.—The Canadian telegraph systems are composed of lines owned by the Federal Government and by chartered railway and telegraph companies. The Canadian facilities, in proportion to population, are among the most extensive in the world, and are operated under great climatic and geographical difficulties.

1.—Summary Statistics of All Canadian Telegraphs, 1936-46

NOTE.—Figures for the years 1920-30 will be found at p. 722 of the 1938 Year Book and for 1931-35 at p. 637 of the 1943-44 edition.

Year	Gross Revenue	Operating Expenses	Net Operating Revenue	Pole-Line Mileage	Wire Mileage	Employees[1]	Offices	Messages, Land	Cablegrams[2]	Money Transferred
	$	$	$	miles	miles	No.	No.	No.	No.	$
1936...	10,378,873	8,710,349	1,668,524	52,907	363,180	6,064	4,121	12,735,186	1,391,903	4,296,738
1937...	11,410,333	9,467,398	1,942,935	53,001	369,411	6,401	4,761	13,456,330	1,488,767	4,550,731
1938...	10,611,207	9,399,631	1,211,576	52,408	373,283	6,347	4,900	12,814,234	1,404,244	4,103,690
1939...	10,474,489	9,297,902	1,176,587	52,464	374,550	6,339	4,845	12,462,912	1,492,389	3,539,988
1940...	10,922,674	9,625,035	1,297,639	52,396	380,318	6,588	4,781	12,732,082	1,657,148	3,118,166
1941...	12,777,920	10,878,222	1,899,698	52,246	379,794	7,272	4,832	14,281,570	2,251,979	3,868,040
1942...	14,826,431	11,925,417	2,901,014	52,418	381,953	7,544	4,979	15,422,131	2,831,549	5,439,880
1943...	16,955,288	12,942,108	4,013,180	52,414	384,350	8,330	4,908	16,469,564	3,013,752	7,677,080
1944...	16,986,491	14,404,835	2,581,656	52,414	387,677	8,050	4,834	16,445,450	2,324,863	8,242,926
1945...	18,016,289	15,062,231	2,954,058	52,447	391,476	8,230	4,804	17,666,904	2,192,173	8,006,128
1946...	17,997,726	16,028,900	1,968,826	52,501	400,981	8,603	4,707	18,441,841	1,845,539	9,247,100

[1] Excludes commission operators. [2] Excludes messages relayed to the United States.

Submarine Cables.—In 1946, four cable companies operated in Canada: the Commercial Cable Company; the Pacific Cable Board; Halifax and Bermudas Cable Company; and the Western Union Telegraph Company. These companies operated to stations in Newfoundland, the United States, Bermuda, England, Australia, New Zealand, etc. Table 2 gives the number of cables operated between the connected stations and the length of cables in nautical miles.

2.—Cable Companies Operating in Canada, 1946

Company and Stations	Number of Cables	Nautical Miles
Commercial Cable Company—		
Canso, N.S., to Port Aux Basques, Nfld.	1	200·90
Canso, N.S., to St. Johns, Nfld.	2	908·20
Canso, N.S., to Horta, Fayal, Azores.	2	3,420·00
Canso, N.S., to Far Rockaway, N.Y.	3	2,892·80
Pacific Cable Board—		
Halifax, N.S., to Porthcurno, England.	2	6,164·00
Bamfield, B.C., to Auckland, New Zealand.	1	6,756·00
Pamfield, B.C., to Sydney, New South Wales.	1	7,830·00
Halifax and Bermudas Cable Company—		
Halifax, N.S., to Bermuda.	1	870·00
Western Union Telegraph Company—		
North Sydney, N.S., to St. Pierre and Miquelon Islands.	2	395·88
North Sydney, N.S., to Island Cove, Nfld.	2	633·50
North Sydney, N.S., to Colinet, Nfld.	1	321·95
Canso, N.S., to Hannel, N.Y.	2	1,595·16
Canso, N.S., to Duxbury, Mass.	1	572·73
Canso, N.S., to St. Pierre and Miquelon Islands.	1	251·96
North Sydney, N.S., to Canso, N.S.	2	249·92

Section 2.—Telephones

A brief historical account of the early development of telephones in Canada is given at p. 781 of the 1934-35 Year Book.

Subsection 1.—Systems and Equipment

Telephone Systems.—The 3,114 telephone systems existing in 1946 included the three large provincial systems in Manitoba, Saskatchewan and Alberta, and smaller governmental systems in Ontario, Quebec and New Brunswick, together with the system operated by the Federal Department of Public Works and the National Parks of Canada, Department of Mines and Resources. They also included 23 municipal systems, the largest operated by the cities of Edmonton, Fort William and Port Arthur. Of the 2,354 co-operative telephone companies no fewer than 1,106 were in Saskatchewan alone, 788 in Alberta and 214 in Nova Scotia. The largest among the 516 stock companies operating telephone systems in 1946 were the Bell Telephone Co., and the British Columbia Telephone Co. Over 60 p.c. of the total telephone investment in Canada belongs to the Bell Telephone Co., and their telephones in Quebec and Ontario constitute 58 p.c. of the total for Canada.

Telephone Equipment.—During the years 1935-46 there has been an increase of 817,303 in the number of telephones in use, representing an advance of nearly 49 p.c. in telephones per 100 population.

Of the 2,026,118 telephones in Canada in 1946, 1,122,788 or 55 p.c. were operated from automatic switchboards. The remainder were operated from manual switchboards. Automatic switchboards have completely displaced manual switchboards in the principal cities of the Prairie Provinces and are displacing them in the other provinces as equipment becomes available.

3.—Mileages of Pole Line and Wire, and Telephones in Use, 1936-46

NOTE.—Figures for the years 1911-30 will be found at p. 724 of the 1938 Year Book and for 1931-35 at p. 639 of the 1943-44 edition.

Year	Systems	Pole-Line Mileage	Mileage of Wire	Telephones in Use					
				Business	Residential	Rural[1]	Public Pay	Total	Per 100 Population
	No.	miles	miles	No.	No.	No.	No.	No.	No.
1936....	3,063	210,926	5,197,042	371,401	641,229	229,940	23,658	1,266,228	11·5
1937....	3,191	209,767	5,307,884	386,669	676,001	235,763	24,361	1,322,794	11·9
1938....	3,203	211,895	5,397,244	396,975	695,961	240,204	26,277	1,359,417	12·1
1939 ...	3,212	212,603	5,518,329	406,279	720,043	243,730	27,220	1,397,272	12·3
1940....	3,193	212,680	5,681,594	421,050	762,331	248,982	28,675	1,461,038	12·8
1941....	3,209	213,393	5,882,223	446,739	827,522	257,409	30,476	1,562,146	13·6
1942....	3,192	217,958	6,014,596	463,827	867,307	266,176	30,465	1,627,775	14·0
1943....	3,187	218,702	6,057,889	484,429	901,228	275,202	31,303	1,692,162	14·3
1944....	3,174	220,161	6,108,070	504,791	928,061	286,521	32,550	1,751,923	14·6
1945....	3,151	222,435	6,333,761	531,697	983,074	300,757	33,266	1,848,794	15·3
1946....	3,114	228,983	6,770,137	585,982	1,079,769	326,405	33,962	2,026,118	16·5

[1] Includes telephones on rural exchange lines and urban exchange lines that have more than four parties.

The density of telephones in the different provinces is naturally influenced by the urbanization of the population because the number of telephones used for business purposes is much greater in cities and towns than in rural areas.

4.—Telephones in Use, by Provinces, 1946

Province or Territory	On Individual Lines		On 2- and 4-Party Lines		On Rural Lines		Private Branch Exchanges and Extensions		Public Pay Stations	Total	Telephones per 100 Population
	Business	Residence	Business	Residence	Business	Residence	Business	Residence			
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
P.E.I...	1,086	1,188	205	1,918	296	2,636	733	167	67	8,296	8·8
N.S.....	8,369	15,809	974	20,401	1,165	14,069	9,545	2,889	1,015	74,236	12·1
N.B....	5,265	8,955	1,168	14,558	1,001	8,460	6,978	1,612	875	48,872	10·2
Que.....	55,427	93,119	11,401	143,056	11,059	37,311	90,681	13,958	12,855	468,867	12·9
Ont.....	91,418	150,325	14,579	335,796	7,235	131,477	142,520	34,157	13,177	920,684	22·5
Man.....	13,065	38,870	75	14,605	1,578	16,011	17,136	2,330	2,494	106,164	14·6
Sask....	15,039	31,310	435	250	11	52,109	7,714	1,587	526	108,981	13·1
Alta....	19,438	41,464	58	71	1,284	19,796	12,453	1,176	1,064	96,804	12·1
B.C.....	26,460	8,993	552	97,166	3,645	17,160	33,189	4,038	1,889	193,092	19·3
Yukon..	19	1	Nil	Nil	34	68	Nil	Nil	Nil	122	1·5
Totals..	**235,586**	**390,034**	**29,447**	**627,821**	**27,308**	**299,097**	**320,949**	**61,914**	**33,962**	**2,026,118**	**16·5**

Subsection 2.—Telephone Finances

Important trends for the telephone industry in Canada are indicated in Tables 5 and 6. There were setbacks in revenues, operating expenses, salaries and wages, etc., during the depression years, but these were not so marked as in most other branches of industry.

5.—Financial Statistics of Telephones, 1936-46

NOTE.—Figures for the years 1911-30 will be found at p. 725 of the 1938 Year Book and for 1931-35 at p. 640 of the 1943-44 edition.

Year	Capitalization		Cost of Property and Equipment	Gross Revenue	Operating Expenses	Net Operating Revenue	Salaries and Wages[1,2]	Employees[2]
	Capital Stock	Funded Debt						
	$	$	$	$	$	$	$	No.
1936	111,239,775	160,331,601	330,048,263	59,770,591	51,938,102	7,832,489	23,365,977	17,775
1937	127,289,481	160,558,719	335,810,564	63,288,855	54,512,191	8,776,664	25,579,850	18,413
1938	128,802,946	163,398,749	342,227,172	64,749,255	55,231,173	9,518,082	26,020,463	17,925
1939	130,507,411	162,168,894	350,160,208	67,438,256	57,383,562	10,054,694	26,525,374	17,636
1940	132,153,922	160,630,190	359,454,188	72,008,157	62,266,583	9,741,574	27,147,055	18,696
1941	133,807,363	163,938,306	372,639,967	79,369,496	68,691,602	10,677,894	29,003,719	20,103
1942	135,034,375	165,634,194	386,164,071	87,057,252	75,221,887	11,835,365	31,580,290	20,360
1943	136,566,967	163,430,008	393,230,035	94,406,757	81,894,162	12,512,595	33,581,699	20,694
1944	137,719,691	161,307,878	401,862,799	101,082,353	87,739,283	13,343,070	37,261,134	21,978
1945	138,680,893	153,934,250	418,434,346	109,899,862	96,417,884	13,481,978	41,830,117	25,599
1946	158,430,612	156,099,974	454,214,793	120,675,038	105,750,974	14,924,064	54,147,432	33,170

[1] Includes salaries and wages chargeable to capital account. [2] Excludes rural lines in Saskatchewan.

6.—Financial Statistics of Telephones, by Provinces, 1946

Province or Territory	Capital Liability	Cost of Property and Equipment	Gross Revenue	Expenses	Net Income	Salaries and Wages[1]	Employees
	$	$	$	$	$	$	No.
P. E. Island	832,126	1,379,105	363,714	315,123	48,591	146,834	134
Nova Scotia	11,012,770	15,589,541	4,100,016	3,438,646	661,370	1,597,995	1,120
New Brunswick	7,712,281	11,274,809	3,045,825	2,602,236	443,589	1,445,973	944
Quebec	186,208,527[2]	105,280,331[2]	80,438,491[2]	71,951,832[2]	8,486,659[2]	15,530,044	8,655
Ontario	7,430,051[2]	196,311,563[2]	4,419,270[2]	3,778,627[2]	640,643[2]	24,118,422	14,591
Manitoba	17,013,967	25,756,838	5,561,398	3,950,628	1,610,770	2,343,044	1,569
Saskatchewan	34,008,391	35,749,915	6,033,858	5,729,383	304,475	1,566,391[3]	1,030[3]
Alberta	21,695,378	20,911,863	6,147,122	4,322,819	1,824,303	1,917,011	1,427
British Columbia	28,552,095	41,929,260	10,551,051	9,647,642	903,409	5,470,298	3,695
Yukon	65,000	31,568	14,293	14,038	255	11,420	5
Totals	**314,530,586**	**454,214,793**	**120,675,038**	**105,750,974**	**14,924,064**	**54,147,432**	**33,170**

[1] Includes wages charged to expenses and to capital. [2] Statistics of Bell Telephone Co. in Quebec and Ontario are included in Quebec. [3] Excludes employees and wages for rural systems.

Subsection 3.—Telephone Calls

Table 7 is based on estimates made by systems operating almost 90 p.c. of all telephones in Canada. Actual count of calls on days of normal business was made and, after adjustment for incompleted calls, holidays, Sundays, etc., the average was multiplied by 365. The long-distance calls, in practically all cases, were the actual long-distance calls put through or completed.

7.—Local and Long-Distance Calls and Averages per Telephone and per Capita, 1936-46

NOTE.—Figures for 1928-35 will be found at p. 718 of the 1939 Year Book.

Year	Local Calls	Long-Distance Calls	Total Calls	Total Calls per Capita[1]	Averages per Telephone		
					Local	Long-Distance	Total
	No.	No.	No.	No.	No.	No.	No.
1936.....	2,444,517,000	27,990,000	2,472,507,000	226	1,931	22·1	1,953
1937.....	2,582,984,000	30,823,000	2,613,807,000	237	1,953	23·3	1,976
1938.....	2,592,803,000	30,289,000	2,623,092,000	235	1,907	22·3	1,929
1939.....	2,742,739,000	31,611,000	2,774,350,000	246	1,963	22·6	1,986
1940.....	2,864,215,000	34,888,000	2,899,103,000	255	1,960	23·9	1,984
1941.....	2,971,780,000	39,747,000	3,011,527,000	262	1,902	25·4	1,927
1942.....	2,954,644,000	44,230,000	2,998,874,000	257	1,815	27·2	1,842
1943.....	2,929,446,000	50,348,000	2,979,794,000	252	1,731	29·8	1,761
1944.....	2,955,975,000	56,678,000	3,012,653,000	252	1,687	32·4	1,720
1945.....	3,145,492,000	64,788,000	3,210,280,000	265	1,701	35·0	1,736
1946.....	3,484,248,000	74,757,000	3,559,005,000	289	1,720	36·9	1,757

[1] Per capita figures are based on official estimates of population given at p. 139.

PART VII.—RADIO-COMMUNICATIONS*

The Canada Year Book, 1945, at pp. 644-646, gives an outline of the development of administrative control over radio-communication in Canada.

Section 1.—Administration

The administration and regulation of radio-communication in Canada is carried out by the Radio Division of the Department of Transport. To a very large extent the regulation of radio is made necessary by the great distances over which most radio waves are propagated, and the impossibility of confining them within national boundaries. Mobile stations, such as ships and aircraft, may move about in all parts of the world, and may create interference to radio services of other countries. For these reasons the regulation of radio-communication has been the subject of extensive international agreements. The extreme congestion of long-distance communication frequencies, and the uses of radio in connection with the safety of human life, likewise, make necessary both domestic and international regulation to ensure the most efficient utilization of the available frequencies.

The principal international radio agreements, and Canadian radio legislation can be grouped as follows:—

(1) The International Telecommunication Convention and Regulations annexed thereto. The International obligations arising from this treaty are incorporated into The Radio Act, of 1938, which also contains radio regulations of a purely domestic nature.
(2) The International Convention for the Safety of Life at Sea, the obligations of which are enforced through the Canada Shipping Act, which also includes additional domestic requirements. These instruments also cover ship construction and other aspects of marine safety, which are administered by other Divisions of the Department of Transport.
(3) The North American Regional Broadcasting Agreement, and The Canadian Broadcasting Act, 1936.

International and Commonwealth Conferences and Meetings During 1946-47 and 1947-48.—During these years the following conferences and meetings at which Canada was represented were held: (1) The International Conference on Safety of Life at Sea; (2) a Conference on matters pertaining to Commonwealth

* Sections 1 and 2 of this Part have been revised by the Department of Transport.

telecommunications and rates, and for planning continuing collaboration in this field; (3) a conference of financial experts to consider the financial aspects of the common user costs of the Commonwealth Telecommunications System; (4) an International Special Committee on Radio Interference (CISPR) of the International Electrotechnical Commission. These four conferences were held in London, England. (5) International meetings on Radio Aids to Marine Navigation (IMRAMN) at New York City and New London, Conn., in order that representatives from 31 countries might familiarize themselves with achievements in the field of Marine Radio Navigational Aids, including radar and its applications; (6) Meetings of the Technical Divisions of the Provisional International Civil Aviation Organization (PICAO) and the international Civil Aviation Organization (ICAO) in Montreal, Que., and Washington, D.C., at which plans for the standardization of Aeronautical Communications, Radio Aids to Air Navigation, and qualifications of Flight Personnel were formulated; (7) three conferences in Atlantic City, N.J., for the purposes of (a) revising of the International Telecommunication Convention (Madrid 1932), (b) revising the General Radiocommunication Regulations (Revision of Cairo, 1938), (c) regulating the use of high frequencies for broadcasting purposes; (8) meetings of a new international body established by the International Telecommunication Convention, Atlantic City, N.J., 1947, and called the Provisional Frequency Board (PFB) in Geneva, Switzerland, for the purpose of preparing a frequency list containing revised assignments selected on an engineering basis to radio circuits throughout the world. Meetings of the PFB are being continued throughout 1948.

Subsection 1.—Technical Control and Licensing of Broadcasting Stations

Under The Broadcasting Act of 1936, applications for licences to establish broadcasting stations, or for modification of existing stations, are referred to the Canadian Broadcasting Corporation for its recommendations to the Minister, before being dealt with by the Department of Transport. As the licensing authority the Canadian Broadcasting Corporation also controls the linking up of stations to form networks, and in addition, the character of programs being broadcast. With these exceptions, the control of broadcasting stations is carried out by the Radio Division of the Department of Transport in the same way as in the case of other types of radiocommunication stations. The standard broadcast band is crowded with stations which, particularly at night, are capable of interfering with each other over the entire North American region. To utilize the band most effectively, and to reduce interference as much as possible, Cuba, The Dominican Republic, Haiti, the Bahama Islands, Newfoundland, Mexico, the United States, and Canada, made extensive engineering studies of how to accommodate the largest number of stations with the least interference. The resulting plan is embodied in the North American Regional Broadcasting Agreement. Before an additional new standard broadcasting station can be licensed a professional consulting radio engineer recognized by the Department must make a study of the matter, to select the frequency, the amount of power, and commonly a directional antenna system, and, by calculation, establish that interference to existing stations is within the requirements of the NARBA. This engineering brief is checked by the Radio Division and, if necessary, modifications are made. After a new station is completed measurements must be made, and a Proof of Performance submitted to establish that the actual installation is in accord with the approved plan.

Another important measure to reduce interference is to ensure that each station is maintained exactly on the frequency assigned to it: this reduces considerably the amount of heterodyning, which causes interference in the form of a whistling note. The five Frequency Measuring Stations maintained by the Radio Division make frequent measurements of the frequency of broadcasting and other stations, and ensure that all stations maintain their frequency within the narrow limits required.

The classes of radio stations listed in Table 1 are numerous and complicated by virtue of the fact that many perform closely related functions. As shown there were at the end of the fiscal year Mar. 31, 1948, 1,956,826 radio stations operating in Canada; of these, 267 were Department of Transport stations. The summary of licensed services given on pp. 765 to 766 groups together licensed radio stations performing important related services.

1.—Radio Stations in Operation by Class as at Mar. 31, 1948

Department of Transport Stations	No.	Other Stations		No.
Coast	2	Ship (Class A)		1,446
Combined Coast and L.F. Direction Finding	1	Ship (Class B—Receiving only)		64
Combined Coast, Radiotelephone and L.F. Direction Finding	11	Limited Coast		5
Combined Coast and Radiobeacon	3	Aircraft		762
Combined Coast and Radiotelephone	23	Public Commercial		76
Combined Coast, Radiotelephone and Radiobeacon	1	Private Commercial[3]		4,275
Radiobeacon	39	Municipal Police Private Commercial		101
Combined Radiobeacon and L.F. Direction Finding	1	Private Commercial Broadcasting—		
Combined Radiobeacon and Radiotelephone	1	Operated by the Canadian Broadcasting Corporation	*59*[4]	
Radiotelephone	18	Operated by private owners	*127*	
Ionosphere	3			186
H.F. Direction Finding	2	Technical or training schools		12
Monitoring	5	Experimental		124
Land	1	Commercial Receiving		385
Ship (Class A)	20	Commercial Receiving (Special)		90
Aircraft	20	Amateur Experimental		5,006
Radio Range[1]	42	Private Radio Receiving	*1,933,351*	
Combined Radio Range, Radiotelegraph and Radiotelephone[1]	48	Free to the blind	*7,025*	
Fan Marker	10	Free to Hospitals and Charitable Institutions	*49*	
Weather Reporting[2]	6	Free to Schools	*3,491*	
Fan Marker Relay	6	Free to Crystal Receivers	*16*	
Combined Homing, Radiotelegraph and Radiotelephone	1	Free to Federal Government	*95*	
Loran (Long range aid to navigation)	3			1,944,027
		Totals		**1,956,826**

[1] Station location ("Z") markers are installed at 71 Radio Range Stations. [2] One station, Port Harrison, also performs a restricted coast station service during the season of navigation in Hudson Bay, but since its primary function is that of a weather reporting station, it is shown under this heading only. [3] Includes 66 fixed and 1,315 mobile taxi despatching stations. [4] Includes 14 repeater stations.

Subsection 2.—Control and Licensing of Marine and Aeronautical Radio

Under the Safety of Life at Sea Convention, and the Canada Shipping Act, most passenger ships and larger cargo ships must be fitted with radiotelegraph equipment, primarily for use in cases of distress. This requirement of course includes certain standards which equipment must meet to fulfil the purposes for which it is fitted, as well as standards of proficiency of operating personnel. Type approval is given for each make and model of equipment which comes up to the required standard and, in addition, the ship station as a whole is inspected before the licence is issued, and periodically thereafter. Likewise, foreign ships are subject

to inspection before sailing from Canadian ports to ensure that they conform with the requirements of the Safety of Life at Sea Convention. Approximately 3,000 ships are inspected annually.

Analogous inspections of aircraft radio stations are carried out and about 350 aircraft radio stations were inspected in 1947.

Standards are provided specifying in detail the requirements to be met to ensure an airworthy installation. These requirements are contained in Radio Division Circular C.R. 1, copies of which can be obtained from any Departmental Radio Inspector.

A 'Type Certificate' of airworthiness is granted to manufacturers for each type (model) aircraft radio equipment which has been demonstrated to meet the requirements. These requirements are contained in Circular C.R. 2, "Requirements for Type Certificate of Airworthiness for Aircraft Radio Equipment". Only type-certificated equipment is accepted for use on scheduled airlines and, while other equipment may be acceptable in other aircraft upon inspection at the time of installation, the purchaser of Type Certificated equipment is assured that it will meet all requirements. Each piece of Type Certificated equipment is accompanied by an Inspection Release Certificate, certifying that the equipment is in good order, and conforms to the approved type.

Subsection 3.—Technical Control of Licensing—General

In all branches of radio, basic control is exercised over the following principal matters: the right to establish a station, assignment of frequencies, operator standards, operating procedure, and general regulations concerning the manner in which radio stations are used.

The efficient utilization, as well as the allocation of high frequencies requires reasonably accurate information on the transmission properties of the ionosphere, which varies with the season, the sunspot cycle and other factors. This information is obtained from daily measurements of the ionosphere made at some 50 points throughout the world. These data are combined, analyzed, and forecasts produced for the coming months. While aspects of special interest to Canada are treated by the Canadian Radio Wave Propagation Committee, the general frequency forecasts made by the United States Central Radio Propagation Laboratories are available to Canada. They are based on world-wide data, including those obtained from the two Ionosphere Measurement Stations operated by the Radio Division at Clyde River and Baffin Island, and at St. John's, Newfoundland.

Operator standards and related regulations are principally covered by international agreement, and arise partly from the uses of radio in connection with the safety of life, and also in the interests of reducing interference and making the most effective use of the radio spectrum.

In addition, operators of radio equipment are examined for Certificates of Proficiency in Radio in accordance with the General Radiocommunications Regulations (Revision of Cairo, 1938).

The most important services call for operators holding first, second or other prescribed class of Certificate of Proficiency. Qualified operators for instance are particularly essential in the case of ships and aircraft stations in the interests of

safety of life. Operators for services of lesser importance, or not likely to become a source of interference, are required to satisfy the Department of Transport that they are fully qualified to operate and maintain the equipment upon which they are employed.

As of Mar. 31, 1948, the total number of certificates issued was 16,332, not all of which are still valid. In the commercial classes, certificates must be brought up to date from time to time by exchange or by re-examination, and in a number of cases operators have allowed their certificates to become obsolete.

Summary of Principal Licensed Services

Commercial Trans-Oceanic Radiotelegraph and Radiotelephone Service.—The Canadian Marconi Company is licensed to operate a long distance beam radiotelegraph service from its Montreal (Drummondville) Que., station to Great Britain, Australia, Bermuda, and Jamaica, and a radiotelephone service from Montreal to Great Britain.

Canada-Newfoundland Radiotelephone Service.—The Canadian Marconi Company is licensed to operate a public commercial station with the transmitter at Drummondville and receiver at Yamachiche, Que., for the purpose of communicating with a similar station located at St. John's, Newfoundland, thus providing a direct Newfoundland-Canada radiotelephone circuit.

Commercial Point-to-Point Radiotelephone Services.—The North-West Telephone Company operates a radiotelephone service between points in British Columbia, not hitherto served by telephone communications. Such stations, used in conjunction with the ordinary telephone exchange, provide a duplex radiotelephone service to 147 isolated points and certain ships at sea.

The Quebec Telephone and Power Company.—On the south shore of the St. Lawrence, this Company operates a radiotelephone station at Rimouski which ties in with the Bell Telephone Company at that place and with a radiotelephone station at Baie Comeau, Que; telephone service from that area is provided to any part of the Dominion.

Canadian Pacific Air Lines Limited.—This organization operates a public commercial radiotelephone service consisting of public commercial radiotelephone stations located at Sioux Lookout, Pickle Lake, Red Lake and Kenora, Ont., which are used in conjunction with the ordinary telephone exchanges to provide telephonic communication to privately owned stations located at isolated points throughout the northwestern part of Ontario.

Provincial Government Services.—Provincial authorities use radio in forestry work and operate stations as follows: Nova Scotia 5; New Brunswick 4; Quebec 61; Ontario 261 (including 23 aircraft stations); Manitoba 41 (including 3 aircraft stations); Saskatchewan 137 (including 12 aircraft stations); Alberta 154; British Columbia 339 (including 14 patrol vessels, 2 Game Commission vessels and 1 Game Commission fixed station). The British Columbia Department of Public Works operates 5 private commercial stations including 1 aircraft station. The Alberta Department of Public Works has 14 stations (including 2 aircraft stations) and the Alberta Department of Railways and Telephones operates 6 stations. The Nova Scotia Department of Highways and Public Works operates 2 stations.

Police Radio Services.—The Royal Canadian Mounted Police operate 17 radio stations at fixed points, 54 mobile stations, 2 portable stations, 5 aircraft stations and 272 commercial receiving stations throughout the Dominion. The British Columbia Provincial Police operate 27 fixed stations, 10 mobile stations, 7 portable stations, 10 commercial receiving stations and 7 ship stations; the Ontario Provincial Police 42 fixed stations and 261 mobile stations; the Quebec Provincial Police 9 fixed stations and 12 mobile stations. All of these are used to provide liaison between the various units of the Force concerned.

Municipal police radio stations have also been licensed for the purpose of providing communication between various Provincial Police Headquarters and police radio-equipped automobiles in 101 municipalities throughout the Dominion.

Communication with Isolated Points.—Radiotelegraphy and radiotelephony are used throughout the Dominion to provide the means for maintaining contact with isolated points beyond the reach of the regular telegraph and telephone facilities.

Public Utilities, Power and Other Companies.—Radio is used by these bodies to provide emergency telegraph and telephone communication between their power plants and distribution centres, and 561 licences for such stations were issued during 1948, including 120 receiving stations in patrol cars.

Licences were also issued to mining companies throughout the Dominion to cover the operation of 165 radio stations and 37 aircraft radio stations.

Other companies operating aircraft were licensed for 200 ground radio stations and 682 aircraft radio stations (including 30 receiving stations installed in aircraft).

Section 2.—Operation of Radiocommunications

Subsection 1.—Accounts and Other Operating Statistics

The International Telecommunication Convention and Regulations contain the International Agreements concerning the rendering and settlement of international telecommunication accounts. The records for Canada are kept by the Radio Division.

2.—Messages Handled (including retransmissions), and Revenue Collected by the Department of Transport, as at Mar. 31, 1948

Item	Messages	Words	Revenue
	No.	No.	$
Marine—			
East Coast	296,865	7,041,350	51,965
Great Lakes	54,632	838,682	17,527
West Coast	350,088	9,757,957	33,115
Hudson Bay and Straits	127,637	8,658,779	6,121
Airways—			
Private, Commercial and Airline Messages	2,284,409	72,203,710	31,508
Radio Service to Airline Companies			58,880
Totals, Marine and Airways	**3,113,631**	**98,500,478**	**199,116**
Premium Revenue	-	-	6,722

2.—Messages Handled (including retransmissions), and Revenue Collected by the Department of Transport, as at Mar. 31, 1948—concluded

Item	Revenue
	$
Other Radio Revenue—	
Examination fees—Radiotelegraph Operators' Certificates of Proficiency	1,546
Fines and forfeitures under the Radio Act, 1938	37,197
Licence Fees—	
Aircraft Stations	7,474
Amateur Experimental Stations	12,490
Private Commercial Stations	16,965
Public Commercial Stations	2,050
Ship Stations	13,893
Miscellaneous	1,407
Mess Receipts—Radio Aviation	14,764
Publications	629
Power Service	6,558
Refunds on previous year's expenditure	12,960
Rentals—	
Employees' quarters	79,716
Equipment, transmitter space, etc	11,421
Sundry sales and services	212
Transmission lines privileges	2,414
Miscellaneous	25
Totals, Other Radio Revenue	**221,721**
Totals, Radio Revenue (Applied to the Operations of the Department of Transport)	**427,559**
Collected from the issuance of Radio Receiving and Private Broadcasting Station Licences plus commissions[1]	4,789,291

[1] Section 14 (1) of the Canadian Broadcasting Act, 1936, provides that, "The Minister of Finance shall deposit from time to time in the Bank of Canada or in a chartered bank to be designated by him to the credit of the Corporation (a) the gross amount of moneys received in each year from licence fees in respect of private receiving licences and private station broadcasting licences without deducting therefrom any costs of collection or administration".

Table 3 shows the number of receiving station licences issued in the year ending Mar. 31, 1947, in comparison with previous years.

3.—Private Receiving Station Licences[1] Issued, by Provinces, Years Ended Mar. 31, 1943-48

Province	1943	1944	1945	1946	1947	1948
	No.	No.	No.	No.	No.	No.
Prince Edward Island	8,516	10,583	10,228	10,346	10,626	12,173
Nova Scotia	81,524	79,887	82,694	80,759	87,043	91,940
New Brunswick	52,745	52,698	53,240	55,043	57,159	68,484
Quebec	436,288	455,053	456,825	479,852	491,823	534,797
Ontario	637,116	647,167	627,348	607,968	628,075	677,299
Manitoba	108,435	110,249	106,144	107,343	108,985	118,823
Saskatchewan	127,529	128,754	129,298	126,002	129,447	135,095
Alberta	126,525	128,950	130,209	121,295	125,289	131,849
British Columbia	149,481	157,060	162,655	165,281	168,950	173,097
Yukon and N.W.T.	721	499	459	462	427	470
Canada	**1,728,880**	**1,770,900**	**1,759,100**	**1,754,351**	**1,807,824**	**1,944,027**

[1] Includes licences issued free, numbering 6,998 in 1942, 7,465 in 1943, 7,896 in 1944, 8,375 in 1945, 8,435 in 1946, 10,673 in 1947 and 10,676 in 1948. See Table 1 for classification for 1948.

Investigation and Suppression of Inductive Interference.—Under the Broadcasting Act the use of electrical equipment which will produce harmful interference to broadcast reception is not permitted. The Radio Division maintains 42 cars which are equipped for measuring and locating sources of interference to

broadcast reception. In addition to locating the sources of interference, advice is given as to how it can best be suppressed or eliminated. These cars operate from the permanent Radio Inspection Offices located in 23 cities throughout Canada.

4.—Investigations of Inductive Interference, Years Ended Mar. 31, 1945-48

Item	1945	1946	1947	1948
	No.	No.	No.	No.
Sources Investigated—				
Electrical distribution systems and power lines	1,217	1,645	1,554	1,459
Domestic and commercial electrical apparatus	1,808	2,859	4,162	5,035
Defective receivers and radio apparatus	507	647	871	1,433
Electro-medical (diathermy) apparatus	–	–	–	1,474
Totals	**3,532**	**5,151**	**6,587**	**9,401**
Action Taken—				
Sources definitely reported cured	3,092	4,107	5,233	6,428
Sources not yet reported cured	379	960	1,214	2,725
Sources having no economic cure	61	84	140	248

Table 4 shows a considerable increase in the domestic and commercial sources of interferences. This is due largely to the widespread adoption of fluorescent lighting in business establishments and in some private homes. Interference of this kind may be eliminated by the installation of standard suppressors, which have been in short supply for many years but are now available.

Commencing on Jan. 1, 1948, industrial, scientific and medical apparatus is being brought under strict control, according to Regulations for Controlling Radio Interference and the authority of Section 23 of the Canadian Broadcasting Act, 1936. These regulations require that the radiation from such apparatus, which is liable to cause interference to radiocommunications, must be suppressed, either by shielding or by replacing the apparatus with a non-interfering type. The Department conducts type-tests on diathermy and industrial heating apparatus submitted by manufacturers, and those types which fulfil the requirements of the Department, are listed as non-interfering. The radiation from all such sources on communication frequencies must not exceed the tolerances specified by the Canadian Standards Association.

Subsection 2.—Federal Government Marine Radio Stations

Marine.*—Four distinct networks of stations provide a complete radio aids-to-navigation service for ships. These networks serve the following areas: Great Lakes; Gulf of St. Lawrence and Atlantic Coast; Hudson Bay and Strait, and Sub-Arctic; and Pacific Coast. The first three networks are interlocking. The Department of Transport maintains communication between Ottawa and the east and west coasts, and Hudson Bay and Strait by means of high-frequency stations.

During the fiscal year 1947-48, Government radiotelegraph stations on the east coast, west coast, the Great Lakes, and Hudson Bay and Strait handled 829,222 messages or 26,296,768 words.

* Detailed information covering all marine radio aids to navigation is contained in the annual publication "Radio Aids to Marine Navigation" Copies of this publication may be obtained, upon request, from the Department of Transport without charge, also any supplementary "Notices to Mariners" issued in connection therewith during the year.

Radio Coast Stations.—The primary purpose of the coast station organization is to provide radiocommunication facilities whereby any ship within 500 miles of the Canadian coast may establish communication with shore.

On the East Coast and the Hudson Bay and Strait there are 16 stations. There are 7 on the Great Lakes and 7 more on the West Coast. All of these broadcast information to navigators twice daily at advertised hours. Urgent information such as hurricane warnings, etc., is broadcast immediately upon receipt.

The Vancouver Coast Station (VAI) maintains long range radiocommunication with ships of any nationality at sea. Halifax (CFH) and Vancouver (CKN) Coast Stations participate in the British Empire scheme for providing similar radiocommunication services with ships, and are operated jointly by the Department of Transport and the Royal Canadian Navy.

Radio Direction Finding Service.—There are 13 marine radio direction finding stations in operation—7 on the East Coast, 5 on the Hudson Bay and Strait, and 1 on the Pacific Coast. These direction finding stations have an enviable reputation for efficiency and accuracy. During 1947-48, 14,950 bearings were given without charge to ships and aircraft.

Radio-Beacon Service.—Radio-beacons are established for the purpose of enabling any ship or aircraft equipped with a direction finder to determine its bearing or direction in relation to the radiobeacon station. There are 45 radiobeacons in operation—23 on the East Coast, 15 on the Great Lakes and 7 on the Pacific Coast.

"Loran" (Long range aid to navigation) is a system of position finding based on the difference in the time of arrival of pulse type radio signals transmitted from a pair of stations. This time difference is measured in a Loran receiver and is used in conjunction with specially prepared charts or tables to establish a line of position. The intersection of two or more lines of position determined from two or more pairs of stations provides the required position.

There are three standard Loran stations in Canada, at Deming and Baccaro, N.S., and Spring Island, B.C., which operate in conjunction with Port Aux Basques, Nfld., Siasconset, U.S.A. and Point Grenville, U.S.A., respectively.

In clear weather each station, at advertised hours, transmits its characteristic for three periods of one minute separated by silent intervals of 2 minutes. In foggy weather all stations operate continuously, maintaining a uniform time cycle of 3 minutes, each station transmitting in its proper sequence for one minute separated by silent intervals of 2 minutes.

At Flat Point, N.S., Partridge Island, N.B., Red Islet, Que., Caribou Island, Gros Cap Lightship, Hope Island, Main Duck, Southeast Shoal, Cove Island, Michipicoten Harbour, Long Point, Ont., and Point Atkinson, B.C., the radiobeacon signals are synchronized with the emissions of the fog alarms at those points during foggy weather for distance finding.

Ships equipped with direction finding apparatus may, upon request, obtain signals for the purpose of taking bearings from any of the coast stations. During 1947-48, 204 such requests for signals were handled.

East Coast Visual Signal Service.—The chief function of the visual signal stations on the East Coast, located at strategic points, is to report the movements of vessels not equipped with radio. All radio coast stations report ships with

which communication has been established, and this information is supplemented by reports of ships sighted by the visual signal stations which are organized to tie in with the East Coast radio service.

There are 9 visual signal stations on the East Coast located at Aspy Bay, Scatari Island, Point Tupper, Sydney, Halifax, Camperdown, Saint John, Partridge Island, and Point Lepreau. In addition, the Lurcher Lightship reports by radio to the nearest coast station all ships spoken and sighted.

Time Signals.—Time signals are transmitted by Halifax (CFH) daily at 0300 G.M.T. simultaneously on 115 and 5502·5 kc/s and at 1500 G.M.T. simultaneously on 115 and 9040 kc/s; also by Camperdown (VCS) daily, except Sunday at 1400 G.M.T. on 417 kc/s.

The Dominion Observatory of the Department of Mines and Resources, Ottawa, operates a continuous night and day time signal transmission over its Radio Station (CHU) on the frequencies of 3,330, 7,335 and 14,670 kc/s. They are also carried over domestic telegraph circuits to Port Churchill, Manitoba, and transmitted over Station VAP daily at 1500 G.M.T. These signals are of value to survey parties and prospectors in providing facilities for determining their exact geographical positions.

Radar.—The use of radar as a marine aid to navigation continues to gain favour with navigators. In 1947-48 approximately 140 Canadian ships had this aid to navigation aboard and its intelligent use permits a ship to proceed with greater safety during inclement or foggy weather. Several Departmental ships have these radar equipments and one is installed for demonstration and instructional purposes in each of the Departmental quarters at Vancouver, Ottawa, and Halifax. Shipboard installations on Canadian ships, except Government ships, are serviced by private companies.

The Department is co-operating with the National Research Council in the development of a shore-based radar aid to shipping for use at harbour entrances. An experimental installation of this type is now in operation at Camperdown Direction Finding Station at the entrance to Halifax Harbour and it is expected to go into operation on an official basis within a reasonable time.

Medical Advice to Ships at Sea.—Ships at sea may obtain medical advice through any of the Department's coast stations. Messages from ships in this connection are forwarded to the nearest medical officer of the Department of Pensions and National Health and a reply is transmitted to the ship.

Radio Assistance Rendered to Vessels in Emergency.—Government radio stations rendered assistance to 50 ships and aircraft reported in danger or distress during 1947-48.

Marine Casualty Reporting Stations.—Seven marine casualty reporting stations on the Atlantic Coast and 10 on the Pacific Coast are fitted with radiotelephony to assist in promoting the safety of life at sea.

Subsection 3.—Federal Government Aeronautical Radio Stations

Construction and Maintenance Engineers and Technicians are located at six Radio Aviation District offices, at Moncton, N.B.; Montreal, Que.; Toronto, Ont.; Winnipeg, Man.; Edmonton, Alta.; and Vancouver, B.C.

Radio Aids to Air Navigation.*—These are provided along the routes used by Trans-Canada Air Lines, Canadian Pacific Air Lines, Maritime Central Airways, United States Airlines flying over Canadian territory, and a number of Canadian and United States military aircraft. There are now 90 radio range stations completed and in operation. There are 10 fan markers at Goose Bay, Labrador, and 6 stations providing weather information from isolated localities, and 4 homing beacons.

Radio Ranges.—During the fiscal year 1947-48, 2 new radio ranges were completed, namely, Gore Bay and Wiarton, Ont. The radio range at Coral Harbour, N.W.T., was recommissioned and considerable progress was made towards the completion of a new radio range at Sandspit, B.C., to serve the only landing strip on the Queen Charlotte Islands.

Problems associated with the provision of very high frequency omni-directional ranges continued to receive study, and a development contract was let for the construction of an engineering model of this equipment.

Instrument Landing Equipment.—During 1947-48 much work was done towards equipping Montreal, Que., Toronto, Ont., Winnipeg, Man., Saskatoon, Sask., Lethbridge, Alta., Calgary, Alta., and Vancouver, B.C., with instrument landing equipment. Sites were checked and finally settled and plans prepared for the letting of contracts for the required buildings. A study was made of proposals to increase these installations to 16 airports in future.

Station Location Markers.—Station location markers are now located on 77 radio range sites and serve to indicate to pilots when their aircraft are vertically over the range station.

Conversion to Simultaneous Operation.—Preparations were made in 1944-45 to convert 26 ranges, in addition to those already converted, to simultaneous operation; this would permit voice communication between the ground stations and aircraft without shutting off the course signals. During 1946-47, 10 stations were converted: Armstrong, Kenora, and London, in Ont.; Buchans, Nfld.; Dartmouth, N.S.; Charlottetown, P.E.I.; Megantic, Que.; Saskatoon, Sask.; Whitecourt, Alta.; and Goose Bay, Labrador.

Point to point radiocommunication facilities are established in conjunction with 52 range stations and high frequency air-ground facilities are provided at 17 ranges, in addition to the normal voice facility of the range. The Montreal station also provides transatlantic communications for the intercontinental exchange of meteorological data, and communicates meteorological data to Goose Bay, Labrador, and other points.

During the year 1946-47, frequency modulation stations were taken over from the R.C.A.F. at Sandspit, Massett, and Mount Hayes on the West Coast, and 3 similar stations on the East Coast at Cape Ray, Nfld., Cape North, and New Waterford, N.S. The west coast stations permit teletype communication between Queen Charlotte Islands and the mainland, and the east coast stations permit a similar service and a scheduled inter-phone service between Canada and Newfoundland.

* Detailed information concerning radio aids to air navigation is contained in "Air Navigation Radio Aids" and is published at 2-month intervals. This publication may be obtained from the Radio Division, Department of Transport, Ottawa.

Meteorological Radio Stations.—Five meteorological radio stations are located at Fort MacKenzie, Que., Nitchequon, Que., Dore Lake, Que., Sandgirt Lake, Labrador, and Dease Lake, B.C.

These stations forward to the meteorological office the weather observations taken at the above points.

The meteorological station at Port Harrison, Que., performs similar functions, and also provides a restricted coast station service during the season of navigation in Hudson Bay.

Ionosphere Measurement Stations.—The ionosphere station at Clyde River, Baffin Island, taken over from the Carnegie Institute, Washington, D.C., on Sept. 1, 1945, and the ionosphere station at St. John's, Nfld., taken over from the Royal Canadian Air Force on Mar. 31, 1946, by the Department of Transport, are both part of a world-wide chain of 50 stations, established for the purpose of predicting short-wave communication coverage, also for determining the reliability and deviation of bearings from short-wave direction finders.

Subsection 4.—Other Federal Government Radio Stations

Department of National Defence.—In addition to stations established for military purposes, Militia Services (Royal Canadian Corps of Signals) operates 11 permanent stations and 2 summer stations situated along the Mackenzie River and in Yukon on behalf of the Department of Mines and Resources, Bureau of Northwest Territories and Yukon Affairs.

Department of Public Works.—A total of 32 stations, 12 to provide emergency communication between the mainland and certain islands, 18 to provide emergency links in existing landline circuits, and 2 for Departmental communication are operated by the Department of Public Works.

Department of Mines and Resources.—This Department operates under the Surveys and Engineering Branch, 1 fixed station, 9 portable stations, 1 experimental station and 1 commercial receiving station; National Parks Bureau, 9 fixed stations, 16 portable stations and 2 experimental stations; Mines and Geology Branch, 1 fixed station and 1 commercial receiving station; Bureau of Northwest Territories and Yukon Affairs, 2 fixed stations and 28 portable stations. These stations are used to provide communication and time signal service for survey parties and the protection and administration of National Parks.

Department of National Revenue.—This Department operates 2 private commercial stations.

Section 3.—Canadian Broadcasting Corporation

Subsection 1.—Administration of the CBC

The history and development of the Canadian Broadcasting Corporation is given at pp. 737-740 of the 1947 Year Book.

The Canadian Broadcasting Corporation operates under the Canadian Broadcasting Act, 1936, and is headed by a Board of nine Governors, chosen to give representation to the principal geographic divisions of Canada, and a full-time Chairman. The Board determines and supervises policy, but day-to-day operations and administration are the responsibility of the General Manager. The Adminis-

trative organization of the CBC consists of the following Divisions: Executive, Personnel and Administration, Finance, Engineering, Program, Press and Information, Commercial, Broadcast Regulations, and Station Relations.

Under the Canadian Broadcasting Act, the CBC is responsible for regulations controlling the establishment and operation of networks, the character of any and all programs broadcast over its own and privately owned stations, and the proportion of time that may be devoted to advertising in broadcast programs. The CBC neither exercises, nor authorizes any private station to exercise on its behalf, censorship of any broadcast program. The responsibility of seeing that the regulations are observed rests with the individual station management.

Subsection 2.—Operations of the CBC

Recent Developments.—The Canadian Broadcasting Corporation is constantly in touch with developments in the field of radiocommunications and, so far as these have a bearing on Canadian conditions, their application is considered. This is particularly true in the field of frequency modulation and television.

Frequency Modulation.—This relatively new method of transmission has several advantages over the system of amplitude modulation broadcasting. These include (1) reduction of static and electrical interference; (2) elimination of interference from other stations; (3) improved quality and naturalness of reproduction and (4) reduction of the congestion in the present (AM) broadcast band.

The CBC has two FM stations at Montreal, Que., and one each at Toronto, Ont., Vancouver, B.C., and Ottawa, Ont. Another is planned for Winnipeg, Man. The aim is to get FM programs on the air, and thus encourage the manufacture and sale of FM receiving sets.

The CBC has recommended to the Department of Transport that operators of present AM stations be invited to start FM transmissions of the programs now carried on their AM transmitters. The Corporation holds in principle that an AM station operator obtaining an FM licence should broadcast the same programs over the two transmitters, operating his FM equipment as a second form of transmission rather than a separate station.

Television.—The Board of Governors of the Canadian Broadcasting Corporation has carefully considered questions of television in relation to Canadian needs and conditions, and has stated that it will strive for the maximum provision of Canadian television for Canadians, with the aim of stimulating Canadian national life and not merely of providing a means of broadcasting non-Canadian visual material in this country. The Board has stated that, over a limited period of years, television can be developed by the national System to reach the public in many parts of Canada and can be operated partly on the financial basis of revenues from television receiving set licence fees and partly from commercial income.

In view of the limited number of frequencies likely to be available for television, the Board has stated that it will exercise great care in recommendations regarding applications from individuals or private companies for licences. It will also make recommendations that the necessary channels be reserved for the national System.

Broadcasting Facilities.—Under Sect. 24 of the Act, the CBC is required to review all applications for licences for new stations as well as applications for increases in power and changes in frequency or location. Two considerations are involved:

(1) non-interference with the present and proposed facilities of the CBC, and (2) that high-power transmission facilities, on both long and short-wave bands, are reserved for use by the CBC. Within these limitations, it is the policy of the Board to serve community interests by giving every practical encouragement and assistance to local stations.

The CBC operates three networks: the Trans-Canada and Dominion networks, serving English-language audiences from Atlantic to Pacific, and the French network, serving French-language listeners in Quebec. The Trans-Canada network is made up of 23 basic stations: 9 CBC-owned and 14 privately owned. The Dominion network consists of 30 basic stations, of which 29 are privately owned. The French network has 3 basic CBC-owned stations, and 10 privately owned stations. As of September, 1948, the CBC has 13 stations of which 7 have 50,000-watt transmitters. The CBC leases some 25,000 miles of wire lines each day in order to carry on network operations in Canada, which lies across five of the world's time zones. In order to present programs at suitable times, and to give expression to varying interests in the five regions, CBC maintains regional offices and production facilities at Halifax, N.S.; Chicoutimi, Quebec city, and Montreal, Que.; Ottawa and Toronto, Ont.; Winnipeg, Man.; and Vancouver, B.C.

5.—Broadcasting Stations of CBC Networks, as at Apr. 1, 1948

(Basic Stations)

NOTE.—The stations marked with an asterisk (*) are CBC-owned.

Station Location		Frequency	Power
		kc.	watt
Trans-Canada Network—			
CBH*	Halifax	1,330	100
CJCB	Sydney	1,270	[1]
CBA*	Sackville	1,070	50,000
CHSJ	Saint John	1,150	5,000
CFNB	Fredericton	550	5,000
CBM*	Montreal	940	5,000
CBO*	Ottawa	910	1,000
CKWS	Kingston	960	5,000
CBL*	Toronto	740	50,000
CFCH	North Bay	600	1,000
CJKL	Kirkland Lake	560	5,000
CKGB	Timmins	680	5,000
CKSO	Sudbury	790	5,000
CJIC	Sault Ste. Marie	1,490	250
CKPR	Fort William	580	1,000
CKY	Winnipeg	990	15,000
CBK*	Watrous	540	50,000
CJCA	Edmonton	930	5,000
CFAC	Calgary	960	5,000
CJOC	Lethbridge	1,220	5,000
CFJC	Kamloops	910	1,000
CKOV	Kelowna	630	1,000
CJAT	Trail	610	1,000
CBR*	Vancouver	1,130	5,000
Dominion Network—			
CHNS	Halifax	960	5,000
CJFX	Antigonish	580	5,000
CJLS	Yarmouth	1,340	250
CFCY	Charlottetown	630	[1]
CKCW	Moncton	1,220	5,000
CKNB	Campbellton	950	1,000
CKTS	Sherbrooke	1,240	250
CFCF	Montreal	600	5,000
CKCO	Ottawa	1,310	5,000
CHOV	Pembroke	1,350	1,000
Dominion Network—concluded			
CFJM	Brockville	1,450	250
CHEX	Peterborough	1,430	1,000
CJBC*	Toronto	1,010	5,000
CFPL	London	1,570	5,000
CFCO	Chatham	630	1,000
CFPA	Port Arthur	1,230	250
CJRL	Kenora	1,220	1,000
CKRC	Winnipeg	630	5,000
CJGX	Yorkton	940	1,000
CKX	Brandon	1,150	1,000
CKRM	Regina	980	5,000
CHAB	Moose Jaw	800	5,000
CFQC	Saskatoon	600	5,000
CKBI	Prince Albert	900	5,000
CFRN	Edmonton	1,260	5,000
CFCN	Calgary	1,060	10,000
CJOR	Vancouver	600	5,000
CJVI	Victoria	900	[2]
CHWK	Chilliwack	1,340	250
CFBC	Saint John	930	5,000
French Network—			
CBJ*	Chicoutimi	1,580	1,000
CBV*	Quebec	980	1,000
CBF*	Montreal	690	50,000
CHNC	New Carlisle	610	5,000
CJBR	Rimouski	900	5,000
CHGB	Ste. Anne - de - la - Pocatiere	1,350	[2]
CKCH	Hull	970	1,000
CJEM	Edmundston	1,230	250
CHLT	Sherbrooke	900	1,000
CKVD	Val d'Or	1,230	100
CHAD	Amos	1,340	250
CKRN	Rouyn	1,400	250
CJFP	Riviere-du-Loup	1,400	250

[1] 5,000 watts during daytime; 1,000 watts at night. [2] 1,000 watts during daytime; 250 watts at night.

CBC International Service (Short wave).—Canada's international shortwave broadcasting facilities (1948) employ ten languages: English, French, Czech, Dutch, German, Danish, Norwegian, Swedish, Spanish and Portuguese, in regular transmissions to the United Kingdom, Europe, the West Indies, Central and South America, and to the South West Pacific. Plans for the year include the inauguration of additional services to Europe and expansion of services to Latin America, Australia and New Zealand.

The CBC international service transmitters are located on reclaimed marshland near Sackville, N.B. Linked by land-line with studios and program headquarters in Montreal, the two 50,000-watt transmitters used by the CBC International Service can operate in any of the international short-wave bands. Frequencies used depend on solar conditions, the geographical area served, the season of the year and the time of day.

The service opened officially on Feb. 25, 1945. During the first three years of operation more than 40,000 letters were received from listeners in all parts of the world, testifying to the strength with which Canadian short-wave programs are received and to the interest in Canada which they either arouse or help to satisfy. Listeners in Europe report constantly that CBC International Service programs are heard more clearly than other broadcasts from the Western Hemisphere.

For two hours each weekday the facilities of the CBC International Service are placed at the disposal of the United Nations Organization Radio Division to relay official reports and commentaries to Europe, the Middle East and to the South West Pacific.

Listeners receive, upon request, an illustrated booklet, published every two months, giving schedules of broadcasts, details of programs and the frequencies on which they are heard, as well as photographs and general information about Canada. Reception reports from listeners are also verified and enquiries on trade conditions, social, scientific, and educational matters are given attention.

The Service provides short-wave listeners abroad with comprehensive day-to-day reports and actuality broadcasts from all major international conferences held in North America since the end of the War in 1945.

Supplementing the regular programs in ten languages, special events broadcasts of all kinds are arranged to give the CBC listeners in other lands a comprehensive picture of the activities in Canada. Visitors from abroad frequently use the CBC short-wave service to report back to their home countries on their impressions of Canada.

Domestic Program Service. — During the fiscal year ended Mar. 31, 1947, 59,705 programs representing 17,843 hours of broadcasting were presented over the CBC Trans-Canada, Dominion and French networks. Of the total broadcasting hours, 80·6 p.c. were devoted to non-commercial and public service programs, and the remaining 19·4 p.c. to commercial presentations. The National network, made up of the Trans-Canada, Dominion and French networks, carried 0·1 p.c. of total network programs. Of the total broadcasting hours in 1946-47, 65·3 p.c. was scheduled on the Trans-Canada network; the Dominion network operating in the evenings released 7·6 p.c. and the remaining 27·1 p.c. was released on the French network.

The CBC originated and produced 78·4 p.c. of its network broadcasts. Of the remainder, 2·3 p.c. came from private stations and 19·3 p.c. were exchange programs from the United States and the British Broadcasting Corporation. Various

categories of light music made up the greatest number of broadcast hours, followed in order by news, drama, semi-classical music, variety, agriculture programs, talks, educational broadcasts, religious periods, and programs devoted to the interests of women, sports fans, and children. Table 6 shows the proportion of total time devoted to sustaining as compared with commercial programs, and analyses those made up of music as compared with the spoken word.

6.—Classification of CBC Programs, Year Ended Mar. 31, 1947

NOTE.—Dashes in this table indicate that no programs were reported under these particular sub-items.

Class of Program	Sustaining			Commercial		
	Programs	Time	P.C. of Total Hours	Programs	Time	P.C. of Total Hours
Musical	No.	hrs. mins.		No.	hrs. mins.	
Opera	85	91:45	0·6	20	60:00	1·7
Symphony	170	159:30	1·1	27	27:00	0·8
Sacred	175	64:00	0·4	9	2:15	0·1
Classical	1,545	834:00	5·9	29	14:30	0·4
Semi-classical	4,017	1,444:20	10·0	157	80:45	2·3
Variety	797	308:30	2·1	1,997	945:05	27·2
Light	11,584	3,373:25	23·6	587	217:05	6·3
Dance	4,091	1,501:50	10·5	47	18:30	0·5
Old-time	466	148:40	1·0	56	28:00	0·8
Band	426	190:35	1·3	–	–	–
Totals, Musical	**23,356**	**8,116:35**	**56·5**	**2,929**	**1,393:10**	**40·1**
Spoken Word						
Drama	1,558	636:00	4·4	5,945	1,611:40	46·5
Prose and poetry	45	13:20	0·1	–	–	–
Talks—informative	2,850	710:25	4·9	460	161:45	4·7
Educational	962	401:55	2·8	–	–	–
News commentary	765	161:10	1·2	–	–	–
News events	266	92:20	0·6	–	–	–
News resumés	12,467	2,139:45	14·9	–	–	–
Agriculture	2,525	954:40	6·7	–	–	–
Stock quotations	–	–	–	–	–	–
Sport events	91	64:20	0·4	126	160:45	4·6
Sport resumés	320	96:15	0·7	49	13:30	0·4
Women's	1,763	322:55	2·2	1,041	129:25	3·7
Children's	930	279:05	1·9	–	–	–
Religious	1,257	383:35	2·7	–	–	–
Totals, Spoken Word	**25,799**	**6,255:45**	**43·5**	**7,621**	**2,077:05**	**59·9**
Grand Totals	**49,155**	**14,372:20**	**100·0**	**10,550**	**3,470:15**	**100·0**
Live talent	33,060	9,107:10	63·4	8,268	2,903:55	83·7
Recorded	14,238	4,684:50	32·6	–	–	–
Delayed	1,857	580:20	4·0	2,282	566:20	16·3

Subsection 3.—Finances of the CBC

Due to the maintenance of an efficient broadcasting service and the expansion of the physical plant and equipment, working capital has been reduced by $177,105 during the year. Fixed assets have increased by $112,220 mainly on account of the new transmitters at Lacombe, Alta., and Hornby, Ont., which are expected to be in operation by 1948-49.

Licence fees increased by $132,556 and commercial and miscellaneous revenues increased by $102,926 but expenditures also increased correspondingly due to prevailing conditions resulting in an operating deficit of $27,216 for the year ended Mar. 31, 1947, before providing allowance for depreciation and obsolescence.

All expenses relating to the International Short-wave Service are directly chargeable to the Government of Canada as provided annually by Parliament. These are not considered chargeable to the Canadian Broadcasting Corporation because the fees collected from broadcasting licences are used only to serve listeners within Canada.

7.—Income and Expenditures of the CBC, Years Ended Mar. 31, 1945-47

Item	1945		1946		1947	
	$	p.c.	$	p.c.	$	p.c.
Income						
Licence fees	3,783,453	68·81	3,773,285	61·53	3,905,841	58·79
Commercial	1,639,160	29·81	1,683,838	27·47	1,781,290	26·82
Miscellaneous	75,785	1·38	68,441	1·11	73,915	1·11
International short-wave service	–	–	606,700	9·89	881,621	13·28
Totals, Net Income	**5,498,398**	**100·00**	**6,132,264**	**100·00**	**6,642,667**	**100·00**
Expenditures						
Programs	2,824,188	50·69	2,939,376	47·32	2,933,428	43·98
Station network	1,114,153	20·00	971,441	15·65	966,220	14·49
Engineering	929,819	16·69	1,160,675	18·69	1,215,233	18·22
General and administration	227,741	4·09	285,302	4·60	391,323	5·87
Press and information	138,241	2·48	145,184	2·34	179,972	2·70
Commercial division	109,344	1·96	130,903	2·10	141,853	2·12
Depreciation	227,659	4·09	–	–	–	–
Interest on loan	–	–	–	–	2,260	0·03
International short-wave service	–	–	577,809	9·30	839,639	12·59
Totals, Expenditures	**5,571,145**	**100·00**	**6,210,690**	**100·00**	**6,669,928**	**100·00**
Operating deficits	72,747	–	78,426	–	27,261	–

Section 4.—Privately Owned Radio Broadcasting Stations*

Development of Privately Owned Radio Broadcasting Stations.—Privately owned broadcasting stations began operations in the early 1920's and since 1929 have offered regular broadcasting services to Canadian communities extending from the Atlantic to the Pacific.

These stations now number 113. Many are located in the smaller centres of population while others are in remote districts, some of which depend entirely upon privately owned stations for their radio broadcasting services.

The privately owned stations serve, primarily, the localities in which they are situated, the community served varying with circumstances. Many such stations are located in very small urban centres, where they serve not only the "home base" but a much larger population scattered throughout surrounding rural areas. Others may serve a metropolitan area, and cities or towns adjacent to it, in addition to the rural audiences and smaller centres lying between or beyond the urban areas.

These privately owned stations have a combined capital investment estimated at about $15,000,000, employ about 3,000 persons and disburse an estimated payroll of $7,000,000 annually. Revenue of these stations is obtained entirely from commercial advertising.

*Prepared by T. J. Allard, Manager, Radio Bureau, Ottawa.

Thirty-nine privately owned stations are wholly or partly owned by newspapers, the others are owned by citizens or groups of citizens living within the area served by the station.

Administration.—In common with the CBC's own stations, the privately owned stations operate under the Canadian Broadcasting Act; The Radio Act; regulations made by the CBC; and technical specifications laid down by the Department of Transport. Annual statements of "Proof of Performance", showing that public obligations have been fulfilled, together with financial statements must be filed with the Department of Transport. Advance copies of the programs scheduled must also be filed weekly with the CBC, and a program log within seven days following operations. Advertising content of program is limited to 10 p.c. of program time.

Broadcasting Facilities.—The privately owned stations operate on frequencies selected by the licensee's own consultants, and approved upon recommendation of the Board of Governors of the Canadian Broadcasting Corporation, and are valid, unless cancelled or revoked, for a period of three years (increased from one year as of Apr. 1, 1948). Sale or ownership transfer of any station while under licence must be approved by the licensing authorities.

Privately owned radio stations were at first limited to low power operation of 1,000 watts, which was later increased to 5,000 watts. In 1948, two privately owned stations, one in Montreal, Que., the other in Toronto, Ont., were authorized to operate on 50,000 watts. The majority of stations, however, still continue to serve on 1,000-5,000 watts on the "shared" channels, the CBC stations occupying the clear channels allocated to Canada by the North American Regional Broadcasting Agreement and operating, in the main, on 50,000 watts.

The total operating power of the 113 stations is approximately 289,750 watts. About 38 privately owned frequency modulation stations are being constructed, mostly for operation in conjunction with existing amplitude modulation stations.

Network Operations.—Network operation in Canada (the process of having two or more stations, connected to a wire line network, broadcasting the same program at the same time) is, by statute, controlled by the CBC, and is also the channel by which United States commercial network programs are brought into Canada. Some privately owned stations do, however, by agreement, serve as "basic outlets" for CBC network programs. Under this arrangement, the private station carries certain programs (both commercial and non-commercial) specified in the agreement, and must give right of way to programs coming onto the network within specific hours. Other private stations, known as "supplementary" outlets, enter into agreement to carry specific programs only. (See Section 3, pp. 772-776).

PART VIII.—THE POST OFFICE

During 1948, the Canada Post Office continued to develop plans to keep its services attuned to growing requirements, present and future.

The extent of postal business may be judged from the fact that in the fiscal year 1947-48 gross postal revenue had reached the all-time high figure of $91,600,000 or more than double that of the year 1937-38.

In the same period the Post Office issued money orders payable in Canada to the amount of $359,633,000 and payable abroad to the value of $10,599,329.

At the Congress of the Universal Union at Paris, France, in May, 1947, at which Canada was represented, much was done to restore international services disrupted during war years.

In 1947, parcel post rates were reduced to the United Kingdom and to other overseas countries. The Post Office restored parcel post services on an ever-widening range, thus enabling needed relief to be provided to peoples in the devastated areas from friends and relatives in Canada.

Air Mail.—During 1947 and 1948 further developments were made in Canada's Air Mail System, and on July 1, 1948, a milestone was passed in postal history. This was the inauguration, at first on limited scale, of All Up Mail Service for first class letter mail up to and including one ounce in weight, prepaid in Canadian postage, and addressed to destinations in Canada. Under the System this mail was carried over the main Trans-Canada Air Lines network, whenever delivery would thus be expedited.

Extension of air routes during the year 1947 included direct Air Mail Services between Halifax, N.S., and Boston, Mass.; Winnipeg and Flin Flon, Man.; Vancouver and Prince Rupert, B.C.; and to a number of points in southern British Columbia as a result of the institution by Canadian Pacific Airlines of a service between Vancouver and Calgary, via Crow's Nest Pass, B.C. In the summer the inauguration by T.C.A. of its Great Lakes operation enabled the Post Office to give direct Air Mail Service to Sault Ste. Marie and Fort William, Ont. Swift Current, Saskatoon and Medicine Hat, Sask., were also served by the main air-mail network. Beginning June 1, 1948, air-mail was despatched and received twice a day in place of once daily, between Dorval, Que., and Prestwick, Scotland, and London, England.

Institution on June 1, 1948, by T.C.A. of its North Star 'plane service between Montreal, Que., and Vancouver, B.C., on twice daily frequency each way did much to save further time for mailers from east to west.

The following figures show the weight of mail conveyed by air during the calendar years, 1939-1947:—

Calendar Year	*T.C.A.*	*All Air Services*
	lb.	lb.
1939	392,931	1,994,643
1940	634,444	2,739,473
1941	1,329,232	3,350,431
1942	2,308,812	4,793,491
1943	3,726,607	6,877,338
1944	3,739,529	8,013,593
1945	3,429,233	8,158,876
1946	2,325,978	5,589,366
1947	2,527,672	5,818,682

During 1948, Letter Carrier Delivery Service was extended to more of our larger centres including:—

Campbellton, N.B.	Fort Frances, Ont.	Portage la Prairie, Man.
Brampton, Ont.	Port Colborne, Ont.	Penticton, B.C.
Dundas, Ont.	Port Hope, Ont.	Port Alberni, B.C.
Fort Erie, Ont.	Wallaceburg, Ont.	Vernon, B.C.

Section 1.—Post Office Statistics

Gross postal revenue of the Post Office Department reached the highest point on record during the year ended Mar. 31, 1948, amounting to $91,613,618. Mail volumes continued at very high levels, reflecting the great general economic and business security throughout the country.

1.—Post Offices in Operation, by Provinces, as at Mar. 31, 1944-48

Province or Territory	1944	1945	1946	1947	1948
	No.	No.	No.	No.	No.
Prince Edward Island	114	114	115	109	108
Nova Scotia	1,475	1,475	1,465	1,441	1,396
New Brunswick	996	991	983	968	949
Quebec	2,601	2,594	2,586	2,577	2,582
Ontario	2,579	2,566	2,557	2,562	2,578
Manitoba	797	795	794	791	802
Saskatchewan	1,484	1,466	1,443	1,429	1,420
Alberta	1,229	1,216	1,209	1,195	1,188
British Columbia	921	914	914	923	920
Yukon	15	16	16	15	15
Northwest Territories	23	22	23	23	24
Canada	**12,234**	**12,169**	**12,105**	**12,033**	**11,982**

2.—Gross Postal Revenues of Offices Collecting Upwards of $10,000 for the Years Ended Mar. 31, 1947 and 1948

NOTE.—The post offices shown in this table do not include those established at military camps. Money order and postal note commissions are not included in the gross postal revenue. Provincial totals of postal revenues include post offices not separately listed.

Province and Post Office	1947	1948
	$	$
P. E. Island		
Charlottetown	157,597	165,060
Summerside	44,847	46,466
Totals, P.E. Island	**330,812**	**340,471**
Nova Scotia		
Amherst	60,069	65,407
Annapolis Royal	12,953	13,172
Antigonish	35,882	38,439
Armdale	12,587	14,026
Berwick	10,385	10,812
Bridgetown	16,267	16,400
Bridgewater	32,976	35,337
Chester	–	10,369
Digby	21,453	24,345
Glace Bay	50,884	49,499
Halifax	1,343,816	1,389,009
Inverness	–	10,133
Kentville	49,136	49,199
Liverpool	26,099	26,055
Lunenburg	22,690	22,758
Middleton	18,471	20,261
New Glasgow	75,465	76,970
New Waterford	23,724	23,051
North Sydney	31,151	31,050
Parrsboro	10,836	11,235
Pictou	26,400	24,669
Shelburne	15,481	15,158
Springhill	23,077	22,791
Stellarton	21,314	21,861
Sydney	180,055	177,065
Sydney Mines	18,473	17,950
Truro	105,922	109,351
Westville	12,042	11,840
Windsor	33,201	32,456
Wolfville	24,909	24,839
Yarmouth	53,590	56,226
Totals, Nova Scotia	**3,136,361**	**3,176,084**

Province and Post Office	1947	1948
	$	$
New Brunswick		
Bathurst	31,287	36,613
Campbellton	48,871	47,866
Chatham	21,286	21,676
Dalhousie	17,270	17,148
Edmundston	35,075	35,270
Fairville	20,842	23,178
Fredericton	199,977	211,698
Grand Falls	15,495	15,818
McAdam	10,119	10,147
Moncton	792,227	798,978
Newcastle	30,454	30,517
Saint John	530,307	564,276
St. Andrews	16,339	16,684
St. Stephen	33,845	36,565
Sackville	36,515	37,682
Sussex	27,515	26,903
Woodstock	33,925	35,965
Totals, New Brunswick	**2,477,509**	**2,553,072**
Quebec		
Amos	27,991	29,958
Amqui	14,164	15,195
Arvida	29,684	34,345
Asbestos	20,470	22,906
Aylmer East	–	10,282
Bagotville	–	12,459
Baie Comeau	23,168	23,897
Basilique Ste. Anne	38,826	40,752
Beauceville East	12,057	13,115
Beauharnois	18,552	20,428
Bedford	13,339	12,960
Berthierville	13,609	14,341
Bourlamaque	12,214	12,704
Brownsburg	11,026	11,202
Buckingham	19,278	20,047
Cap de la Madeleine	33,267	27,676
Chicoutimi	96,097	104,219
Coaticook	21,086	21,771
Cowansville	17,963	18,910

2.—Gross Postal Revenues of Offices Collecting Upwards of $10,000 for the Years Ended Mar. 31, 1947 and 1948—continued

Province and Post Office	1947	1948
	$	$
Quebec—continued		
Danville	–	10,109
Dolbeau	20,601	21,785
Donnaconna	10,721	10,732
Drummondville	68,082	74,927
East Angus	11,792	12,424
Farnham	21,813	22,633
Gardenvale	33,859	31,571
Gaspe	16,056	18,228
Gatineau	15,070	14,979
Granby	65,583	81,910
Grand'Mère	24,145	27,419
Hull	89,476	88,890
Huntingdon	18,896	18,420
Iberville	14,371	15,064
Joliette	50,866	53,005
Jonquière	34,060	40,505
Kenogami	19,739	20,201
Knowlton	–	10,529
Lachute	20,923	22,860
Lac Mégantic	21,512	22,168
La Malbaie	12,408	13,289
Laprairie	11,648	12,392
La Sarre	16,914	19,187
La Tuque	29,235	28,718
Lennoxville	21,485	23,448
Lévis	95,823	101,809
Loretteville	–	10,176
Louiseville	13,194	13,070
Magog	27,579	31,853
Malartic	20,983	20,144
Maniwaki	15,648	16,741
Marieville	–	10,018
Matane	29,457	28,504
Mont Joli	20,075	22,626
Mont Laurier	14,767	16,159
Montmagny	22,387	24,546
Montreal	10,258,233	11,169,591
Nicolet	17,432	19,264
Noranda	46,679	49,443
Plessisville	16,986	20,564
Pointe-au-Pic	–	11,640
Port Alfred	–	10,380
Quebec	1,695,678	1,852,097
Richmond	16,761	17,927
Rimouski	61,126	64,543
Rivière-du-Loup	12,372	14,953
Rivière-du-Loup-Centre	–	10,341
Rivière-du-Loup Station	14,539	14,978
Roberval	20,105	21,591
Rock Island	26,503	25,507
Rouyn	52,917	50,992
Ste. Agathe-des-Monts	34,396	36,747
Ste. Anne de Beaupre	12,963	15,116
Ste. Anne-de-Bellevue	18,646	18,831
Ste. Anne-de-la-Pocatière	12,759	13,299
St. Félicien	10,454	11,781
St. Georges-de-Beauce	18,076	19,257
St. Hyacinthe	87,138	92,463
St. Jean	65,387	70,525
St. Jérôme	42,923	47,228
St. Joseph-d'Alma	16,571	18,988
St. Joseph-de-Beauce	11,417	11,651
Ste. Marie-Beauce	11,449	12,834
St. Pascal	–	10,409
St. Raymond	10,102	10,733
Ste. Thérèse-de-Blainville	21,724	22,896
Shawinigan Falls	68,455	73,883
Sherbrooke	242,640	262,107
Sorel	39,197	41,515
Thetford Mines	42,743	51,222
Three Rivers	153,865	183,098
Timiskaming Station	16,171	16,053
Trois-Pistoles	12,402	13,053
Val d'Or	44,608	49,595
Valleyfield	45,980	48,723
Victoriaville	47,118	53,112
Waterloo	17,803	18,230
Totals, Quebec	**17,250,974**	**18,647,413**
Ontario		
Acton	17,340	18,060
Ajax	13,248	10,573
Alexandria	14,362	14,010
Alliston	11,554	11,832
Almonte	13,495	13,904
Amherstburg	21,166	23,238
Arnprior	24,656	26,351
Aurora	24,786	26,292
Aylmer West	28,455	27,379
Bancroft	10,057	10,697
Barrie	82,431	86,286
Batawa	17,502	15,910
Beamsville	12,755	14,094
Belleville	140,374	154,773
Blenheim	18,250	21,711
Blind River	14,125	14,675
Bowmanville	26,788	30,058
Bracebridge	28,660	29,236
Bradford	12,777	13,666
Brampton	49,860	58,174
Brantford	305,565	327,849
Brighton	11,307	12,145
Brockville	117,926	132,396
Burlington	36,129	44,494
Caledonia	10,173	10,268
Campbellford	18,932	20,998
Cardinal	11,004	12,012
Carleton Place	25,952	26,740
Chapleau	13,694	16,124
Chatham	163,322	179,679
Chesley	12,202	13,391
Clinton	20,605	20,724
Cobalt	15,403	15,607
Cobourg	48,331	48,819
Cochrane	27,581	29,576
Collingwood	34,573	35,523
Cooksville	11,921	12,905
Copper Cliff	21,379	21,590
Cornwall	107,158	120,955
Crowland	12,649	[1]
Crystal Beach	10,187	–
Deep River	11,037	12,375
Delhi	23,269	22,581
Dresden	11,914	12,113
Dryden	21,558	23,685
Dundas	39,546	41,511
Dunnville	34,379	34,501
Durham	10,070	10,379
Elmira	14,950	17,054
Englehart	10,098	11,116
Espanola	14,560	15,397
Essex	19,936	21,789
Exeter	13,665	16,310
Fenelon Falls	10,550	10,191
Fergus	26,664	31,898
Forest	12,240	12,197
Fort Erie	18,102	19,582
Fort Erie North	35,891	38,311
Fort Frances	45,847	48,838
Fort William	224,398	246,086
Galt	124,779	136,852
Gananoque	34,063	36,496
Georgetown	35,147	46,109
Geraldton	24,600	25,939

[1] Included in Welland.

2.—Gross Postal Revenues of Offices Collecting Upwards of $10,000 for the Years Ended Mar. 31, 1947 and 1948—continued

Province and Post Office	1947	1948
	$	$
Ontario—continued		
Goderich	34,439	34,655
Gravenhurst	24,993	26,167
Grimsby	24,172	25,166
Guelph	217,819	228,831
Hagersville	14,655	14,651
Haileybury	18,168	18,158
Haliburton	10,300	10,638
Hamilton	1,390,798	1,535,558
Hanover	21,853	23,391
Harriston	11,284	12,330
Harrow	15,363	15,191
Hawkesbury	20,047	19,907
Hearst	20,274	19,497
Hespeler	20,793	23,685
Humberstone	12,728	[1]
Huntsville	38,738	40,161
Ingersoll	38,561	42,437
Iroquois Falls	10,913	11,649
Islington	18,804	21,946
Kapuskasing	31,746	37,178
Kemptville	11,624	12,625
Kenora	58,704	63,056
Kincardine	18,243	19,190
Kingston	300,828	310,707
Kingsville	24,006	25,765
Kirkland Lake	102,475	100,596
Kitchener	295,317	349,727
Lakefield	10,613	10,945
Lansing	13,344	19,279
Larder Lake	10,174	–
Leamington	50,872	55,595
Lindsay	59,802	63,919
Listowel	19,885	22,204
Little Current	–	10,596
London	969,140	1,053,640
Malton	–	13,630
Marathon	13,958	13,522
Mattawa	–	10,021
Meaford	17,010	18,173
Merritton	14,972	16,558
Midland	41,793	43,949
Milton West	18,639	19,913
Mitchell	11,029	11,963
Morrisburg	13,536	14,358
Mount Forest	11,965	12,322
Napanee	30,543	31,338
New Liskeard	48,945	50,897
Newmarket	31,399	36,831
Niagara Falls	261,044	278,690
Niagara-on-the-Lake	19,097	17,397
Nipigon	12,748	12,978
North Bay	135,203	140,196
Norwich	11,216	11,027
Oakville	54,810	67,624
Orangeville	21,457	23,112
Orillia	84,571	93,434
Oshawa	225,197	260,720
Ottawa	1,810,680	1,912,234
Owen Sound	103,069	105,549
Paris	29,418	33,140
Parry Sound	36,040	37,687
Pembroke	63,973	66,280
Penetanguishene	16,176	16,371
Perth	39,212	41,754
Peterborough	234,952	253,669
Petrolia	17,806	18,185
Picton	35,041	37,531
Port Arthur	195,593	199,945
Port Colborne	51,355	60,295
Port Credit	24,965	31,155
Port Dalhousie	12,405	14,205
Port Dover	13,140	14,126
Port Elgin	12,240	12,992
Port Hope	43,058	46,753
Prescott	24,053	24,871
Preston	49,856	52,918
Red Lake	15,980	15,539
Renfrew	42,723	44,671
Richmond Hill	12,918	13,746
Ridgetown	14,329	15,750
St. Catharines	279,930	291,653
St. Mary's	25,030	26,408
St. Thomas	115,016	122,981
Sarnia	147,137	162,260
Sault Ste. Marie	153,425	164,667
Scarborough Bluffs	10,063	10,551
Schreiber	11,649	12,852
Schumacher	27,320	24,715
Seaforth	15,174	15,888
Shelburne	–	10,066
Simcoe	77,833	81,404
Sioux Lookout	22,029	22,355
Smiths Falls	43,031	43,491
South Porcupine	31,989	28,001
Stoney Creek	–	10,712
Stouffville	10,775	11,936
Stratford	110,222	121,818
Strathroy	22,412	23,920
Sturgeon Falls	17,576	18,623
Sudbury	222,916	234,962
Terrace Bay	–	12,110
Thessalon	–	10,557
Thorold	31,474	32,142
Tilbury	13,869	15,197
Tillsonburg	41,603	42,057
Timmins	139,703	131,162
Toronto	15,014,079	16,336,273
Trenton	52,603	57,755
Tweed	11,449	13,392
Uxbridge	11,671	12,121
Walkerton	19,726	21,638
Wallaceburg	42,771	40,560
Waterford	12,145	12,387
Waterloo	110,706	138,093
Welland	129,574	153,455
Westboro	20,752	22,699
Whitby	28,679	31,179
Wiarton	13,368	13,734
Willowdale	12,245	18,093
Windsor	899,548	969,335
Wingham	18,957	19,268
Woodstock	106,497	115,976
Totals, Ontario	**31,392,810**	**33,799,643**
Manitoba		
Boissevain	10,104	10,859
Brandon	155,314	170,656
Carman	14,351	14,768
Dauphin	44,690	44,843
Flin Flon	38,214	43,137
Killarney	–	10,750
Minnedosa	16,047	16,737
Morden	12,568	15,385
Morris	–	10,140
Neepawa	24,056	24,670
Portage la Prairie	68,145	59,992
Roblin	11,061	11,864
Russell	11,123	11,771
Selkirk	22,442	22,528
Souris	13,202	13,378
Steinbach	11,412	13,985
Swan River	19,770	22,679
The Pas	26,608	28,808
Transcona	16,730	17,586

[1] Included in Colborne.

2.—Gross Postal Revenues of Offices Collecting Upwards of $10,000 for the Years Ended Mar. 31, 1947 and 1948—continued

Province and Post Office	1947	1948
	$	$
Manitoba—concluded		
Virden	17,470	17,576
Wawanesa	–	10,352
Winkler	–	10,294
Winnipeg	5,215,703	5,602,725
Totals, Manitoba	**6,600,813**	**7,059,102**
Saskatchewan		
Assiniboia	19,548	21,560
Battleford	11,884	11,622
Biggar	16,894	16,890
Broadview	10,118	10,872
Canora	15,112	15,574
Estevan	32,476	34,683
Eston	–	10,237
Gravelbourg	12,477	12,498
Humboldt	23,069	25,518
Indian Head	12,282	12,868
Kamsack	16,549	16,860
Kerrobert	10,954	10,317
Kindersley	16,229	16,313
Lloydminster	27,286	33,650
Maple Creek	17,124	18,118
Meadow Lake	13,422	15,187
Melfort	32,401	32,257
Melville	29,464	32,692
Moose Jaw	206,887	210,443
Moosomin	13,667	14,410
Nipawin	19,512	20,866
North Battleford	71,300	71,641
Prince Albert	132,192	129,314
Regina	1,673,896	1,762,722
Rosetown	19,097	19,406
Rosthern	11,341	13,031
Saskatoon	602,786	650,552
Shaunavon	17,906	17,976
Swift Current	72,136	77,283
Tisdale	25,791	26,836
Unity	11,423	11,828
Wadena	12,472	13,804
Watrous	11,448	11,403
Weyburn	45,601	47,749
Wilkie	15,055	15,021
Wynyard	11,958	11,830
Yorkton	71,033	77,385
Totals, Saskatchewan	**5,165,919**	**5,427,754**
Alberta		
Athabaska	–	11,168
Banff	46,156	43,946
Barrhead	12,764	16,548
Blairmore	15,119	14,445
Brooks	18,036	20,825
Calgary	1,252,889	1,366,635
Camrose	33,570	36,153
Cardston	18,247	19,513
Claresholm	13,499	13,870
Coaldale	–	11,283
Coleman	17,281	15,410
Didsbury	12,657	13,136
Drumheller	39,896	40,419
East Coulee	10,044	–
Edmonton	1,388,050	1,568,367
Edson	16,867	17,118
Fairview	–	10,162
Grande Prairie	33,492	35,567

Province and Post Office	1947	1948
	$	$
Alberta—concluded		
Hanna	16,437	17,954
High River	20,058	21,362
Innisfail	17,100	18,631
Jasper	17,569	19,116
Lacombe	23,597	26,310
Leduc	11,158	15,634
Lethbridge	196,543	199,303
MacLeod	15,380	16,363
Medicine Hat	96,344	110,850
North Edmonton	10,778	11,933
Olds	21,128	23,165
Peace River	19,939	22,273
Pincher Creek	14,398	16,037
Ponoka	20,341	22,719
Raymond	13,626	16,466
Red Deer	61,361	65,755
Rocky Mountain House	11,839	12,437
St. Paul	12,976	13,969
Stettler	18,897	20,961
Stony Plain	–	12,369
Taber	20,019	20,868
Three Hills	17,837	19,357
Vegreville	17,033	18,607
Vermilion	21,521	22,732
Viking	10,227	10,477
Vulcan	11,435	11,697
Wainwright	14,543	14,096
Westlock	14,943	16,993
Wetaskiwin	27,815	31,584
Totals, Alberta	**5,005,011**	**5,453,360**
British Columbia		
Abbotsford	28,248	32,481
Alberni	17,281	20,005
Armstrong	15,979	17,440
Campbell River	11,713	14,780
Chemainus	11,654	12,806
Chilliwack	64,418	75,671
Cloverdale	23,330	28,399
Courtenay	34,248	38,629
Cranbrook	35,318	37,982
Creston	19,952	22,853
Cumberland	12,155	11,770
Dawson Creek	31,288	34,183
Duncan	56,672	64,471
Eburne[1]	10,943	–
Fernie	22,744	22,330
Fort St. John	12,363	12,674
Ganges	–	11,673
Grand Forks	15,301	18,183
Greenwood	–	10,860
Haney	18,792	23,190
Hope	11,363	12,880
Kamloops	85,448	100,150
Kelowna	103,436	119,484
Kimberley	30,124	33,227
Ladner	16,317	17,729
Ladysmith	14,939	17,017
Langley Prairie	25,253	29,073
Merritt	–	10,272
Mission City	31,840	36,859
Nanaimo	87,129	100,050
Nelson	87,535	91,184
New Denver	–	10,111
New Westminster	319,489	372,269
Ocean Falls	15,414	17,451
Oliver	20,520	23,821
Osoyoos	10,028	13,336
Parksville	–	10,047

[1] Closed Mar. 31, 1947.

2.—Gross Postal Revenues of Offices Collecting Upwards of $10,000 for the Years Ended Mar. 31, 1947 and 1948—concluded

Province and Post Office	1947	1948
	$	$
British Columbia—concluded		
Penticton	68,846	78,611
Port Alberni	50,000	55,730
Port Coquitlam	10,213	12,075
Powell River	27,336	30,507
Prince George	48,733	59,908
Prince Rupert	73,887	75,972
Princeton	15,308	16,302
Qualicum Beach	–	11,040
Quesnel	13,286	17,864
Revelstoke	24,603	28,665
Rossland	21,162	22,896
Salmon Arm	23,273	26,138
Sardis	13,088	14,455
Sidney	17,190	20,381
Smithers	12,808	13,942
Steveston	–	10,437
Trail	92,704	95,497
Vancouver	4,149,995	4,758,603
Vernon	84,516	98,909
Victoria	921,514	1,035,268
Wells	–	11,325
West Summerland	13,742	16,465
Westview	10,360	13,021
White Rock	23,103	25,488
Williams Lake	12,257	14,128
Totals, British Columbia	**7,972,822**	**9,091,989**

Province and Post Office	1947	1948
	$	$
Yukon		
Dawson	14,262	14,759
White Horse	32,485	34,167
Totals, Yukon	**54,467**	**59,154**
Northwest Territories		
Yellowknife	27,031	30,864
Totals, N.W.T.	**40,150**	**44,567**
Summary by Provinces		
Prince Edward Island	330,812	340,471
Nova Scotia	3,136,361	3,176,084
New Brunswick	2,477,509	2,553,072
Quebec	17,250,974	18,647,413
Ontario	31,392,810	33,799,643
Manitoba	6,600,813	7,069,102
Saskatchewan	5,165,919	5,427,754
Alberta	5,005,011	5,453,360
British Columbia	7,972,822	9,091,989
Yukon and N.W.T.	94,617	103,721
Totals	**79,427,648**	**85,662,609**
P.C. of All Postal Revenue	90·0	93·5

3.—Revenues and Expenditures of the Post Office Department, Years Ended Mar. 31, 1929-48

NOTE.—For the years 1867-1910, see 1911 Year Book, p. 288, and for 1911-28, p. 665 of the 1942 edition.

Year	Net Revenue[1]	Expenditures	Surplus (+) Deficit (−)
	$	$	$
1929	31,170,904	33,483,058	−2,312,154
1930	32,969,293	35,036,629	−2,067,336
1931	30,416,107	36,292,604	−5,876,497
1932	32,476,604	34,448,986	−1,972,382
1933	30,825,155	30,167,827	+657,328
1934	30,367,465	29,202,730	+1,164,735
1935	31,248,324	28,974,316	+2,274,008
1936	32,507,888	30,100,102	+2,407,786
1937	34,274,552	30,538,575	+3,735,977
1938	35,546,161	32,296,805	+3,249,356
1939	35,288,220	35,456,181	−167,961
1940	36,729,105	36,725,870	+3,235
1941	40,383,366	38,699,674	+1,683,692
1942	45,993,872	41,501,869	+4,492,003
1943	48,868,762	44,741,987	+4,126,775
1944	61,070,919	48,485,009	+12,585,910
1945	66,071,815	54,629,281	+11,442,534
1946	68,635,559	57,729,646	+10,905,913
1947	72,986,624	64,213,050	+8,773,574
1948	77,770,967	67,943,476	+9,827,491

[1] Exclusive of commissions and allowances to postmasters and some other smaller items. The gross revenue in the fiscal year 1940 was $44,208,369; in 1941, $48,143,410; in 1942, $55,477,159; in 1943, $59,175,138; in 1944, $73,004,399; in 1945, $79,533,903; in 1946, $83,763,007; in 1947, $86,400,951; and in 1948, $91,613,618.

Postage.—The net revenue receipts shown in Table 3 are received mainly in the form of postage. The gross value of the postage stamps, post cards, etc., sold during each of the latest nine fiscal years was: $29,530,247 in 1940, $31,425,593 in 1941, $35,716,908 in 1942, $38,959,795 in 1943, $50,062,214 in 1944, $53,250,630 in 1945, $52,135,846 in 1946, $55,263,063 in 1947, and $56,303,157 in 1948. Receipts from postage paid in cash were as follows: $11,792,311 in 1940 ,$13,459,526 in 1941, $15,777,816 in 1942, $16,057,366 in 1943, $18,728,050 in 1944, $20,498,106 in 1945, $23,252,162 in 1946, $24,312,374 in 1947 and $28,959,194 in 1948.

Section 2.—Auxiliary Postal Services

The auxiliary postal services include the issuing of money orders (including postal notes) and the facilities offered by the Post Office Savings Bank. In 1868, there were 515 money-order offices in operation, issuing orders to an amount of $3,342,574; the following tables show the magnitude of operations in recent years. Statistical tables showing deposits with the Government Savings Banks and the business of the Post Office Savings Bank are included in the chapter on Currency and Banking (Chapter XXIV).

4.—Operations of the Money-Order System, Years Ended Mar. 31, 1938-48

NOTE.—For figures for 1868-1900, see the 1911 Year Book, p. 289; for 1901-31, the 1932 edition, p. 622; and for 1932-37, p. 666 of the 1942 edition.

Year	Money-Order Offices in Canada	Orders Issued in Canada	Value of Orders Issued in Canada	Value Payable in—		Value of Orders Issued in Other Countries, Payable in Canada
				Canada	Other Countries	
	No.	No.	$	$	$	$
1938	6,840	14,554,010	144,445,972	134,262,900	10,183,072	7,590,616
1939	6,976	14,522,060	145,204,787	135,417,731	9,787,056	6,948,186
1940	7,103	15,161,896	156,340,540	148,560,567	7,779,973	5,578,250
1941	7,117	16,119,586	173,565,550	168,548,852	5,016,698	5,700,036
1942	7,198	17,465,646	205,675,481	202,102,135	3,573,346	5,913,324
1943	7,306	18,627,228	236,925,920	233,004,136	3,921,784	6,887,250
1944	7,362	19,554,760	262,297,331	256,630,949	5,666,382	8,440,436
1945	7,406	20,742,643	281,890,291	276,704,712	5,185,579	8,467,849
1946	7,377	22,031,756	290,933,503	285,574,174	5,359,329	8,732,635
1947	7,416	25,184,900	329,557,703	321,728,205	7,829,498	9,150,238
1948	7,546	27,705,523	370,232,987	359,633,658	10,599,329	7,722,585

5.—Money-Order Statistics, by Provinces, and Total Postal Notes, Years Ended Mar. 31, 1944-48

Item and Province	1944	1945	1946	1947	1948
	No.	No.	No.	No.	No.
Money-Order Offices in—					
Prince Edward Island	74	77	75	75	76
Nova Scotia	499	503	492	497	502
New Brunswick	351	352	345	342	343
Quebec	1,645	1,673	1,693	1,711	1,762
Ontario	1,795	1,787	1,771	1,775	1,801
Manitoba	518	521	512	523	528
Saskatchewan	1,068	1,076	1,085	1,088	1,094
Alberta	795	783	783	781	794
British Columbia	611	627	615	618	640
Yukon	6	7	6	6	6
Totals	**7,362**	**7,406**	**7,377**	**7,416**	**7,546**
Money Orders Issued in—					
Prince Edward Island	159,009	181,925	202,585	220,406	223,041
Nova Scotia	1,429,291	1,551,930	1,579,451	1,634,474	1,817,377
New Brunswick	809,385	888,135	982,667	1,110,518	1,353,702
Quebec	3,815,931	4,094,144	4,551,564	5,399,122	5,992,709
Ontario	4,868,743	5,067,895	5,306,932	6,065,536	6,906,321
Manitoba	1,298,225	1,372,181	1,451,187	1,654,409	1,845,596
Saskatchewan	2,985,481	3,206,092	3,337,426	3,757,123	3,827,780
Alberta	2,119,608	2,225,240	2,301,525	2,649,306	2,724,677
British Columbia	2,036,047	2,118,494	2,293,385	2,666,225	2,979,418
Yukon	33,040	36,607	25,034	27,781	34,902
Totals	**19,554,760**	**20,742,643**	**22,031,756**	**25,184,900**	**27,705,523**

5.—Money-Order Statistics, by Provinces, and Total Postal Notes, Years Ended Mar. 31, 1944-48—concluded

Item and Province	1944	1945	1946	1947	1948
Value of Money Orders Issued in—	$	$	$	$	$
Prince Edward Island	1,890,626	2,073,992	2,210,312	2,406,466	2,527,623
Nova Scotia	18,112,995	19,979,308	20,028,800	19,860,591	21,088,234
New Brunswick	10,179,075	11,696,243	13,156,393	14,735,693	16,116,942
Quebec	45,787,824	49,444,308	55,045,230	66,017,162	76,889,175
Ontario	62,324,966	66,711,629	68,666,973	77,347,614	91,512,464
Manitoba	17,948,431	19,261,874	20,012,714	22,685,194	24,247,664
Saskatchewan	46,660,859	51,823,081	50,088,498	55,194,946	57,016,049
Alberta	30,864,317	32,006,669	31,612,167	36,615,021	39,533,100
British Columbia	27,741,154	28,133,282	29,633,771	34,161,178	40,564,045
Yukon	787,084	759,905	478,645	533,835	737,689
Totals	**262,297,331**	**281,890,291**	**290,933,503**	**329,557,700**	**370,232,985**
Money Orders Paid in—	No.	No.	No.	No.	No.
Prince Edward Island	73,680	74,787	75,530	84,645	92,920
Nova Scotia	1,014,245	1,103,218	1,103,849	1,237,002	1,473,275
New Brunswick	1,024,264	1,108,460	1,306,305	1,382,115	1,587,488
Quebec	3,333,572	3,400,610	3,618,392	4,201,132	4,728,245
Ontario	6,088,926	6,527,068	6,927,770	7,866,535	8,761,204
Manitoba	3,253,982	3,460,394	3,692,263	4,038,298	4,318,264
Saskatchewan	2,253,451	2,390,083	2,442,250	2,833,207	2,923,866
Alberta	1,048,646	1,069,728	1,095,306	1,217,371	1,304,699
British Columbia	1,273,078	1,341,388	1,428,945	1,618,987	1,910,293
Yukon	3,687	4,484	3,659	3,644	4,443
Totals	**19,367,531**	**20,480,220**	**21,694,269**	**24,482,936**	**27,104,697**
Value of Money Orders Paid in—	$	$	$	$	$
Prince Edward Island	1,211,019	1,230,365	1,201,480	1,311,873	1,429,711
Nova Scotia	13,453,928	14,873,539	15,012,999	16,351,347	18,307,587
New Brunswick	11,851,233	13,198,115	15,511,658	17,073,577	18,029,190
Quebec	43,104,432	45,558,238	49,464,662	57,271,560	66,846,378
Ontario	75,799,038	82,783,810	85,445,872	95,128,575	108,809,663
Manitoba	42,975,351	46,285,830	46,728,702	50,828,039	55,088,801
Saskatchewan	34,787,969	37,445,812	36,838,841	41,943,858	44,017,374
Alberta	20,157,066	20,822,987	20,480,915	22,880,059	25,061,187
British Columbia	20,787,460	22,536,366	22,928,481	25,421,174	30,211,455
Yukon	101,765	110,905	97,544	93,069	119,520
Totals	**264,229,261**	**284,845,967**	**293,711,154**	**328,303,131**	**367,920,866**
Postal Notes—					
Total notes paid ..... No.	11,178,915	10,852,629	9,940,481	8,335,143	7,742,159
Total value, including postal note scrip ..... $	25,593,818	27,381,373	26,840,747	22,324,040	19,530,959

PART IX.—THE PRESS

The tables of this Part, based on data obtained from *Canadian Advertising* have now been carried back to the latest complete pre-war year, viz., 1938, and are presented on pp. 788-793.

One serious difficulty has been encountered in connection with the compilation of circulation figures. In the case of daily newspapers, reliable circulation figures are relatively easy to obtain since in their own best interest, such papers qualify for and subscribe to the Audit Bureau of Circulation's requirements. In such cases A.B.C. 'net paid' figures have been used.

In regard to weekly newspapers it is difficult to obtain reliable circulation figures from many of the weekly publishers who do not subscribe to the Audit Bureau. In these cases, therefore, total circulation (paid and free) has been taken where such figures are supported by sworn statements or some other reliable record.

In the case of the weekly newspapers, however, the term "Controlled Distribution" is frequently met with in their reports. Exactly what this term means is doubtful. In some cases "Controlled Distribution" is probably legitimately subscribed and paid for, whereas in others the term may vaguely cover free distribution with various degrees of control.

It is considered to be unwise, therefore, to combine all such circulation figures. Yet, since "Controlled Distribution" cannot be ignored, papers so reporting are shown separately in Table 5.

As regards magazine circulation, the total net paid figures, as reported by publishers to the Audit Bureau (including bulk sales) have been used. In the relatively few cases where such figures were not available, minimum publishers' claims or sworn statements have been accepted.

Daily Newspapers.—Three types of daily newspapers are published in Canada, English-language, French-language and foreign-language newspapers. The number of these papers has remained about the same from 1938 to 1947. Tables 1 and 2 show the increasing circulation during this period.

French daily newspapers have, as would be expected, a wide circulation in the Province of Quebec and some of the larger of these papers have been established in the Province for over 60 years. Ten of the 11 French-language papers are published in this Province, the other being in the adjoining Province of Ontario. Over 93 p.c. of the total circulation of the English and French dailies is in the urban centres of 20,000 population or over.

Weekly Newspapers.*—The weekly newspapers have a somewhat wider circulation; only 61 p.c. of the stated circulation of weekly English-language newspapers (exclusive of the 'Controlled' circulation given in Table 5), is in cities of 20,000 population or over and about 80 p.c. of the French-language weeklies.

Canada is well served by foreign-language weekly newspapers. In 1947, these newspapers had a stated circulation of 196,930 copies among which Ukrainian papers had a circulation of 65,791 copies, German 36,070, Yiddish 28,262 and Polish 15,566 copies.

Other Publications and Periodicals.—Table 7 gives the number of publications, other than newspapers, published in Canada. Monthly and weekly magazines and periodicals enjoy the largest circulation while those dealing with home, social and welfare, and agricultural and rural topics, religious, trade, industry and related publications are the most popular types.

* Including a very few semi- and tri-weekly newspapers.

1.—Estimated Numbers and Circulations[1] of Reporting Daily and Weekly[2] English Language Newspapers, by Provinces, 1938-47

Province	1938				1939				1940			
	Daily		Weekly		Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
P.E.I.	2	10,212	2	6,985	3	13,043	1	3,500	3	14,909	1	3,500
N.S.	7	109,725	33	61,851	7	113,941	34	73,312	7	109,763	32	71,987
N.B.	6	56,837	16	28,907	5	54,987	16	28,617	4	58,009	16	30,185
Que.	5	206,098	17	49,490	5	186,674	19	73,949	5	194,640	19	72,611
Ont.	33	848,958	257	399,783	34	906,894	257	398,005	33	933,325	253	388,975
Man.	5	102,121	59	52,136	5	108,695	60	55,087	5	114,202	60	58,242
Sask.	5	64,417	139	124,705	5	66,671	144	107,451	4	61,640	141	103,085
Alta.	6	100,052	89	94,216	6	99,102	93	98,323	6	101,323	92	177,320
B.C.	12	214,274	61	110,994	11	204,756	66	119,377	11	220,376	68	127,759
Yukon and N.W.T.	Nil	–	3	550	Nil	–	2	550	Nil	–	2	550
Canada	**81**	**1,712,694**	**683**	**1,358,016**	**81**	**1,754,763**	**697**	**1,417,911**	**78**	**1,808,187**	**689**	**1,550,623**

Province	1941				1942			
	Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
P.E.I.	3	15,251	1	3,500	2	11,561	2	7,465
N.S.	7	114,334	32	68,165	7	132,653	31	67,499
N.B.	4	42,462	17	35,962	4	51,804	18	34,786
Que.	5	196,544	21	88,139	5	202,039	20	85,131
Ont.	35	999,266	244	351,702	34	1,032,658	243	346,716
Man.	5	113,919	59	62,538	5	120,677	61	58,659
Sask.	4	62,409	135	103,459	4	62,521	141	107,250
Alta.	6	101,644	90	160,096	6	108,031	88	81,292
B.C.	11	222,372	67	127,807	11	242,635	64	114,009
Yukon and N.W.T.	Nil	–	2	575	Nil	–	2	575
Canada	**80**	**1,868,201**	**671**	**1,604,217**	**78**	**1,964,579**	**674**	**1,618,849**

Province	1943				1944			
	Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
P.E.I.	2	12,641	2	7,265	2	13,774	2	7,365
N.S.	7	133,053	29	63,272	7	134,036	29	66,490
N.B.	4	51,557	20	34,774	4	51,850	21	35,679
Que.	5	197,720	21	80,676	5	204,442	21	71,909
Ont.	34	1,053,375	237	344,524	34	1,084,160	239	357,684
Man.	4	123,131	61	68,012	4	128,330	61	66,948
Sask.	4	64,239	130	102,491	4	66,248	129	103,094
Alta.	6	110,489	82	80,484	6	118,432	83	86,466
B.C.	11	257,428	59	111,140	11	271,366	61	117,919
Yukon and N.W.T.	Nil	–	2	575	Nil	–	2	1,000
Canada	**77**	**2,003,633**	**648**	**1,708,086**	**77**	**2,072,638**	**653**	**1,819,000**

Province	1945				1946				1947			
	Daily		Weekly		Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
P.E.I.	2	14,861	2	7,365	2	16,125	2	6,875	2	17,154	2	4,119
N.S.	7	144,499	29	67,811	7	149,251	28	66,050	7	151,990	28	67,742
N.B.	3	54,825	21	37,561	3	58,153	20	39,268	3	61,556	15	40,752
Que.	5	220,103	24	99,099	5	237,793	25	106,716	5	249,606	25	124,379
Ont.	34	1,167,159	245	385,394	36	1,253,336	247	407,360	37	1,322,131	239	400,752
Man.	4	141,378	63	81,526	4	140,900	62	64,381	5	150,527	61	63,617
Sask.	4	72,520	132	111,220	4	77,360	134	117,795	4	82,344	138	116,695
Alta.	6	125,581	83	82,473	6	135,446	87	86,239	6	140,486	91	89,512
B.C.	11	289,994	63	128,022	11	313,038	68	140,355	10	318,372	77	154,795
Yukon and N.W.T.	Nil	–	3	1,812	Nil	–	3	1,812	Nil	–	3	1,932
Canada	**76**	**2,230,920**	**670**	**1,979,903**	**78**	**2,381,402**	**682**	**2,161,009**	**79**	**2,494,166**	**684**	**2,275,237**

[1] Circulation not reported in all cases.

[2] Includes tri-weeklies and national weekend papers.

2.—Estimated Numbers and Circulations[1] of Reporting Daily and Weekly[2] French Language Newspapers by Provinces, 1938-47

Province	1938				1939				1940				1941				1942			
	Daily		Weekly		Daily		Weekly		Daily		Weekly		Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
P.E.I.	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–
N.S.	"	–	1	1,123	"	–	1	1,123	"	–	1	1,072	"	–	1	1,173	"	–	1	1,189
N.B.	"	–	2	8,489	"	–	2	8,489	"	–	2	8,789	"	–	2	8,789	"	–	2	9,110
Que.	10	405,219	59	135,864	9	353,612	66	158,812	9	359,362	69	165,101	9	363,352	72	175,954	9	388,932	77	183,471
Ont.	1	17,236	3	23,370	1	20,714	3	22,238	1	19,412	3	22,576	1	18,879	2	20,376	1	20,383	1	2,145
Man.	Nil	–	1	7,341	Nil	–	1	7,341	Nil	–	1	7,341	Nil	–	1	10,362	Nil	–	1	10,140
Sask.	"	–	3	10,649	"	–	2	9,216	"	–	2	7,340	"	–	1	1,056	"	–	2	1,456
Alta.	"	–	1	2,200	"	–	1	2,200	"	–	1	2,200	"	–	1	2,200	"	–	1	2,815
B.C.	"	–	Nil	–	"	–	Nil	–	"	–	Nil	–	"	–	Nil	–	"	–	Nil	–
Totals	**11**	**422,455**	**75**	**618,290**	**10**	**374,326**	**82**	**612,487**	**10**	**378,774**	**85**	**662,603**	**10**	**382,231**	**86**	**724,348**	**10**	**409,315**	**91**	**782,872**

Province	1943				1944				1945				1946				1947			
	Daily		Weekly		Daily		Weekly		Daily		Weekly		Daily		Weekly		Daily		Weekly	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
P.E.I.	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–
N.S.	"	–	1	1,186	"	–	1	1,234	"	–	1	1,286	"	–	1	1,377	"	–	1	1,422
N.B.	"	–	2	7,810	"	–	2	8,520	"	–	2	12,680	"	–	2	12,567	"	–	2	11,727
Que.	9	415,013	81	235,403	10	445,517	82	252,939	10	488,200	85	268,069	10	521,730	88	305,056	10	551,424	89	348,119
Ont.	1	22,980	1	2,145	1	22,117	1	2,145	1	22,679	2	3,895	1	23,432	2	4,120	1	23,287	2	4,120
Man.	Nil	–	1	6,606	Nil	–	1	7,654	Nil	–	1	8,207	Nil	–	1	7,981	Nil	–	1	8,470
Sask.	"	–	1	886	"	–	1	886	"	–	1	886	"	–	1	886	"	–	1	914
Alta.	"	–	1	2,815	"	–	1	3,185	"	–	1	3,185	"	–	1	3,673	"	–	1	3,673
B.C.	"	–	Nil	–	"	–	Nil	–	"	–	Nil	–	"	–	Nil	–	"	–	Nil	–
Totals	**10**	**437,993**	**94**	**911,741**	**11**	**467,634**	**95**	**985,692**	**11**	**510,879**	**99**	**1,062,282**	**11**	**545,162**	**102**	**1,173,035**	**11**	**574,711**	**103**	**1,238,966**

[1] Circulation not reported in all cases.

[2] Includes national weekend papers.

3.—Estimated Numbers and Circulations of Reporting Daily and Weekly English Language Newspapers in Urban Centres of 20,000 Population or Over, 1946 and 1947

Urban Centre	Census 1941	1946[1]				1947			
	Households	Daily		Weekly		Daily		Weekly	
	No.	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Montreal	203,685	3	223,277	4	288,339[2]	3	235,222	4	347,766[3]
Toronto	175,736	3	694,477	4	903,824[4]	4	741,449	3	925,562[4]
Vancouver	80,826	3	255,156	1	3,750	3	256,712	1	3,750
Winnipeg	59,607	2	133,265	1	4,019	2	142,647	1	4,274
Hamilton	43,076	1	71,486	Nil	–	1	67,371	Nil	–
Ottawa	35,601	2	100,616	"	–	2	105,684	"	–
Quebec	28,170	1	5,206	"	–	1	5,105	"	–
Windsor	26,126	1	61,592	"	–	1	62,739	"	–
Edmonton	24,700	2	63,149	1	2,000	2	61,796	1	2,000
Calgary	25,387	2	58,743	Nil	–	2	64,218	Nil	–
London	21,050	1	64,863	"	–	1	65,506	"	–
Halifax	15,089	2	119,293	"	–	2	120,167	"	–
Verdun	16,184	Nil	–	2	26,409	Nil	–	2	25,706[5]
Regina	15,390	.1	38,366	1	2,016	1	39,604	1	2,016
Saint John	12,241	1	41,849	1	5,100	1	44,146	1	5,250
Victoria	13,236	2	38,700	1	23,943[6]	2	41,425	1	25,529[6]
Saskatoon	11,461	1	27,182	Nil	–	1	29,588	Nil	–
Three Rivers	7,688	Nil	–	1	3,810	Nil	–	1	3,810
Sherbrooke	7,770	1	9,310	1	3,000	1	9,279	1	3,000
Kitchener	9,215	1	19,180	Nil	–	1	19,762	Nil	–
Hull	6,427	Nil	–	"	–	Nil	–	"	–
Sudbury	7,685	1	–	1	1,500	1	13,275	[7]	–
Brantford	8,543	1	15,295	Nil	–	1	15,716	Nil	–
Fort William	6,763	1	10,990	"	–	1	11,689	"	–
St. Catharines	8,008	1	16,019	"	–	1	16,216	"	–
Kingston	7,226	1	16,291	"	–	1	16,706	"	–
Oshawa	6,837	1	9,923	"	–	1	8,061	1	3,500
Timmins	6,691	1	10,622	1	2,897	1	11,605	1	2,897
Sydney	5,703	1	21,558	Nil	–	1	22,483	Nil	–
Sault Ste. Marie	6,307	1	9,401	"	–	1	8,948	"	–
Peterborough	6,364	1	12,743	1	7,776	1	13,498	1	4,924
Glace Bay	4,828	1	–	Nil	–	1	–	Nil	–
Port Arthur	5,920	1	9,988	"	–	1	10,241	"	–
Guelph	5,939	1	10,367	"	–	1	11,091	"	–
Moncton	5,121	1	16,304	"	–	1	17,410	"	–
New Westminster	5,806	1	6,429	1	5,259	1	6,535	2	8,009
Moose Jaw	5,424	1	7,092	[7]	–	1	7,701	Nil	–
Niagara Falls	5,235	1	9,750	Nil	–	1	9,521	"	–
Shawinigan Falls	3,820	Nil	–	2	4,700[5]	Nil	–	2	4,700[5]
Lachine	4,258	"	–	1	6,500[8]	"	–	1	7,025[8]

[1] Revised figures. [2] Includes 2 national weekend and 1 Saturday edition. [3] Includes 1 national weekend and 1 Saturday edition. [4] Includes 1 national weekend. [5] Includes 1 bilingual. [6] Includes 1 Saturday edition. [7] Ceased publication. [8] Bilingual.

4.—Estimated Numbers and Circulations of Reporting Daily and Weekly French Language Newspapers in Urban Centres of 20,000 Population or Over, 1946 and 1947

Urban Centre	Census 1941	1946[1]				1947			
	Households	Daily		Weekly		Daily		Weekly	
	No.	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Montreal	203,685	5	296,764	8	851,875[2]	5	315,234	8	890,521[2]
Winnipeg	59,607	Nil	–	1	7,981	Nil	–	1	8,470
Ottawa	35,601	1	23,432	Nil	–	1	23,287	Nil	–
Quebec	28,170	2	189,184	1	17,500	2	197,264	1	17,500
Edmonton	24,700	Nil	–	1	3,673	Nil	–	1	3,673
Three Rivers	7,688	1	16,839	2	6,068	1	18,245	2	6,190
Sherbrooke	7,770	1	13,457	1	27,737	1	15,195	1	27,737
Hull	6,427	Nil	–	2	7,106	Nil	–	2	7,106
Sudbury	7,685	"	–	1	1,975	"	–	1	1,975
Moncton	5,121	"	–	1	9,134	"	–	1	8,294
Shawinigan Falls	3,820	"	–	5	11,159[3]	"	–	5	16,427

[1] Revised figures. [2] Includes 2 Saturday and 1 Sunday edition. [3] Circulation for 1 paper not given.

5.—Controlled Circulation[1] of English Language[2] Urban Weeklies, 1938-47

Province and City	1938		1939		1940		1941		1942	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Quebec—										
Montreal	3	13,217	3	13,217	2	13,217	3	28,217	2	23,217
Verdun	2	31,500	2	31,500	2	32,500	1	15,000	1	15,000
Westmount	1	7,200	1	7,200	1	7,200	1	7,200	1	7,200
Others	1	17,600	Nil	–	1	–	1	–	1	–
Ontario—										
Hamilton	1	28,500	1	28,500	1	28,500	1	28,500	1	28,500
London	1	20,000	1	20,000	1	20,000	1	20,000	1	20,000
Toronto	22	276,578	22	202,300	29	254,200	29	247,300	27	234,650
Others	10	69,500	11	62,600	14	94,700	14	78,550	13	88,200
Manitoba—										
Winnipeg	4	80,390	4	76,390	5	89,450	5	89,450	3	69,450
Others	3	10,850	3	10,850	2	6,350	1	2,850	Nil	–
Saskatchewan—										
Moose Jaw	1	5,800	1	5,800	1	5,800	1	5,800	1	5,800
Saskatoon	2	21,000	2	21,000	2	21,000	1	11,000	1	11,500
Alberta—										
Edmonton	1	4,300	2	6,800	1	2,500	2	6,500	3	14,385
Others	3	6,041	3	4,040	1	2,500	Nil	–	Nil	–
British Columbia—										
Vancouver[3]	7	38,800	8	41,650	7	33,550	7	33,690	7	33,790
Others	4	11,600	5	12,005	3	5,450	3	7,160	3	7,400

	1943		1944		1945		1946		1947	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Quebec—										
Montreal	Nil	–	Nil	–	2	40,800	1	16,000	1	16,000
Verdun	1	15,000	1	15,000	Nil	–	Nil	–	Nil	–
Westmount	1	7,200	1	7,200	1	7,200	1	7,500	"	–
Others	1	–	1	–	2	15,000	2	15,000	2	15,000
Ontario—										
Hamilton	1	28,500	1	28,500	1	28,500	1	28,500	1	28,500
London	1	20,000	1	20,000	1	20,000	1	20,000	1	25,000
Toronto	16	191,850	17	216,850	15	140,050	13	97,650	14	101,150
Others	10	50,600	11	49,325	11	51,175	11	54,275	10	33,925
Manitoba—										
Winnipeg	2	28,200	2	28,200	2	28,200	3	58,710	3	59,060
Others	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–
Saskatchewan—										
Moose Jaw	1	6,200	1	6,200	1	6,200	1	6,015	1	6,200
Saskatoon	1	10,100	1	10,100	1	10,100	Nil	–	Nil	–
Alberta—										
Edmonton	2	10,354	2	10,354	2	10,354	2	10,354	1	7,854
Others	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–
British Columbia—										
Vancouver	7	34,650	7	33,260	7	33,950	5	27,450	5	26,700
Others	2	4,450	2	4,450	2	4,450	2	4,450	2	4,450

[1] Circulation not reported in all cases. [2] In addition controlled circulation of French language newspapers was: 2 with 46,500 in 1938 to 1940; 3 with 25,483 in 1941; 3 with 32,407 in 1942; 1 with 12,500 in 1943 to 1945; and 1 with 15,000 in 1946 and 1947. [3] Includes West Vancouver from 1938 to 1945.

6.—Estimated Numbers and Circulations of Weekly Foreign Language Newspapers, 1938-47

Language	1938		1939		1940		1941		1942	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Bulgarian	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–
Chinese	"	–	"	–	"	–	"	–	"	–
Danish	1	3,800	1	3,800	"	–	"	–	"	–
Finnish	1	2,000	1	2,000	2	5,000	2	4,760	3	10,120
German	7[1]	35,378	7	40,194	5	30,598	6	29,997	6	29,673
Hungarian	2	8,200	3	13,200	3	13,200	3	13,200	1	6,200
Icelandic	3	13,125	3	13,425	3	13,425	3	13,425	3	13,425
Italian	3[1]	11,515	2	13,947	1	10,400	1	10,400	Nil	–
Lithuanian	Nil	–	Nil	–	Nil	–	Nil	–	1	[2]
Norwegian	1	[2]	1	[2]	1	[2]	1	4,020	1	6,422
Polish	3	18,169	3	18,376	4[1]	18,376	3	17,452	3	17,909
Slovak	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–
Swedish	2	[2]	2	[2]	2	[2]	3[1]	5,300	3	13,099
Ukrainian	4	39,359	4	40,261	4	40,261	4	41,107	5	47,635
Yiddish	3[1]	8,967	3[1]	19,967	3[1]	19,967	3	31,868	3	31,868
Yugoslav	1	2,300	1	2,500	1	2,500	1	2,500	1	2,500

	1943		1944		1945		1946[3]		1947	
	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation	No.	Circulation
Bulgarian	Nil	–	1	1,000	1	1,000	1	1,000	1	1,000
Chinese	"	–	Nil	–	Nil	–	Nil	–	Nil	–
Danish	"	–	"	–	"	–	"	–	"	–
Finnish	2	5,860	2	6,539	2	7,161	2	7,600	2	7,900
German	6	30,234	6	30,489	6	30,695	7	32,635	6	36,070
Hungarian	1	4,000	1	4,000	1	4,000	1	3,450	1	3,450
Icelandic	3	13,425	3	13,425	3	13,425	3	13,425	3	13,425
Italian	Nil	–	Nil	–	Nil	–	Nil	–	Nil	–
Lithuanian	1	[2]	1	[2]	1	[2]	1	[2]	1	[2]
Norwegian	1	6,422	1	6,422	1	6,422	1	6,422	1	6,422
Polish	3	14,988	3	14,810	3	15,011	3	15,091	3	15,566
Slovak	Nil	–	Nil	–	1	2,500	1	2,500	1	2,500
Swedish	3	13,099	3	13,099	3	13,099	3	13,099	3	13,099
Ukrainian	6	61,635	6	63,210	6	63,937	6	64,937	7	65,791
Yiddish	3	26,518	3	26,948	3	28,262	3	28,262	3	28,262
Yugoslav	1	2,500	1	2,500	1	2,500	1	2,500	1	3,445

[1] Includes papers for which no circulation was reported. [2] Not available. [3] Revised.

7.—Estimated Numbers and Circulations of Reporting Magazines and Related Publications, by Type, 1938-47

Type	1938			1939			1940			1941			1942		
	Listed	Reporting		Listed	Reporting		Listed	Reporting		Listed	Reporting		Listed	Reporting	
	No.	No.	Circulation	No.	No.	Circulation	No.	No.	Circulation	No.	No.	Circulation	No.	No.	Circulation
Agricultural and rural	37	20	1,395,740	39	27	1,440,691	37	27	1,527,806	38	23	1,526,817	37	26	1,574,573
Arts, crafts and professions	8	3	16,859	10	5	31,574	11	6	38,149	12	8	43,742	12	7	48,180
Construction	17	11	46,038	17	13	59,295	17	14	69,310	17	13	53,905	16	14	60,615
Educational	16	7	36,879	18	10	45,814	23	14	70.319	20	15	72,626	21	16	114,309
Finance and insurance	17	4	30,534	17	5	33,910	18	6	38,151	18	5	31,658	18	5	31,534
Government and government services	10	5	69,226	12	5	20,171	16	9	131,091	16	8	147,672	16	10	83,139
Home, social and welfare	26	18	1,714,954	29	21	1,643,337	28	20	1,739,653	27	19	1,762,194	24	19	1,848,258
Labour	9	Nil	–	9	Nil	–	11	2	10,300	16	7	83,727	16	8	103,300
Pharmaceutical and medical	16	9	30,398	16	8	23,873	19	13	33,363	21	14	35,652	22	16	48,469
Religious	32	25	330,438	42	35	404,240	41	34	415,343	40	33	448,144	40	35	548,444
Services and directories	18	9	47,498	17	7	31,241	20	9	46,487	22	8	37,197	22	8	44,133
Sports and entertainment	30	16	98,748	29	16	102,516	27	17	118,586	17	7	90,163	18	10	114,271
Trade, industry and other related publications	99	62	219,027	105	70	238,746	113	79	281,536	113	80	292,668	117	80	291,411
Transportation and travel	17	7	26,753	21	15	121,723	20	14	82,047	20	12	83,477	18	12	89,296
Miscellaneous	15	4	31,856	14	11	68,978	11	5	40,302	24	5	40,440	39	34	381,023
Totals	**367**	**200**	**4,094,948**	**395**	**248**	**4,266,109**	**412**	**269**	**4,642,443**	**421**	**257**	**4,750,082**	**436**	**300**	**5,380,955**

	1943			1944			1945			1946			1947		
	Listed	Reporting		Listed	Reporting		Listed	Reporting		Listed	Reporting		Listed	Reporting	
	No.	No.	Circulation	No.	No.	Circulation	No.	No.	Circulation	No.	No.	Circulation	No.	No.	Circulation
Agricultural and rural	38	23	1,527,518	37	22	1,565,374	41	31	1,712,062	44	33	1,847,286	46	39	2,009,920
Arts, crafts and professions	12	10	57,456	11	6	58,239	14	9	76,351	16	11	76,351	18	14	122,615
Construction	16	12	47,128	15	12	54,439	19	15	62,907	20	19	101,091	21	19	106,510
Educational	21	13	55,512	23	15	66,867	25	19	83,533	31	25	200,336	37	31	251,074
Finance and insurance	16	4	28,897	16	5	36,573	18	6	49,271	18	6	56,101	16	6	61,343
Government and government services	20	13	156,394	19	8	90,004	19	9	141,331	18	10	170,459	17	10	173,663
Home, social and welfare	24	20	1,879,135	34	26	2,033,941	48	32	2,211,670	47	39	2,585,665	47	41	2,912,073
Labour	18	11	336,100	19	13	361,267	21	16	411,028	22	16	305,613	22	16	342,343
Pharmaceutical and medical	21	11	40,518	21	15	50,948	23	17	57,379	25	19	67,229	25	21	85,375
Religious	41	37	533,061	40	37	586,744	39	37	656,137	39	38	684,459	40	36	693,639
Services and directories	21	6	23,596	27	13	47,379	28	14	57,486	32	17	71,905	47	32	154,554
Sports and entertainment	16	5	81,681	16	6	65,924	19	12	129,121	23	14	176,422	29	19	237,393
Trade, industry and other related publications	112	81	294,073	115	76	251,263	122	92	330,282	140	110	471,194	147	131	590,822
Transportation and travel	16	11	84,405	17	14	81,153	19	18	94,130	26	24	173,309	30	25	149,757
Miscellaneous	48	43	573,984	47	43	564,142	19	17	236,367	20	19	251,186	23	20	200,934
Totals	**440**	**300**	**5,719,458**	**457**	**311**	**5,914,257**	**474**	**344**	**6,309,055**	**521**	**400**	**7,238,606**	**565**	**460**	**8,092,015**

CHAPTER XX.—DOMESTIC TRADE

CONSPECTUS

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PART I.—THE MOVEMENT AND MARKETING OF COMMODITIES

The different directions that economic development has taken across Canada and the diverse resources of various parts of the country have led to a vast exchange of products. The task of providing goods and services where they are required for consumption or use by the widely scattered population of 12,883,000 (1948 estimate) accounts for a greater expenditure of economic effort than that required for the prosecution of Canada's great volume of foreign trade, high though the Dominion ranks among the countries of the world in this field.

Domestic trade is broad and complicated: it encompasses all values added to commodities traded in, provincially and interprovincially, by agencies and services connected with the storage, distribution and sale of goods, such as railways, steamships, warehouses, wholesale and retail stores, financial institutions, etc. Taken in a wide sense it embraces various professional and personal services including those directed to the amusement of the people, such as theatres, sports, etc. However, not all phases of this broad field are covered here; the arrangement of material in a volume such as the Year Book is governed by the necessity of interpretation from various angles and cross reference to other chapters is a more convenient way of dealing with certain subjects. The Index will be found useful in this respect.

Section 1.—The Grain Trade

Subsection 1.—Governmental Agencies Regulating or Co-operating with the Grain Trade

The agencies exercising control of the grain trade in Canada are: the Board of Grain Commissioners, which administers the provisions of the Canada Grain Act, 1930; and the Canadian Wheat Board, which operates under the Canadian Wheat Board Act, 1935. An account of the organization and functions of the Board of Grain Commissioners appears at pp. 481-482 of the 1941 Year Book. An article on the operations of the Wheat Board is included in the 1939 Year Book. That material is brought up to date in the 1947 edition.

Subsection 2.—Distribution, Storage and Inspection of Field Crops

The dominant feature of the disposition of Canadian wheat for the past four years has been the heavy export movement of this grain. During each of the crop years 1943-44, 1944-45 and 1945-46, exports of wheat and wheat flour exceeded 340,000,000 bu. In two of these years, 1943-44 and 1945-46, exports actually exceeded production and this, coupled with somewhat heavier than usual domestic use, steadily reduced stocks of wheat so that the carryover at the beginning of 1946-47 was at an extremely low level. The harvesting of a 413,700,000 bu. crop in 1946, when added to carryover stocks at Aug. 1, gave a total wheat supply of 487,300,000 bu. This supply was lower than that of any other year since 1938-39. Both exports and domestic use were reduced in 1946-47 thus reflecting the low level of available supplies. The carryover at the end of the crop year (Aug. 1, 1947) was still at a very low ebb. Of the 242,900,000 bu. of wheat and flour exported in 1946-47, slightly over 160,000,000 bu. went to the United Kingdom. Other major recipients were Belgium with 9,500,000 bu. and the Netherlands with 7,600,000 bu.

Use of wheat in Canada dropped from 163,000,000 bu. in 1945-46 to 157,100,000 bu. in 1946-47. The decline is largely accounted for by reductions in the quantities used by industry and for human food.

1.—Production, Imports, Exports and Domestic Use of Wheat and Wheat Flour, Crop Years Ended July 31, 1942-47

(Millions of Bushels)

Item	1941-42	1942-43	1943-44	1944-45	1945-46	1946-47
Carryover Aug. 1	480·1	423·8	594·6	356·5	258·1	73·6
Production	314·9	556·6	284·5	416·6	318·5	413·7
Imports	Nil	Nil	0·4	0·4	0·1	[1]
Totals, Supply	**795·0**	**980·4**	**879·5**	**773·5**	**576·7**	**487·3**
Exports	225·8	214·7	343·8	342·9	340·1	242·9
Domestic use	145·4	171·1	179·2	172·5	163·0	157·1
Totals, Disposition	**371·2**	**385·8**	**523·0**	**515·4**	**503·1**	**400·0**
Carryover July 31	423·8	594·6	356·5	258·1	73·6	87·3

[1] Less than 100,000 bu.

The domestic and export trade in Canada's five principal grain crops are shown in some detail in Table 2. Exports of wheat and oats were substantially lower than in 1945-46, while barley and rye showed sharp increases. Exports of flaxseed were very small. The feeding of live stock and poultry each year accounts for large quantities of grain, over 500,000,000 bu. being used for this purpose in both 1945-46 and 1946-47.

2.—Distribution of Canadian Grain Crops, Crop Year Ended July 31, 1947

(Millions of Bushels)

Item	Wheat[1]	Oats	Barley	Rye	Flaxseed
Carryover Aug. 1, 1946	73·6	77·5	29·9	0·8	1·7
Production in 1946	413·7	371·1	148·9	8·8	6·4
Imports	[2]	[2]	0·2	[2]	[2]
Totals, Supply	**487·3**	**448·6**	**179·0**	**9·6**	**8·1**
Exports in terms of grain	242·9	29·8	7·5	5·3	0·1
Domestic Use—					
Human consumption	53·3	4·9	0·4	0·1	[2]
Animal feed and waste	69·6	318·4	118·8	1·8	1·3
Seed requirements	33·2	25·8	12·6	1·3	0·9
Industrial use	1·0	[2]	10·6	0·4	5·0
Totals, Disposition	**400·0**	**378·9**	**149·9**	**8·9**	**7·3**
Carryover July 31, 1947	87·3	69·7	29·1	0·7	0·8

[1] Includes wheat flour. [2] Less than 100,000 bu.

The 1947-48 Grain-Marketing Policy.—During the crop year 1947-48 the gap between world grain supplies and requirements was very wide. Crops in the normal deficit areas of the world were poor and, despite large shipments from the major exporting nations, the grain supply situation remained quite stringent throughout the crop year. Bread rations had to be maintained and even reduced in some countries. At the same time plans for the rehabilitation of live stock were postponed and it was not possible to build up reserve grain stocks of any consequence. Canada's 1947 crop was not large and with carryover stocks at July 1, 1947, at near minimum levels, exports of wheat and flour in terms of wheat reached only 195,000,000 bu., the smallest annual shipment of any crop year since 1938-39, when 160,000,000 bu. were exported. Exports of coarse grains during 1947-48 were also on a much reduced scale.

Wheat.—The 1947 Parliament amended the Canadian Wheat Board Act, 1935, to provide the powers required by the Board to carry out the Government grain policy. The amendments became effective on Aug. 1, 1947. The Act, as amended, authorized the continuation of the same system of marketing wheat and pooling of wheat delivered by producers. The most significant change was the substitution of a five-year pool period extending from Aug. 1, 1945, to July 31, 1950, for the previous system of separate pools for each crop year. During the war period the power to control interprovincial and export trade in wheat had been delegated to the Canadian Wheat Board by Orders in Council, but by the terms of the amended Act these powers were provided by statute until July 31, 1950.

On Sept. 15, 1947, price ceilings on bread and flour were suspended by the Wartime Prices and Trade Board. On the same day the Canadian Wheat Board discontinued the payment of the drawback on flour and wheat products, milled or processed from wheat of Western Canada grain. During the crop year 1947-48 the Wheat Board made payments on participation certificates issued to farmers in the 1944 crop year. The Minister of Trade and Commerce announced that producers would receive a total of $66,000,000 as additional payment which would amount to 18·677 cents per bu. on the higher grades of wheat.

On Mar. 25, 1948, an increase was announced of 20 cents per bu., effective Apr. 1, in the initial payment made to farmers by the Canadian Wheat Board, this to be retroactive on all wheat delivered by farmers to the Board since Aug. 1, 1945. The increase brought the initial payment up to the level at which Canada was selling wheat to Britain in the second year of the four-year United Kingdom-Canada wheat contract. That price, fixed at $1·55 per bushel, was advanced to $2·00 plus carrying charges, basis in store Fort William-Port Arthur, in the third year of the agreement commencing Aug. 1, 1948.

Coarse Grains.—Price ceilings on feed grains were removed on Oct. 22, 1947. The Government announced, however, that the feed grain freight assistance policy would remain in effect. The subsidies on grains for live-stock feeding were also discontinued on Oct. 22. These subsidies amounted to 25 cents per bu. on wheat and barley and 10 cents per bu. on oats. Due to the shortage of feed grains in Canada in the crop year 1947-48, the Canadian Wheat Board on Sept. 13 advised the trade that, with minor exceptions, the issuance of export permits to cover exports of oats and barley, whole or otherwise processed, would not be approved during the remainder of the 1947-48 crop year. The exceptions were: registered and certified oats and barley, oats and prepared feed for certain destinations under Government established quotas, rolled oats, oatmeal and oat groats, barley malt and pot and pearl barley. The Board continued to collect equalization fees for exports of these products. Towards the end of the crop year it was possible to ease the restriction on exports and on Apr. 1, 1948, the Board advised that authorization would be given to export limited quantities of oats and barley to any destination. Offers, however, had to be made for human consumption within International Emergency Food Committee allocations. On May 13 a further modification was made which authorized the export of limited quantities of oats prior to Aug. 1, 1948, and limited quantities of barley prior to Sept. 1, 1948, to any destination without regard to I.E.F.C. regulations.

Licensed Grain Elevator Capacity.—At Dec. 1, 1947, total licensed grain elevator capacity in Canada stood at 482,425,000 bu., compared with 495,242,000 bu. in 1946. Western country elevators with their annexes made up over one-half of this total with 264,668,000 bu. capacity. Capacity for storing grain at the Lakehead was 76,267,000 bu., and West Coast, St. Lawrence and Maritime ports had facilities for holding 47,387,000 bu. ready for overseas movement. The detailed table giving grain elevator capacities formerly introduced here will be found in Section 3, Subsection 1, of this Chapter, at p. 803.

3.—Quantities of Grain Inspected, Crop Years Ended July 31, 1946 and 1947

Grain	1946			1947		
	Western Division	Eastern Division	Total	Western Division	Eastern Division	Total
	bu.	bu.	bu.	bu.	bu.	bu.
Spring wheat	284,606,674	Nil	284,606,674	308,665,822	Nil	308,665,822
Winter wheat	1,864,186	2,912,302	4,776,488	3,020,168	976,793	3,996,961
Totals, Wheat	286,470,860	2,912,302	289,383,162	311,685,990	976,793	312,662,783
Oats	97,148,775	68,977	97,217,752	90,466,390	61,940	90,528,330
Barley	55,921,370	Nil	55,921,370	55,567,860	88,356	55,656,216
Rye	2,822,515	11,240	2,833,755	5,494,760	70,122	5,564,882
Flaxseed	5,104,080	49,890	5,153,970	4,371,310	37,357	4,408,667
Corn	61,500	2,690,164	2,751,664	42,000	4,563,359	4,605,359
Buckwheat	6,250	26,476	32,726	1,250	9,040	10,290
Mixed grain	716,400	Nil	716,400	1,653,075	Nil	1,653,075
Totals, Grain	**448,251,750**	**5,759,049**	**454,010,799**	**469,282,635**	**5,806,967**	**475,089,602**

4.—Lake Shipments of Grain from Fort William and Port Arthur, Crop Years Ended July 31, 1946 and 1947

Grain	1946			1947		
	To Canadian Ports	To U.S. Ports	Total Shipments	To Canadian Ports	To U.S. Ports	Total Shipments
Wheat bu.	176,738,239	54,283,778	231,022,017	164,328,848	11,477,913	175,806,761
Oats "	49,327,544	12,995,868	62,323,412	47,923,326	2,388,009	50,311,335
Barley "	30,049,959	3,958,312	34,008,271	24,860,365	6,361,608	31,221,973
Rye "	1,082,056	1,631,285	2,713,341	2,530,242	2,245,983	4,776,225
Flaxseed "	2,970,283	365,251	3,335,534	1,339,983	Nil	1,339,983
Totals, Grain bu.	**260,168,081**	**73,234,494**	**333,402,575**	**240,982,764**	**22,473,513**	**263,456,277**
Screenings ton	24,503	114,878	139,381	19,439	97,128	116,567

5.—Canadian Grain Handled at Eastern Elevators, Crop Years Ended July 31, 1938-47

NOTE.—Figures for the crop years 1922-29 are given at p. 626 of the 1931 Year Book; for 1930-36 at p. 512 of the 1943-44 edition; and for 1937 at p. 816 of the 1947 edition.

Item and Crop Year	Wheat	Oats	Barley	Rye	Flaxseed	Total Grain
	bu.	bu.	bu.	bu.	bu.	bu.
Receipts—						
1938	118,582,130	7,496,487	27,610,593	1,400,923	482,529	155,572,662
1939	224,541,409	16,024,099	24,845,946	891,751	547,082	266,850,287
1940	240,412,659	15,204,169	14,340,317	2,163,482	666,436	272,787,063
1941	294,736,497	7,958,781	8,937,925	906,154	2,206,498	314,745,855
1942	282,400,393	5,468,716	7,240,814	785,929	1,912,528	297,808,380
1943	219,652,250	9,785,401	5,278,318	458,978	1,244,032	236,418,979
1944	254,389,628	18,838,600	20,806,305	739,090	752,512	295,526,135
1945	365,444,773	44,726,587	27,047,192	2,632,303	1,869,128	441,719,983
1946	318,075,743	70,013,103	30,789,084	1,938,882	3,669,449	424,486,261
1947	255,286,775	63,764,776	22,719,533	5,663,823	1,302,023	348,736,930
Shipments—						
1938	119,884,101	7,358,685	27,090,701	1,180,127	482,529	155,996,143
1939	188,113,064	13,763,219	24,626,489	1,045,658	547,083	228,095,513
1940	221,558,877	17,360,438	14,784,608	1,927,316	613,212	256,244,451
1941	289,226,546	8,319,274	9,358,776	1,048,997	2,212,699	310,166,292
1942	282,022,653	5,377,665	5,658,168	777,623	1,873,895	295,710,004
1943	241,277,883	9,214,194	5,348,513	556,151	1,223,582	257,620,323
1944	248,581,173	17,221,335	17,164,441	829,960	628,979	284,425,888
1945	385,086,106	39,039,333	30,943,479	2,315,638	1,369,573	458,754,129
1946	338,462,187	70,460,215	28,472,958	2,432,487	3,727,565	443,555,412
1947	251,033,577	68,714,833	24,378,351	5,612,148	1,717,100	351,456,009

Wheat Flour.—The 1946-47 crop year brought with it an all-time high of wheat-flour production, amounting to 28,588,456 bbl., this figure being more than double the 1937-38 production of 12,867,728 bbl. Domestic disappearance of flour in 1946-47 decreased from 12,273,843 bbl. in 1945-46 to 11,660,184 bbl. in 1946-47, while Canadian customs exports of wheat flour advanced from 13,786,177 bbl. in 1945-46 to 17,660,109 bbl. in 1946-47 or by 28·1 p.c., a reflection of increased production of Canadian mills, coupled with heavy demands from foreign markets.

During the 1946-47 season, the mills operated at 100·8 p.c. of their rated capacity, this being accomplished by certain of the mills exceeding their monthly rated capacity through operating more than the customary number of working days per month. Statistics of employees, value of products, etc., for flour and feed mills for 1946 are given in Table **14** of the Manufactures Chapter at p. 566.

Section 2.—Live-Stock Marketings*

After the outbreak of war in 1939, there was a great increase in the demand for live stock and live-stock products in the form of meats, dairy products, poultry and eggs. These products were not only required in greater volume during the war years to meet the needs of the United Kingdom and her allies, but also to meet the demand in Canada which had expanded sharply as a result of greater purchasing power in the hands of the consumers. In the first full post-war year, declines occurred in commercial marketings of all classes of live stock compared with the previous year. Marketings of hogs in particular showed a sharp drop of 1,400,000 head. Cattle, calves, sheep and lambs, though they fell below the record high levels of 1945, showed comparatively minor declines.

Cattle marketed in Canada in 1946 numbered 1,900,768, as compared with 2,024,025 in 1945. Marketings of calves totalled 795,331 as compared with 830,346 in 1945. Marketings of hogs through commercial channels in 1946 totalled 4,465,260 as compared with 5,867,276 in 1945. Marketings of sheep and lambs were 1,162,786 in 1946 as compared with 1,254,672 in 1945.

The interprovincial and export movement of all classes of live stock in 1946 showed decreases from the previous year. Total shipments in 1946 with figures for 1945, in parentheses, were as follows: cattle 733,403 (742,245); calves 229,536 (247,919); hogs 769,800 (1,094,086); and sheep 372,176 (426,288).

* Revised in the Agriculture Division, Dominion Bureau of Statistics. For more detailed information on this subject, see "Live Stock and Animal Products Statistics", published annually by the Dominion Bureau of Statistics; and the "Annual Market Review", published by the Live Stock Branch of the Dominion Department of Agriculture. Statistics of live stock and poultry are given at pp. 365-370 of this volume.

6.—Live Stock Marketed at Stockyards, Packing Plants and Direct for Export, by Provinces, 1946

Live Stock	Maritime Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
	No.	No.	No.	No.	No.	No.	No.	No.
Cattle—								
Totals to stockyards	1,770	44,131	310,326	144,486	354,310	298,884	12,422	1,166,329
Direct to packers	16,123	28,362	165,769	82,878	127,014	194,736	45,769	660,651
Direct for export	4,107	13,824	54,811	64	81	517	384	73,788
Totals, Cattle	**22,000**	**86,317**	**530,906**	**227,428**	**481,405**	**494,137**	**58,575**	**1,900,768**
Calves—								
Totals to stockyards	13,929	115,589	148,665	41,373	77,602	38,050	1,316	436,524
Direct to packers	21,194	109,036	85,858	49,632	24,250	62,449	3,726	356,145
Direct for export	243	138	2,228	Nil	6	14	33	2,662
Totals, Calves	**35,366**	**224,763**	**236,751**	**91,005**	**101,858**	**100,513**	**5,075**	**795,331**

6.—Live Stock Marketed at Stockyards, Packing Plants and Direct for Export, by Provinces, 1946—concluded

Live Stock	Maritime Provinces	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
	No.	No.	No.	No.	No.	No.	No.	No.
Hogs—								
Totals to stockyards	590	108,013	232,764	49,101	57,266	154,035	664	602,433
Direct to packers	80,765	370,309	1,536,673	296,128	456,510	1,096,567	21,351	3,858,303
Direct for export	3,151	101	1,016	139	52	65	Nil	4,524
Totals, Hogs	**84,506**	**478,423**	**1,770,453**	**345,368**	**513,828**	**1,250,667**	**22,015**	**4,465,260**
Sheep and Lambs—								
Totals to stockyards	4,642	94,758	151,098	41,635	98,760	83,515	5,082	479,490
Direct to packers	60,423	119,565	131,753	79,846	43,176	214,574	29,612	678,949
Direct for export	133	19	2,375	157	17	1,475	171	4,347
Totals, Sheep and Lambs	**65,198**	**214,342**	**285,226**	**121,638**	**141,953**	**299,564**	**34,865**	**1,162,786**
Store cattle purchased	84	2,078	93,454	8,263	9,443	69,461	2,427	185,210

7.—Grades of Live Stock Marketed at Stockyards and Packing Plants, 1942-46

Live Stock	1942	1943	1944	1945	1946
	No.	No.	No.	No.	No.
Cattle—					
Steers up to 1,050 lb.—					
Choice	14,711	17,752	25,263	32,871	38,628
Good	86,690	90,000	96,092	116,206	121,993
Medium	76,635	81,891	116,780	163,797	158,124
Common	30,948	44,525	81,954	125,821	93,502
Steers over 1,050 lb.—					
Choice	38,225	63,559	61,865	68,970	75,379
Good	51,084	70,206	85,750	94,285	83,041
Medium	19,912	31,349	53,011	50,322	32,508
Common	3,503	5,771	15,332	10,888	5,402
Heifers—					
Choice	12,147	12,316	14,934	20,655	32,271
Good	68,900	58,485	66,874	96,255	116,834
Medium	57,994	55,622	81,924	115,242	103,622
Common	28,690	33,922	59,125	93,407	70,048
Fed Calves—					
Choice	27,513	18,928	18,510	25,813	23,809
Good	44,118	35,252	34,238	42,276	43,810
Medium	43,468	25,951	32,177	44,908	57,464
Cows—					
Good	93,736	79,358	110,936	157,082	161,250
Medium	98,471	88,722	99,932	151,046	141,510
Common	73,674	69,394	81,480	118,577	106,182
Canners and cutters	82,580	85,902	120,199	165.464	118,953
Bulls—					
Good	26,971	22,914	22,639	34,910	35,911
Common	37,509	40,643	50,194	56,524	47,052
Stocker and Feeder Steers—					
Good	67,047	54,988	52,221	60,726	64,854
Common	60,827	66,256	58,115	59,824	46,772
Stock Cows and Heifers—					
Good	12,350	10,842	11,528	12,450	12,261
Common	6,145	9,173	12,017	14,343	10,769
Milkers and springers	10,885	9,440	7,527	8,486	8,310
Unclassified	22,533	12,312	14,488	20,259	16,721
Totals, Cattle	**1,197,266**	**1,195,473**	**1,485,105**	**1,961,407**	**1,826,980**

7.—Grades of Live Stock Marketed at Stockyards and Packing Plants, 1942-46—concluded

Live Stock	1942	1943	1944	1945	1946
	No.	No.	No.	No.	No.
Calves—					
Veal—					
Good and choice	236,945	176,241	180,877	233,741	226,423
Common and medium	420,439	378,339	445,295	529,265	510,612
Grass	106,031	86,121	73,032	64,007	55,634
Totals, Calves	**763,415**	**640,701**	**699,204**	**827,013**	**792,669**
Hog Carcasses—					
"A"	1,863,491	1,997,226	2,506,115	1,882,513	1,447,117
"B"	3,428,636	3,743,893	4,799,573	3,076,057	2,317,687
"C"	308,761	342,445	594,824	299,754	206,854
"D"	18,715	17,760	37,815	21,180	15,872
"E"	70,901	82,555	81,011	58,312	46,190
Heavies	197,722	340,463	195,865	107,231	84,741
Extra heavies	55,957	127,244	112,148	85,326	70,171
Lights	17,636	35,589	93,657	61,205	44,724
Sows	266,344	462,246	442,170	269,495	227,380
Totals, Hog Carcasses	**6,228,163**	**7,149,421**	**8,863,178**	**5,861,073**	**4,460,736**
Lambs and Sheep Graded Alive—					
Lambs—					
Good handyweights	568,726	553,751	596,275	679,080	671,848
Good heavies	14,428	17,608	15,687	19,209	31,372
Common, all weights	96,238	113,895	207,036	193,499	135,807
Bucks	52,462	52,332	63,309	54,123	51,825
Sheep—					
Good heavies	16,725	26,207	19,801	35,153	39,316
Good handyweights	44,479	68,081	42,685	116,562	125,587
Common	27,095	44,517	40,365	57,544	59,821
Unclassified	8,940	8,239	5,240	15,546	11,125
Totals, Lambs and Sheep	**829,093**	**884,630**	**990,398**	**1,170,716**	**1,126,701**
Lamb and Sheep Carcasses—[1]					
Lambs—					
"A"	–	–	4,650	10,884	16,276
"B"	–	–	2,880	5,222	7,295
"C"	–	–	1,836	2,021	2,614
"D"	–	–	425	355	507
Sheep	–	–	1,471	2,044	5,046
Totals, Lamb and Sheep Carcasses	–	–	**11,262**	**20,526**	**31,738**

[1] First graded as such in 1944.

Section 3.—Warehousing and Cold Storage*

Among the means by which the utilities of 'place', 'time' and 'possession' are added to the products of industry, warehousing ranks high. Its importance has been emphasized in modern times because of the introduction of cold-storage methods to the conservation of perishable foods. Moreover, its significance was enhanced by the emergencies of war that necessitated the rationing of scarce essential commodities. Such rationing policies were necessarily based on available supplies of goods and, since these were known only from the records of stocks in process of manufacture and in warehouses, statistics of warehousing became basic to distribution and rationing procedures.

* The material in this Section was supplied by various Divisions of the Departments of Agriculture, Fisheries, Mines and Resources, and National Revenue as well as of the Dominion Bureau of Statistics.

The great difficulty in presenting warehousing statistics lies in the fact that it is not an easy matter to define clearly what are to be regarded as stocks in storage. In these days of complicated business relationships and especially since the rise of the department store and chain store as characteristic institutions in the retail merchandising field, it often happens that warehousing is carried on in close relationship to merchandising. However, if the strict economic definition of warehousing is adopted then this term should be restricted to those facilities that add the utilities of 'time' to the 'form' utilities that are the product of the extraction and manufacturing industries. Since the warehouses established in close connection with retail trade are more often than not convenient places for the temporary storage of goods in process of transfer from the manufacturer or wholesaler to the consumer, then they are not perhaps in the strict economic sense services which add the utility of 'time' to commodities already worked up into 'form'. At least, since some clear line must be drawn and because separate statistics of this branch of storage are not available, it is considered practicable to restrict the definition of warehousing as here used.

This Section as it appears in the current Year Book does not attempt to go much further than to draw together under one general heading statistics that have appeared piecemeal in former editions. The purpose is to develop the statistics of warehousing and gradually build up an improved and more co-ordinated series of data. Subsection 1 presents statistics of the licensed storage of grain. Subsection 2 deals with cold-storage facilities without which perishable foods such as meats, dairy products, fish and fruits could not be exchanged or distributed on a wide scale; it includes also figures of stocks of food on hand. Subsection 3 deals with the storage of petroleum and its products and Subsection 4 with public warehouses and customs warehouses. The facilities that specialize in the storage of tobacco and alcoholic liquors are analyzed in Subsection 5. These bonded warehouses, as they are called, are under the strict surveillance of Government excise officers who supervise all movements into and from such places of storage.

Subsection 1.—Licensed Grain Storage

At Dec. 1, 1947, total licensed grain storage in Canada stood at 482,000,000 bu., having declined 13,000,000 bu. from the level of Dec. 1, 1946. Since 1943, licensed grain storage capacity has dropped off considerably, largely as a result of the dismantling of temporary storage erected to handle the huge stocks of grain accumulated in the early years of the War. At Dec. 1, 1943, licensed grain storage capacity had reached an all-time high of 603,000,000 bu.

With Canadian grains in great demand both on the domestic and export markets the percentage of capacity occupied is currently quite low. Even in November, which is normally a peak storage month, the capacity occupied in both 1946 and 1947 stood at only 39 p.c. On Dec. 3, 1942, when both stocks in store and storage capacity were at near record levels, the licensed capacity occupied was just under 80 p.c.

At July 31, 1947, the end of the Canadian crop year, only 14 p.c. of licensed capacity was occupied. With this situation existing at the beginning of the next crop year and taking into consideration the below-average crop harvested in 1947, ample storage space was generally available in all positions during the 1947-48 crop year.

Additional information on the distribution, storage and inspection of the principal field crops will be found in Section 1, Subsection 2 of this Chapter.

8.—Licensed Grain Storage Capacity and Grain in Store, 1946-48

NOTE.—These figures are lower than those shown in Table 10, p. 364, for the reason that they do not include stocks in transit or in eastern mills.

Storage	Capacity Dec. 1, 1946	Grain in Store July 31, 1946	Capacity Occupied	Grain in Store Nov. 28, 1946	Capacity Occupied	Grain in Store Mar. 27, 1947	Capacity Occupied
	'000,000 bu.	'000 bu.	p.c.	'000 bu.	p.c.	'000 bu.	p.c.
Western country elevators....	268	20,086	7·5	113,956	42·5	88,313	33·0
Interior, private and mill.....	18	6,924	38·5	7,759	43·1	7,082	39·3
Interior terminals.....	21	2,045	9·7	2,565	12·2	1,339	6·4
Pacific Coast.....	17	4,333	25·5	10,025	59·0	4,394	25·8
Fort William-Port Arthur....	88	9,331	10·6	30,515	34·7	33,128	37·6
Bay ports, Goderich and Sarnia.....	34	10,708	31·5	15,307	45·0	8,569	25·2
Lower lake ports.....	19	5,668	29·8	9,047	47·6	5,149	27·1
St. Lawrence ports.....	25	5,667	22·7	2,657	10·6	1,338	5·4
Maritime ports.....	5	80	1·6	211	4·2	1,192	23·8
Totals.....	**495**	**64,842**	**13·1**	**192,042**	**38·8**	**150,504**	**30·4**
	Capacity Dec. 1, 1947	Grain in Store July 31, 1947	Capacity Occupied	Grain in Store Nov. 27, 1947	Capacity Occupied	Grain in Store Mar. 31, 1948	Capacity Occupied
	'000.000 bu.	'000 bu.	p.c.	'000 bu.	p.c.	'000 bu.	p.c.
Western country elevators....	265	24,813	9·4	114,234	43·1	51,218	19·3
Interior, private and mill.....	20	8,496	42·5	8,325	41·6	6,868	34·3
Interior terminals.....	21	633	3·0	2,366	11·3	3,512	16·7
Pacific Coast.....	17	4,831	28·4	3,740	22·0	7,616	44·8
Fort William-Port Arthur....	76	9,766	12·9	28,134	37·0	39,491	52·0
Bay ports, Goderich and Sarnia.....	34	12,044	35·4	18,439	54·2	10,724	31·5
Lower lake ports.....	19	4,964	26·1	8,830	46·5	5,487	28·9
St. Lawrence ports.....	25	2,318	9·3	3,889	15·6	2,306	9·2
Maritime ports.....	5	54	1·1	797	15·9	3,513	70·2
Totals.....	**482**	**67,919**	**14·1**	**188,754**	**39·2**	**130,735**	**27·1**

Subsection 2.—Cold Storage and the Storage of Foods

Cold-Storage Warehouses.—Under the Cold Storage Act, 1907 (6-7 Edw. VII, c. 6; now consolidated as R.S.C., 1927, c. 25), subsidies have been granted by the Federal Government to encourage the construction and equipment of cold-storage warehouses open to the public: the Act and regulations made thereunder are administered by the Department of Agriculture.

There are nine classifications of cold-storage warehouses in Canada: (1) Public Warehouses which store foods and food products and of which the entire space is open to the public; (2) Semi-Public, or those which store foods and food products and which, while retaining part of the space for the products of the owner, allot the remainder to the public; (3) Private, or those which store foods and food products and allot no space to the public; (4) Creamery, which are used only for storing butter made in the creamery; (5) Creamery Locker having refrigerated space for their own butter and, in addition, lockers for rental to the public; (6) Cheese Factory, used only for storing cheese made in the factory; (7) Cheese Factory Locker, or those which have refrigerated space for their own cheese and, in addition, have lockers for rental to the public; (8) Locker, where the total space is occupied by lockers for rental to the public and which may, in addition, cut, process, chill and

freeze foods or food products for storage in lockers; and (9) Grading Station having refrigerated space used solely or principally for assembling cheese for grading purposes.

No hard and fast rule can be laid down for distinguishing between public and private warehouses. As a general rule, those owned and operated by firms trading in the goods stored in the warehouses are designated "private", though most of these places rent space to the public when it is not required for their own purposes.

9.—Cold-Storage Warehouses, by Provinces, 1947[1]

Province	Subsidized Public Warehouses				All Warehouses	
	Number	Refrigerated Space	Cost	Total Subsidy	Number	Refrigerated Space
		cu. ft.	$	$		cu. ft.
Prince Edward Island	6	264,666	134,101	39,774	12	144,207
Nova Scotia	13	3,088,542	3,057,875	908,082	49	4,163,176
New Brunswick	5	1,291,464	584,807	175,442	38	1,851,612
Quebec	14	584,331	668,699	200,609	148	11,769,033
Ontario	44	6,367,445	3,529,028	1,052,684	499	25,332,861
Manitoba	5	2,074,821	1,435,310	430,593	108	8,246,794
Saskatchewan	4	437,596	268,707	80,612	137	3,277,791
Alberta	4	587,993	455,105	136,531	112	6,211,206
British Columbia	50	15,412,790	4,416,124	1,324,837	113	23,124,160
Totals	**145**	**30,109,648**	**14,549,756**	**4,349,166**	**1,216**	**84,120,840**

[1] The figures for 1946 are not available.

10.—Storage and Refrigerated Space, by Economic Areas, as at June 30, 1947

Class of Storage	Maritime Provinces	Quebec	Ontario	Prairie Provinces	British Columbia	Total
Public—[1]						
Warehouses..... No.	37	39	167	33	78	354
Refrigerated Space—						
Freezer.....cu. ft.	2,148,721	3,191,999	4,999,675	4,443,053	3,444,383	18,227,831
Cooler..... "	2,980,017	5,311,155	10,868,430	2,014,637	18,386,824	39,561,063
Locker..... "	18,022	9,802	651,273	140,738	241,244	1,061,079
Private—						
Warehouses..... No.	62	109	169	110	25	475
Refrigerated Space—						
Freezer.....cu. ft.	822,259	808,001	1,780,750	2,563,135	344,255	6,318,400
Cooler..... "	188,766	2,448,076	5,838,573	6,727,894	632,136	15,835,445
Locker..... "	1,210	Nil	Nil	Nil	Nil	1,210
Locker—						
Warehouses..... No.	Nil	Nil	95	140	10	245
Refrigerated Space—						
Freezer.....cu. ft.	–	–	111,623	351,768	3,600	466,991
Cooler..... "	–	–	43,963	244,605	6,520	295,088
Locker..... "	–	–	404,992	630,590	65,198	1,100,780
Creamery—[2]						
Warehouses..... No.	Nil	Nil	62	74	Nil	136
Refrigerated Space—						
Freezer.....cu. ft.	–	–	277,022	226,680	–	503,702
Cooler..... "	–	–	115,383	353,888	–	469,271
Locker..... "	–	–	142,619	38,803	–	181,422
Cheese Factory—[3]						
Warehouses..... No.	Nil	Nil	6	Nil	Nil	6
Refrigerated Space—						
Freezer.....cu. ft.	–	–	Nil	–	–	–
Cooler..... "	–	–	98,558	–	–	98,558
Locker..... "	–	–	Nil	–	–	–
Totals, Warehouses.. No.	**99**	**148**	**499**	**357**	**113**	**1,216**
Totals, Refrigerated Space.....cu. ft.	**6,158,995**	**11,769,033**	**25,332,861**	**17,735,791**	**23,124,160**	**84,120,840**

[1] Includes semi-public. [2] Includes creamery locker warehouses. [3] Includes cheese factory locker warehouses and grading stations.

11.—Stocks of Food Commodities on Hand in Cold-Storage and Other Warehouses and in Dairy Factories, 1947

NOTE.—Total stocks include imported and in-transit stocks.

Item		As at Jan. 1	Minimum During Year	Date at which Minimum Occurred	Maximum During Year	Date at which Maximum Occurred	Average 12 Months
Butter (creamery, dairy and whey)—							
In storage	'000 lb.	43,855	10,334	May 1	73,015	Oct. 1	42,996
Total stock	"	44,279	11,327	May 1	73,680	Oct. 1	43,813
Cheese (factory)—							
In storage	"	25,486	18,770	Apr. 1	55,928	Sept. 1	34,248
Total stock	"	25,678	18,953	Apr. 1	56,669	Sept. 1	34,666
Evaporated Whole Milk—							
Total stock	"	17,077	6,460	Dec. 1	26,595	June 1	16,244
Skim-Milk Powder—							
Total stock	"	2,694	1,926	Mar. 1	9,873	Oct. 1	5,699
Eggs, Shell—							
In storage	'000 doz.	2,276	2,144	Feb. 1	28,709	Aug. 1	13,048
Total stock	"	4,454	3,511	Dec. 1	29,267	Aug. 1	14,893
Eggs, Frozen—							
In storage	'000 lb.	5,446	3,695	Mar. 1	16,463	Sept. 1	10,384
Poultry (dressed)—							
In storage	"	31,055	11,735	June 1	31,055	Jan. 1	19,577
Total stock	"	31,198	11,847	June 1	31,198	Jan. 1	19,814
Pork, Fresh—							
In storage	"	3,555	3,233	Sept. 1	9,252	Nov. 1	5,085
Pork, Frozen—							
In storage	"	21,041	12,425	Nov. 1	33,636	June 1	22,527
Total stock	"	21,071	12,472	Nov. 1	33,934	June 1	22,699
Pork, Cured and in Cure—							
In storage	"	14,078	14,078	Jan. 1	27,609	Dec. 1	17,945
Lard—							
In storage	"	1,459	1,221	Mar. 1	2,768	Aug. 1	1,832
Beef, Fresh—							
In storage	"	5,728	2,624	Oct. 1	13,736	Dec. 1	6,235
Beef, Frozen—							
In storage	"	20,659	5,169	Nov. 1	21,082	Dec. 1	9,940
Total stock	"	20,659	5,169	Nov. 1	21,082	Dec. 1	10,069
Beef, Cured, etc.—							
In storage	"	1,212	522	Nov. 1	1,452	June 1	1,144
Veal—							
In storage	"	3,438	1,156	Apr. 1	7,758	Dec. 1	4,236
Mutton and Lamb—							
In storage	"	7,072	1,422	July 1	7,987	Dec. 1	3,441
Fish, Frozen Fresh—							
In storage	"	38,771	20,916	May 1	46,294	Sept. 1	34,924
Fish, Frozen Smoked—							
In storage	"	2,991	1,451	Apr. 1	4,740	Sept. 1	3,011
Fruit—							
Apples (fresh)—							
In storage	'000 bu.	4,466	14	Aug. 1	6,546	Dec. 1	1,344
Total stock	"	4,466	20	Aug. 1	6,546	Dec. 1	1,352
Frozen Fruit—							
In storage	'000 lb.	12,119	6,042	June 1	16,924	Nov. 1	12,271
In Preservation—							
In storage	"	17,972	12,097	June 1	22,167	Nov. 1	17,857
Potatoes—							
In storage	'000 tons	467	2	Sept. 1	550	Dec. 1	191

Cold Storage of Meat.—Figures of meat in cold-storage and other warehouses in 1947 are given in Table **11**. The only product stored by the Meat Board of the Department of Agriculture consists of 'wiltshire' pork sides. This commodity is held for the purpose of evening out the export of bacon to the United Kingdom during the summer months when market deliveries of hogs are low. From late June to the end of September the sides are withdrawn as required from freezers, usually maintained at approximately 8°F., and defrosted and cured for shipment. Exporting packers make their own arrangements for storage space. Table **12** shows the proportion of 'wiltshire' pork sides stored in public warehouses and the quantities brought in from outside points.

12.—Fresh Wiltshire Pork Sides in Storage as at Apr. 3, 1948

Storage Point	In Storage in all Warehouses	In Storage in Public Warehouses	Storage Point	In Storage in all Warehouses	In Storage in Public Warehouses
	lb.	lb.		lb.	lb.
Edmonton	4,770,025	2,109,644	Kitchener	196,434	Nil
Moose Jaw	237,819	237,819	Brantford	340,915	340,915
Calgary	2,413,182	Nil	St. Marys	94,692	94,692
Regina	133,024	133,024	Ottawa	146,933	146,933
Prince Albert	739,399	497,871	Hull	88,300	Nil
Saskatoon	202,504	202,504	Montreal	3,903,868	3,835,842
Winnipeg	5,958,451	5,958,451	Quebec	535,691	535,691
Toronto	2,821,386	2,821,386	Moncton	294,283	294,283
Trenton	244,455	244,455			
London	44,805	14,974	**Totals**	**23,380,620**	**17,671,938**
Hamilton	214,454	203,454			

Cold Storage of Fish.—Cold-storage holdings of fish averaged something more than 35,200,000 lb. monthly during the two years, 1946 and 1947. The 1947 stocks ran several million pounds above the 1946 level. As of Jan. 1, 1948, the stocks were 40,800,000 lb., somewhat though not greatly below the total at the beginning of the preceding year. Substantial fluctuations in the warehouse figures are the common condition. As a general thing, the quantities being held are larger in the later months of the year than at other seasons.

The great bulk of the fish in cold storage consists of frozen fresh fish (including some relatively small quantities of two or three kinds of shellfish) but there are also substantial supplies of smoked fish products. For instance, the smoked fish average for Jan. 1 in the three years 1946-48 was approximately 2,900,000 lb. Nearly all of the smoked-fish and frozen fresh stocks come from sea fisheries the most important being cod, haddock, halibut, herring and salmon. However, the frozen fresh-fish classification also includes large quantities of such species as whitefish and lake trout from the inland or fresh-water catch.

On both coasts various firms and individuals engaged in producing and marketing fish operate freezing plants which also include cold-storage chambers or warehouses. All the larger companies, at least, have both freezing and cold-storage facilities, very often at several plants. In both coastal areas there are also public or other warehouses which handle fish as part of their general cold-storage business. In the inland sections of the country there are plants concerned mainly with freezing and holding fish but for the most part cold-storage fish stocks, whether of local production or from outside, are handled by general warehousing companies.

Freezing and cold-storage facilities vary considerably both in poundage capacity and in temperature maintenance. For freezing purposes some develop temperatures of −40°F. or less while others operate at 0° or −5° or −10°F. For storage purposes, extremely low temperatures are not necessary. In some cases zero or lower may be the level and in other cases it may be anything up to 10° or 15°F. above zero. Federal fisheries technologists advise that in holding frozen fresh fish the temperature should not be higher than about −10°F. Smoked fish, though perishable, does not require such low holding temperatures as frozen fresh.

Cold Storage of Dairy Products.—Cold-storage facilities are a necessary adjunct in the manufacture of dairy products since most of them are perishable to a varying degree.

All creameries have facilities for the storing of butter, the size and type of storage depending on the size of the creamery. Small country plants may have storage capacity for only fifty or one hundred boxes of butter with refrigeration capable of bringing the temperature down to around 20°F. These rooms are used mostly for the chilling of butter for printing. If the butter is not printed for immediate sale, the butter solids are disposed of or transported to central cold storages or larger creameries with better refrigeration facilities. Butter stored for a long holding period is usually carried at a temperature of −10°F. Larger creameries may have such storage facilities adequate to store several carloads of butter or the butter may be transported to private or public cold storages in the larger urban centres.

In the case of cheese, temperature control is important in the curing process as well as in the prevention of deterioration. Most cheese factories are equipped with mechanical refrigeration and are required to have storage capacity for the production of 17 days during the period of maximum manufacture. The cheese is then transferred to central warehouses. Under the legislation administered by the Food and Drugs Act all unpasteurized cheese must be aged for 90 days before sale for consumption. During the first ten days following manufacture, the period when the cheese is maturing, the storage of the cheese must be at not less than 58°F. and during the remainder of the 90-day period at a temperature of not less than 45°F. For the holding period beyond 90 days the temperature is lowered to just above freezing point, especially if the cheese is to be held for a year or more.

Cold storages are essential in the ice-cream industry as the freezing of this product is part of the manufacturing process. Ice-cream hardening rooms are usually held at a temperature of −20° to −30°F.

Because of the perishable nature of milk the market milk industry must have cold storage too. As soon as the milk is bottled, it is placed in storage at a temperature of about 40°F. and held until the next day when it is delivered. Dry whole milk and other dried milk products containing fat are usually stored in cool air chambers to prevent rancidity, the temperature depending on the length of storage period.

Cold Storage of Other Foods.—During the years 1943-47 the holdings of apples in Canada at the beginning of the storage season on Dec. 1 averaged 53 p.c. cold and 47 p.c. common storage. Except in British Columbia, cold-storage space is inadequate to take care of the entire crop and consequently a large proportion of the production in Eastern Canada, particularly in Nova Scotia, is held in common storage. In pre-war years the bulk of the crop was exported to the United Kingdom and other markets early in the season but the sharp restrictions

in export outlets in recent years have necessitated longer storage and, although new buildings are being constructed, the space available in Eastern Canada is still insufficient. The temperatures at which apples are held vary somewhat by varieties but are generally in the neighbourhood of 30° to 32°F.

Potatoes are generally held at production points and shipped out as needed throughout the season. While warehouse storage is quite common in parts of the Maritimes where commercial production is centred, most of the crop is stored in frost-proof cellars and pits.

Subsection 3.—Storage of Petroleum and Petroleum Products

The storage facilities for petroleum and petroleum products in Canada consist of welded or bolted steel tankage located principally at refining and producing centres or at main distributing points. These centres are at or near Halifax, Quebec, Montreal, Toronto, Ottawa, Sarnia, Fort William, Regina, Calgary, Turner Valley, Edmonton and Vancouver. The loss through evaporation varies widely with the type of product being stored, the average atmospheric temperature, and the physical features of the storage tanks, some of which have special mechanical devices to minimize the loss. The use of aluminum paint on the outside of the tanks is of material aid in this direction.

The usual procedure is for the refining company to establish bulk storage plants at convenient distributing centres usually on a water-front so that full advantage can be taken of the lower cost of water-borne traffic. From these centres the goods are distributed to smaller distributing depots or directly to retail outlets by rail or by motor-tank truck. While pipe lines are not used to any appreciable extent in Canada for transporting finished petroleum products, they are used for the transportation of crude petroleum to the Montreal, Sarnia, Calgary and Edmonton areas.

13.—Inventories of Petroleum and Petroleum Products, by Products, Quarterly, Jan. 1, 1947 to Jan. 1, 1948

Product	Jan .1, 1947	Apr. 1, 1947	July 1, 1947	Oct. 1, 1947	Jan. 1, 1948
	REFINERY INVENTORIES				
	gal.	gal.	gal.	gal.	gal.
Crude oil	4,140,911	2,954,533	4,126,624	4,281,083	4,078,981
Naphtha specialties	101,738	94,175	109,909	105,619	106,779
Aviation gasoline	145,249	142,689	179,543	178,972	177,363
Motor gasoline	3,754,386	6,325,665	4,167,656	2,795,483	2,751,778
Tractor distillate	194,472	241,225	216,263	157,308	112,323
Kerosene and stove oil	430,063	406,112	802,696	1,674,149	1,550,944
Light fuel oil	1,276,053	712,454	1,523,459	3,083,539	2,399,507
Heavy fuel oil	2,067,073	1,793,950	1,840,213	2,017,847	1,780,705
Asphalt	339,665	454,949	506,518	334,955	510,394
Coke (petroleum)	41,594	56,521	32,327	41,525	25,331
Lubricating oil	167,932	193,269	153,233	146,922	153,103
Grease	5,403	5,669	5,869	6,042	5,735
Wax and candles	14,742	14,127	17,818	16,227	17,393
	MARKETING INVENTORIES[1]				
	gal.	gal.	gal.	gal.	gal.
Naphtha specialties	64,138	60,173	61,204	62,965	64,057
Aviation gasoline	73,540	72,768	81,334	79,640	104,975
Motor gasoline	3,686,130	2,401,998	3,404,046	3,451,050	3,832,932
Tractor distillate	145,372	164,330	192,002	169,905	129,588
Kerosene and stove oil	361,607	306,484	333,489	517,621	737,283
Light fuel oil	1,234,009	741,232	1,163,026	2,037,587	2,133,050
Heavy fuel oil	864,677	492,356	472,432	1,018,220	824,206
Asphalt	8,063	10,904	60,870	42,900	12,092
Coke (petroleum)	8,128	4,955	5,693	7,895	5,224
Lubricating oil	421,365	453,604	430,753	430,331	435,682
Grease	63,954	73,943	70,654	70,505	75,794
Wax and candles	2,274	2,526	2,699	2,087	2,161

[1] Amounts held by wholesale distributors; no record is available of amounts held by retail outlets.

Subsection 4.—General Warehousing

Public Warehouses.—The Dominion Bureau of Statistics has recently undertaken a study of public warehousing. In 1944 the number of reporting companies was 133, a figure that increased to 141 in 1945 but fell off to 137 in 1946. Warehousing undertaken by co-operatives, packing houses and other businesses operating storage facilities in connection with their own business were not included. Many companies deriving more revenue from a carrier business than from warehousing were not covered. Table **14** was prepared for 127 firms that reported both for 1945 and 1946 to show the trend in the industry.

14.—Summary Statistics of 127 Public Warehousing Firms Reporting in 1945 and 1946

Item	1945	1946	Item	1945	1946
Total revenue..... $	14,459,283	14,636,416	Wages, regular..... $	4,222,747	4,450,726
Total operating expenses. $	12,598,089	12,638,052	Wages, casual..... $	349,919	350,402
Net operating revenue.. $	1,861,194	1,998,364	Salaried employees....No	942	970
Net income..... $	963,014	1,000,490	Salaries..... $	1,632,277	1,769,788
Employees, regular....No.	3,226	2,985	Total salaries and wages. $	6,204,943	6,570,916
Employees, casual..... "	754	422			

The net occupiable space for household goods reported by 137 companies in 1946 was 1,792,715 sq. ft. or 33·7 p.c. of the total dry storage space. Cold storage space for the same 137 companies amounted to 14,282,285 cu. ft.

Customs Warehouses.—Warehouses for the storage of imported goods are known as customs warehouses. These are divided into nine classes as follows: (1) those occupied by the Government of Canada, some of which are used for examination and appraisal of imported goods while others, known as King's Warehouses, are used for the storage of unclaimed, abandoned, seized or forfeited goods. (2) warehouses, consisting of an entire building or part thereof, properly separated from the rest of the building by a partition, which are used exclusively for the storage of imported goods consigned to the proprietor of the building. (3) buildings or parts of buildings properly partitioned off, used for the storage of imported goods consigned to the proprietor or others or for the storage of unclaimed or seized goods. (4) sufferance warehouses operated by the owners of vessels for the storage of in-bond goods transported by water or air.* (5) the yards, sheds and buildings intended for the storage of imported coal and coke. (6) farms, yards, sheds, etc., which an importer of horses or sheep intends to use for the feeding and pasturing of imported animals other than pure-bred mares. (7) warehouses for the storage of animals, including horses for racing, and articles for exhibition or for competition for prizes. (8) warehouses for clover seed imported for the purpose of being recleaned and prepared for a foreign market. (9) the yards, sheds, etc., which importers intend to use for the storage of goods too heavy or too bulky to be admitted to an established customs warehouse.

Subsection 5.—Bonded Warehousing and Storage of Wines

The Excise Duty Branch of the Department of National Revenue considers any premises licensed by its officers to be a warehouse, whether for storage of raw materials to produce finished tobacco or cigar products or for spirits, or malt and

* Railways and express companies have similar facilities.

its by-products. Practically the total production of spirits is placed in bonded warehouses while only a small part of the output of beer is retained in storage. Wine, unlike spirits and beer, is not secured under bond. All imports of alcoholic beverages must go through bonded warehouses before being released to Provincial Liquor Commissions or other agencies licensed by the Commissions to take alcoholic beverages out of bond. Similarly, tobacco, cigars and cigarettes are secured in bond. The conditions under which spirits, beer and tobacco are stored are described in the following paragraphs.

Spirits.—There are three types of storage in distilleries. The first consists of metal tanks in bonded warehouses of from 15,000 to 40,000 gal. capacity, which are mainly used for the storage of alcohol or other high-proof spirits. The second type are rack warehouses of solid brick or cement in which 8,000 to 30,000 bbl. are stored on racks in tiers of four to five barrels high. The third type consists of bonded warehouse buildings in which casks and barrels of odd dimensions are stored on the floor, and to some extent, on skidways on top of the first row.

The tank warehouses are generally not heated. In most of the rack warehouses the heat is kept at a constant temperature and the humidity at a specific degree. The warehouse for barrels in tiers may or may not be heated. Many of these barrels are 100 gal. capacity and heating the warehouses would not appear to affect this size of cask.

There are also other bonded warehouses for the storage of alcohol to be used at a low rate of duty in the production of pharmaceuticals and perfume.

Beer.—After beer is produced it is run to storage tanks some of which are of metal and glass-lined while others are of wood. No constant degree of heat or humidity is necessary in a brewery warehouse, except in the storage of lager beer when the temperature is kept below the freezing point. Malt and malt syrup are also controlled under bond. Malt is stored in bins of wood or cement; these are Crown locked, as all malt in Canada, at present, is dutiable except when otherwise provided by the Excise Act. Similarly, malt syrup is dutiable except when otherwise provided. It is generally packed in drums of 25 lb. and upwards, and its use and distribution are controlled; in the manufacturer's premises it is held under Crown lock.

Tobacco.—Raw leaf tobacco when cured is, in the main, pressed in wooden hogsheads of 1,100 or 1,200 lb. weight. After shipment to the manufacturer it is stored in bond, since it becomes dutiable upon entrance to the manufacturer's premises and also after manufacture into cigars, cigarettes, smoking tobacco, etc. The field warehouses, where the tobacco is stored after curing, are not secured with Crown locks but shipment and sale by permit are regulated. Cigar leaf-tobacco is generally sold in cases so as not to injure the delicate leaf. The type used for fillers is packed in jute. After treatment by the packer it also is placed under Crown lock when received by the manufacturer.

Statistics of Spirits, Tobacco and Malt.—Table **15** shows the quantities of distilled liquor, tobacco, cigars and cigarettes placed in bond in recent years. The yearly inventory of breweries shows an increase of bulk gallonage of beer in stock from 9,358,000 in 1945 to 10,304,000 in 1946 and of bottled gallonage from 5,558,000 in 1945 to 5,944,000 in 1946.

15.—Distilled Liquor, Tobacco, Cigars and Cigarettes in Bond, Quarterly, 1943-48

Year	March	June	September	December
	DISTILLED LIQUOR			
1943.....'000 pf. gal.	39,380	38,723	36,259	36,372
1944..... "	36,121	36,393	36,511	39,436
1945..... "	35,821	43,215	45,429	48,463
1946..... "	52,141	52,806	52,900	53,605
1947..... "	55,591	59,459	59,465	62,754
1948..... "	66,582	68,764	–	–
	TOBACCO—UNMANUFACTURED			
1943..... '000 lb.	146,829	128,476	111,636	102,143
1944..... "	129,870	110,533	92,683	77,824
1945..... "	117,013	112,260	91,780	97,941
1946..... "	122,542	111,671	91,815	96,424
1947..... "	152,304	136,336	116,014	112,262
1948..... "	152,884	137,828	–	–
	TOBACCO—MANUFACTURED			
1943..... '000 lb.	9	16	10	3
1944..... "	2	16	12	3
1945..... "	8	8	4	3
1946..... "	14	3	2	1
1947..... "	8	3	1	2
1948..... "	5	3	–	–
	CIGARS			
1943..... '000 lb.	1,230	971	491	69
1944..... "	260	88	55	93
1945..... "	22	174	22	14
1946..... "	30	572	34	15
1947..... "	335	418	437	681
1948..... "	1,513	2,760	–	–
	CIGARETTES AT 3 LB. OR UNDER			
1943..... '000 lb.	40,117	29,755	40,324	29,767
1944..... "	102,833	70,948	97,406	57,567
1945..... "	67,812	62,874	72,697	65,747
1946..... "	18,021	6,726	21,405	20,301
1947..... "	34,920	37,391	37,656	14,100
1948..... "	12,703	15,922	–	–

In Table **16** the quantities of spirits, malt and tobacco products that have been released from bond for consumption are shown for the years 1939 to 1948. These figures, supplied by the Department of National Revenue, are the most reliable data for the consumption of these bonded products. In previous editions of the Year Book they have appeared under "Dominion Public Finance" (see p. 964 of the 1947 edition). Their transfer is a logical result of the reorganization of this Chapter and the newly introduced treatment of warehousing.

16.—Spirits, Malt Liquor, Malt and Tobacco Taken Out of Bond for Consumption, Years Ended Mar. 31, 1939-48

NOTE.—Figures for the years prior to 1900 are given in the 1916-17 Year Book, p. 528; for 1901-10, the 1933 Year Book, p. 840; for 1911-21, the 1938 Year Book, p. 855; for 1922-29, the 1945 edition, p. 936; and for 1930-37, the 1947 edition, p. 964.

Year	Spirits	Malt Liquor	Malt	Cigars	Cigarettes	Tobacco[1]
	gal.	gal.	lb.	No.	No.	lb.
1939	2,299,474	63,069,959	136,284,405	127,756,146	6,912,920,315	25,929,546
1940	2,032,987	65,912,495	143,056,382	139,698,605	7,301,419,960	28,403,208
1941	2,371,633	78,731,132	168,025,398	173,484,743	7,776,291,482	31,254,234
1942	2,944,391	94,992,330	213,199,222	198,595,682	9,018,272,219	31,626,932
1943	3,445,872	103,291,141	228,029,691	204,699,110	10,803,185,549	31,510,083
1944	2,620,297	97,192,032	219,242,999	196,407,845	11,405,842,655	32,264,175
1945	2,676,482	116,009,457	219,529,938	200,879,906	11,982,675,329	30,876,112
1946	4,087,690	134,579,706	259,083,043	210,694,900	14,512,351,682	31,048,195
1947	4,446,130	151,012,603	307,478,641	221,131,244	14,972,562,544	31,516,702
1948	4,632,506	169,485,610	335,232,688	215,434,810	15,263,987,385	30,187,676

[1] Figures include snuff.

Storage of Wine.—The wine industry is confined to a few localities such as the Niagara Peninsula in Ontario and the Okanagan Valley in British Columbia. Firms manufacturing native wines are not bonded, as far as the Federal Government is concerned, nor is wine in storage for maturing placed in bond. The only goods warehoused in bond in connection with wineries are their sugar supplies and supplies of grape spirit distilled by the distilleries and held by the wineries for fortifying their wines. A part of each year's production is, however, stored at the wineries at a cool and even temperature. Native wine held in storage for maturing and blending for the years 1944, 1945 and 1946 was reported as follows:—

Year		*Ontario*	*Other Provinces*	*Total*
1944	gal.	3,863,592	349,958	4,213,550
	$	1,600,835	204,928	1,805,763
1945	gal.	3,761,863	371,872	4,133,735
	$	1,951,517	243,321	2,194,838
1946	gal.	5,056,564	476,917	5,533,481
	$	3,180,465	369,498	3,549,963

Section 4.—Merchandising and Service Establishments*

Basic data for inquiries into marketing structure have been provided in the two comprehensive surveys of retail and wholesale business taken at the times of the 1931 and 1941 Censuses. The first covered business transacted in 1930 in wholesale, retail and service establishments including hotels. Tabulations of this material are to be found in Volumes X and XI of the Census of 1931. In the second, relating to transactions in 1941, the same general business types were followed with some additional detail concerning operations. Volume XI of the Census of 1941 contains results for the wholesale trade and service establishments.

In this issue of the Year Book more space is given to the results of current surveys in the distributive field and census material is treated only briefly in Subsection 1, partly because of its remote application to present-day conditions but also because the detailed data are readily available by reference to the above-mentioned census publications and to earlier editions of the Year Book. Descriptions and analyses of the material are to be found at pp. 596-621 of the 1945 Year Book and with slightly different emphasis at pp. 527-536 of the 1943-44 edition.

* Revised under the direction of W. H. Losee, Director, Census of Industry and Merchandising Division, Dominion Bureau of Statistics, by C. H. McDonald, Chief, Merchandising and Services Section.

Studies concerning operating results of independent retail stores are reviewed in the present Year Book for the first time, thus further extending the field of merchandising statistics.

Subsection 1.—Results of the 1941 Census of Merchandising

Wholesale Trade.—As mentioned on p. 812, detailed tabulations of the operations of wholesalers, together with explanations of the terms used in describing the various classes of wholesale business, are given in Volume XI of the Census of 1941, and in briefer form in previous issues of the Year Book. Table 17 recapitulates these data regionally, by type of operation.

17.—Wholesale Trade, by Provinces and Major Types of Operation, 1941

Province and Type of Operation	Establishments	Total Sales	Employees	Salaries and Wages
Province	No.	$	No.	$
Prince Edward Island	100	13,192,800	441	440,900
Nova Scotia	681	152,600,900	4,013	5,659,700
New Brunswick	507	88,190,000	3,084	4,354,900
Quebec	5,075	1,726,520,500	32,634	54,695,600
Ontario	6,244	1,744,663,700	40,450	67,894,200
Manitoba	2,206	579,612,200	9,566	15,015,800
Saskatchewan	4,897	283,521,900	8,141	11,515,200
Alberta	3,336	323,138,100	8,147	12,252,700
British Columbia	1,708	379,126,700	10,994	17,615,800
Totals[1]	**24,758**	**5,290,750,500**	**117,471**	**189,449,100**
Type of Operation				
Wholesalers proper	9,417	2,358,475,300	74,800	117,389,500
Manufacturers' sales branches and offices	1,622	1,206,993,800	20,782	40,034,400
Petroleum bulk tank stations	3,973	216,292,300	4,968	6,890,400
Agents' and brokers' products	2,106	907,520,300	4,423	8,677,100
Assemblers of primary products	7,366	453,300,500	10,499	13,356,000
Other	274	148,168,300	1,999	3,101,700

[1] Includes Yukon and the Northwest Territories.

Retail Trade.—Volume X of the Census of 1941 contains detailed tabulations of the 1941 Census results for the retail trade. Table 18 is presented here for comparison with current data which are given in Subsection 2.

18.—Retail Trade, by Provinces and Kinds of Business, 1941

Province and Kind of Business	Stores	Proprietors	Employees		Salaries and Wages	Sales	Stocks at Dec. 31, 1941
			Full-time	Part-time			
Province	No.	No.	No.	No.	$'000	$'000	$'000
Prince Edward Island	863	859	1,425	308	1,135	15,936	3,495
Nova Scotia	6,790	6,250	13,357	3,938	12,959	165,034	23,776
New Brunswick	4,988	4,629	9,004	2,058	8,335	101,843	17,209
Quebec	39,712	38,574	74,562	22,187	72,380	818,671	138,807
Ontario	47,055	44,891	121,042	44,800	134,731	1,406,977	206,163
Manitoba	7,219	7,058	20,387	5,069	20,215	210,833	30,020
Saskatchewan	10,088	9,644	14,641	4,611	14,550	186,886	37,262
Alberta	9,222	9,186	16,760	4,639	18,817	221,071	37,511
British Columbia	11,253	10,658	25,649	7,920	30,964	309,573	44,958
Totals[1]	**137,331**	**131,823**	**297,047**	**95,561**	**314,438**	**3,440,902**	**540,864**
Kind of Business							
Food group	48,468	48,017	52,265	22,690	46,667	786,247	64,753
Country general stores	11,917	11,894	11,273	4,032	9,309	214,748	64,809
General merchandise group	3,794	2,610	68,622	20,900	72,595	525,971	99,984
Automotive group	16,867	16,784	38,541	7,652	49,458	594,720	58,885
Apparel group	12,601	11,148	25,208	11,388	29,638	295,212	84,839
Building materials group	5,801	4,843	14,375	3,498	18,325	174,203	47,449
Furniture-household group	3,498	2,784	11,421	2,087	15,472	118,357	28,133
Restaurant group	8,821	10,311	32,722	6,814	22,635	131,181	4,232
Second-hand group	1,740	1,770	1,005	357	1,000	11,070	2,785
Other retail stores	23,824	21,662	41,615	16,143	49,339	589,193	84,995

[1] Includes Yukon and the Northwest Territories.

Retail Service Establishments.—This group of businesses includes those that provide personal or repair services or that offer amusement or recreation facilities to the public. A portion of these firms indicated some merchandising in their returns, but were classified as services because the greater proportion of their annual business consisted of service receipts. The principal statistics on retail service establishments derived from 1941 Census returns are shown in Table **19.**

19.—Retail Service Establishments, by Provinces and Kinds of Business, 1941

Province and Kind of Business	Establishments	Total Receipts	Proprietors	Employees		Salaries and Wages
				Full-time	Part-time	
Province	No.	$'000	No.	No.	No.	$'000
Prince Edward Island	325	964	327	273	222	242
Nova Scotia	1,860	9,409	1,869	2,353	650	2,612
New Brunswick	1,484	5,626	1,519	1,261	580	1,479
Quebec	13,807	64,829	14,074	16,425	5,025	19,047
Ontario	17,612	110,422	18,058	27,226	9,390	35,251
Manitoba	2,977	15,426	2,999	4,308	1,667	5,029
Saskatchewan	3,704	10,180	3,740	2,111	959	2,564
Alberta	3,341	13,184	3,438	2,961	1,050	3,932
British Columbia	4,147	24,559	4,187	5,849	2,085	7,933
Totals [1]	**49,271**	**254,678**	**50,224**	**62,781**	**21,647**	**78,109**
Kind of Business						
Amusement and recreation group	4,954	61,345	4,494	12,021	9,717	12,948
Business services	1,334	24,432	1,145	6,246	1,166	9,600
Personal services	24,731	85,893	25,961	28,656	5,013	32,408
Photography	1,078	6,901	1,039	1,667	657	2,286
Undertaking and burial	1,225	13,132	1,193	1,463	882	3,188
Repairs and service	11,932	37,512	12,295	5,710	1,794	9,430
Miscellaneous	4,017	25,463	4,097	7,018	2,418	8,249

[1] Includes Yukon and the Northwest Territories.

Subsection 2.—Current Merchandising and Service Statistics

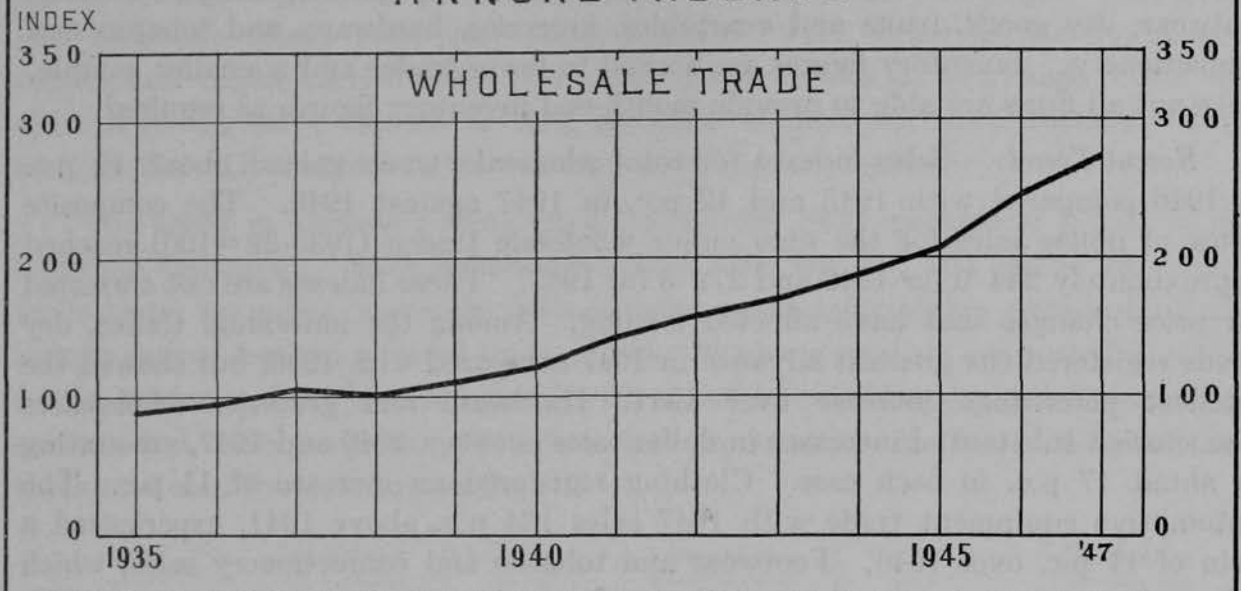
Certain phases of current distribution statistics are based on the application of the sampling method because the number of business firms prohibits monthly or even annual coverage. Wholesale and retail sales indexes depend to a large extent on this technique. On the other hand complete or near-complete coverage is possible in some fields such as automotive sales and financing, chain-store operations, theatre, power-laundry and dry-cleaning, and farm-implement sales statistics. Studies concerning the operating results of independent retailers have been a part of the program of merchandising statistics for some time, but summaries of these surveys now appear in the Year Book for the first time. Monthly and annual bulletins are issued for each of the fields covered in this Subsection, and are available by application to the Dominion Statistician.

Wholesale Trade.—Monthly index numbers of sales in several branches of the wholesale trade have been prepared since 1935. Indexes of sales (on the base 1935-39 = 100) are calculated each month for nine wholesale trades, based on reports received from a sample of some 415 firms whose sales made up about 68 p.c. of the total volume of business done by wholesalers in those trades in 1941. The sample of reporting firms is limited to wholesalers proper, i.e., wholesale establishments that perform the complete functions of jobbers or wholesalers, buying merchandise in large quantities on their own account and selling in broken lots.

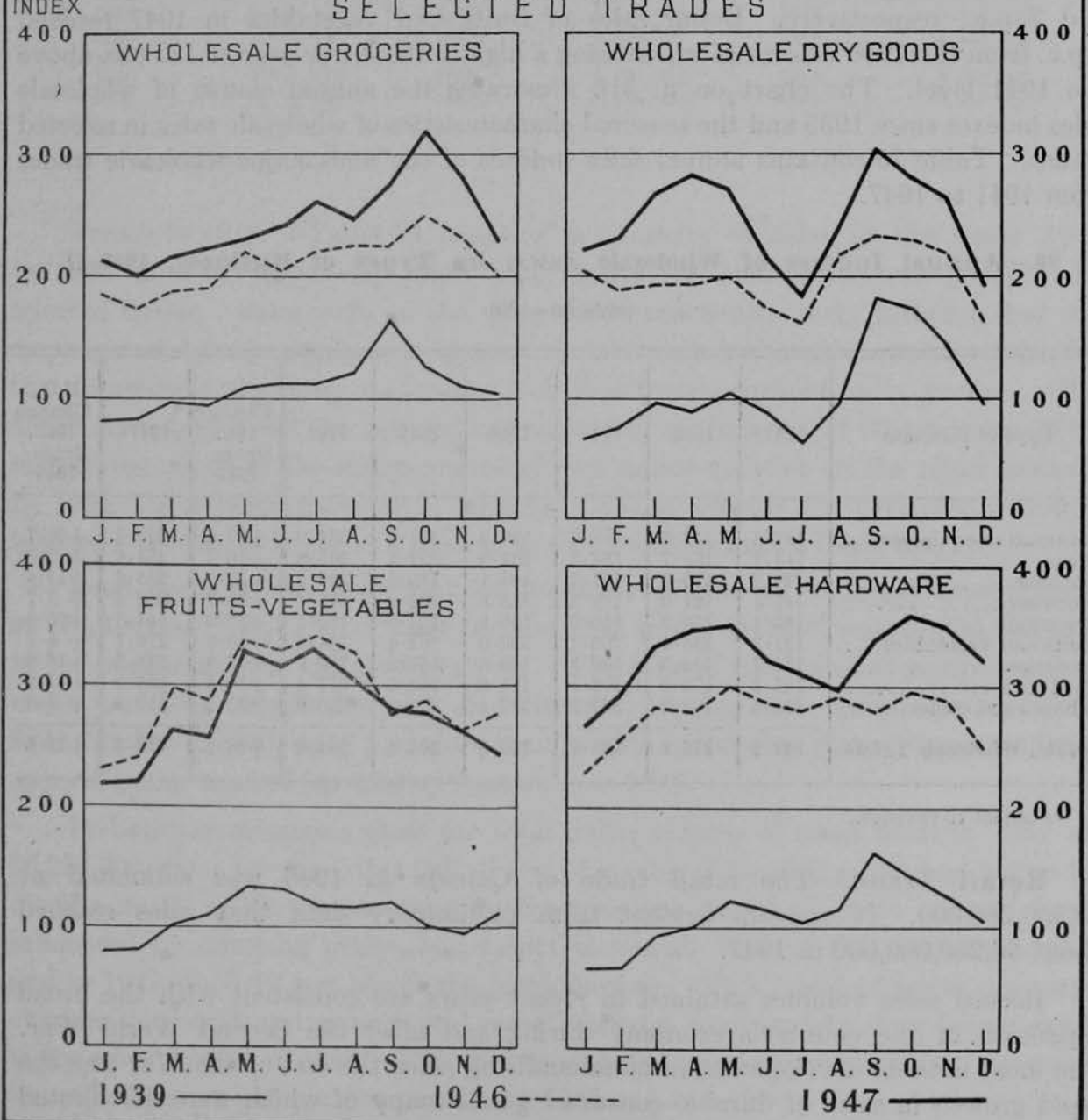
INDEXES OF WHOLESALE SALES

1935-39 = 100

ANNUAL INDEXES



MONTHLY INDEXES OF WHOLESALE SALES FOR SELECTED TRADES



In addition the trades selected are those engaged principally in supplying retailers and include the following: automotive supply and equipment, drugs, clothing, footwear, dry goods, fruits and vegetables, groceries, hardware, and tobacco and confectionery. Inventory figures are limited to fewer trades and a smaller sample, since not all firms are able to provide month-end inventory figures as required.

Recent Trends.—Sales indexes for total wholesale trade gained about 19 p.c. in 1946 compared with 1945 and 12 p.c. in 1947 against 1946. The composite index of dollar sales for the nine major wholesale trades (1935-39=100) reached approximately 244·0 for 1946 and 272·3 for 1947. These indexes are not corrected for price changes that have affected trading. Among the individual trades, dry goods registered the greatest advance in 1947 compared with 1946, but showed the smallest percentage increase over 1941. Hardware and groceries wholesalers also showed substantial increases in dollar sales between 1946 and 1947, amounting to about 17 p.c. in each case. Clothing registered an increase of 11 p.c. The automotive equipment trade with 1947 sales 134 p.c. above 1941, experienced a gain of 11 p.c. over 1946. Footwear and tobacco and confectionery sales, which followed automotive equipment in the amount of increase in volume over 1941, showed a tendency to level off in 1947 when the advances over 1946 were 8 p.c. and 7 p.c., respectively. Dollar sales of fruits and vegetables in 1947 receded 6 p.c. from the 1946 volume after reaching a high in the latter year of 122 p.c. above the 1941 level. The chart on p. 815 illustrates the annual course of wholesale sales indexes since 1935 and the seasonal characteristics of wholesale sales in selected trades. Table 20 contains annual sales indexes of the nine major wholesale trades from 1941 to 1947.

20.—Annual Indexes of Wholesale Sales, by Types of Business, 1941-47

(1935-39=100)

Type of Business	1941	1942	1943	1944	1945	1946	P.C. Change 1946 from 1945	1947[1]	P.C. Change 1947 from 1946
Automotive equipment	157·8	147·6	158·1	197·2	242·8	334·0	+37·6	369·8	+10·7
Drugs	145·2	165·7	184·2	201·9	222·1	245·2	+10·4	254·6	+ 3·8
Clothing	142·8	170·9	177·5	183·1	186·3	229·3	+23·1	255·4	+11·4
Footwear	141·6	161·0	173·1	188·8	224·0	279·4	+24·7	300·8	+ 7·7
Dry goods	141·8	160·2	150·9	165·9	161·9	197·5	+22·0	244·5	+23·8
Fruits and vegetables	131·2	158·5	206·1	222·0	262·4	291·2	+10·9	274·7	− 5·7
Groceries	134·7	146·5	150·3	169·3	180·2	208·9	+15·9	244·2	+16·9
Hardware	165·2	170·0	173·1	183·8	212·0	277·4	+30·8	325·0	+17·2
Tobacco and confectionery	150·6	172·4	207·3	230·1	258·1	296·9	+15·0	317·1	+ 6·8
Totals, Wholesale Trade	**142·0**	**156·2**	**168·3**	**186·0**	**205·4**	**244·0**	+18·8	**272·3**	+11·6

[1] Subject to revision.

Retail Trade.—The retail trade of Canada in 1946 was estimated at $5,506,286,000. It appears evident from preliminary data that sales reached about $6,250,000,000 in 1947.

Record sales volumes attained in recent years are consistent with the broad expansion of the country's economy during and after the Second World War. The most notable development in merchandising since the end of the War was the rapid growth in sales of durable consumer goods many of which were distributed

on a rigidly controlled basis, or were absent entirely from the retail market during much of the war period. Increases for automotive, radio and appliance, furniture and hardware stores were very substantial in 1947. Some of the purchasing momentum which carried sales of durable goods trades to new high levels was reduced in the early months of 1948 as dollar volumes for these reached a level comparable with that of many of the non-durable goods trades.

The trend in Canada's total retail trade from 1930 onwards is traced in the following statement. Sales figures quoted for 1930 and for 1941 are census results while those for other years are derived from trend information obtained by the sample survey method referred to on p. 814. Such surveys are conducted monthly for 14 trades and are supplemented with other information derived from annual surveys and other projects. Statistics thus procured are much less detailed than those produced from census results.

Year	Retail Sales	Year	Retail Sales	Year	Retail Sales
	$'000		$'000		$'000
1930	2,755,570	1936	2,306,637	1942	3,649,041
1931	2,322,158	1937	2,612,776	1943	3,785,840
1932	1,922,452	1938	2,549,197	1944	4,123,151
1933	1,786,191	1939	2,597,752	1945	4,595,667
1934	1,998,578	1940	2,957,698	1946	5,506,286
1935	2,120,348	1941	3,440,902	1947	6,250,000[1]

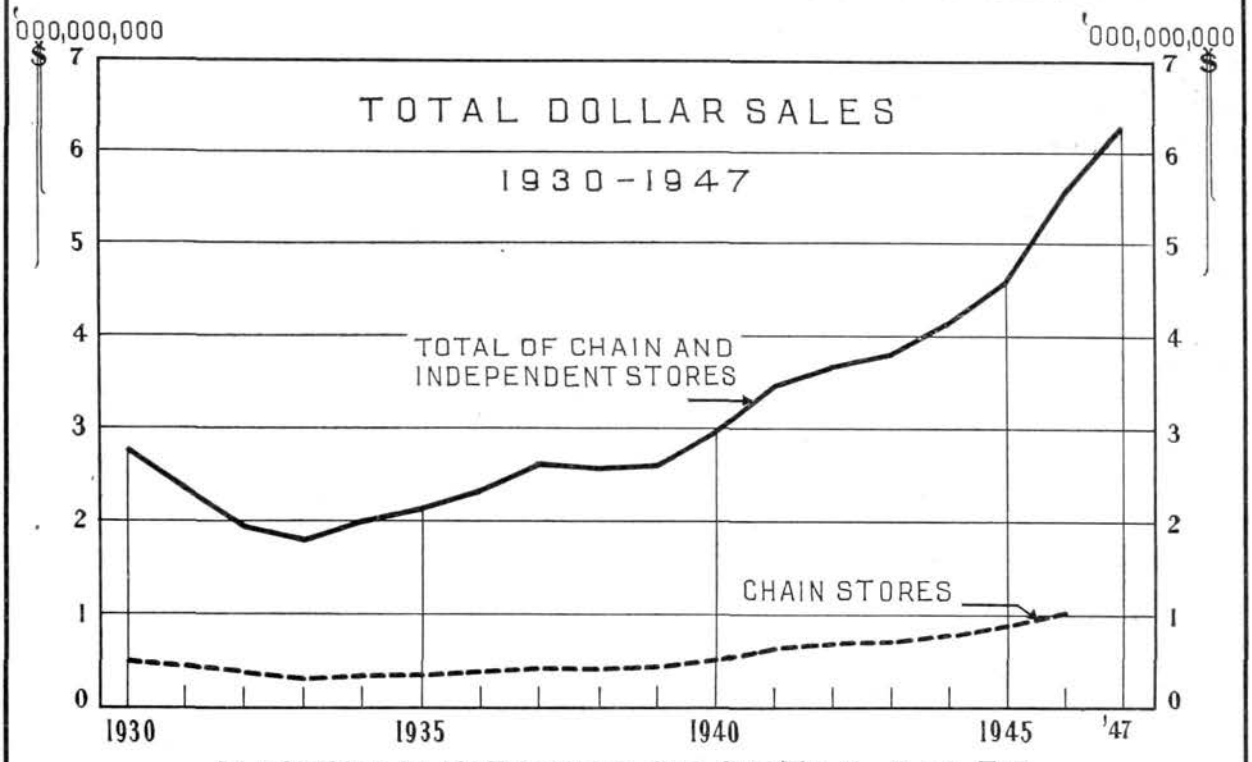
[1] Preliminary.

Trends in 1946.—Table **21** contains a summary of sales in the years 1944 to 1946 showing provincial totals and results for kind-of-business groups and selected trades. Sales were on the up-grade in practically every instance, but the emphasis on durable goods is evidenced by the much higher-than-average gains for the automotive, building materials, and furniture-household-radio groups. The automotive trades led the upward advance with an increase of 70 p.c. over 1945, mainly the result of the reappearance of new motor-vehicles on the retail market. In 1946, the average increase in sales for Canada was 20 p.c. over 1945, though increases in some of the trades dealing in soft goods were of a lesser magnitude.

Food stores normally account for about one-fifth of all consumer expenditures in retail stores. Volume of sales for the food group in 1946 was $1,230,492,000, 11 p.c. higher than in the previous year. The general merchandise group, another major category which includes departmental stores, had sales amounting to $849,095,000 in 1946, or 18 p.c. more than in 1945. Country general stores and the apparel group marked up moderate gains over 1945.

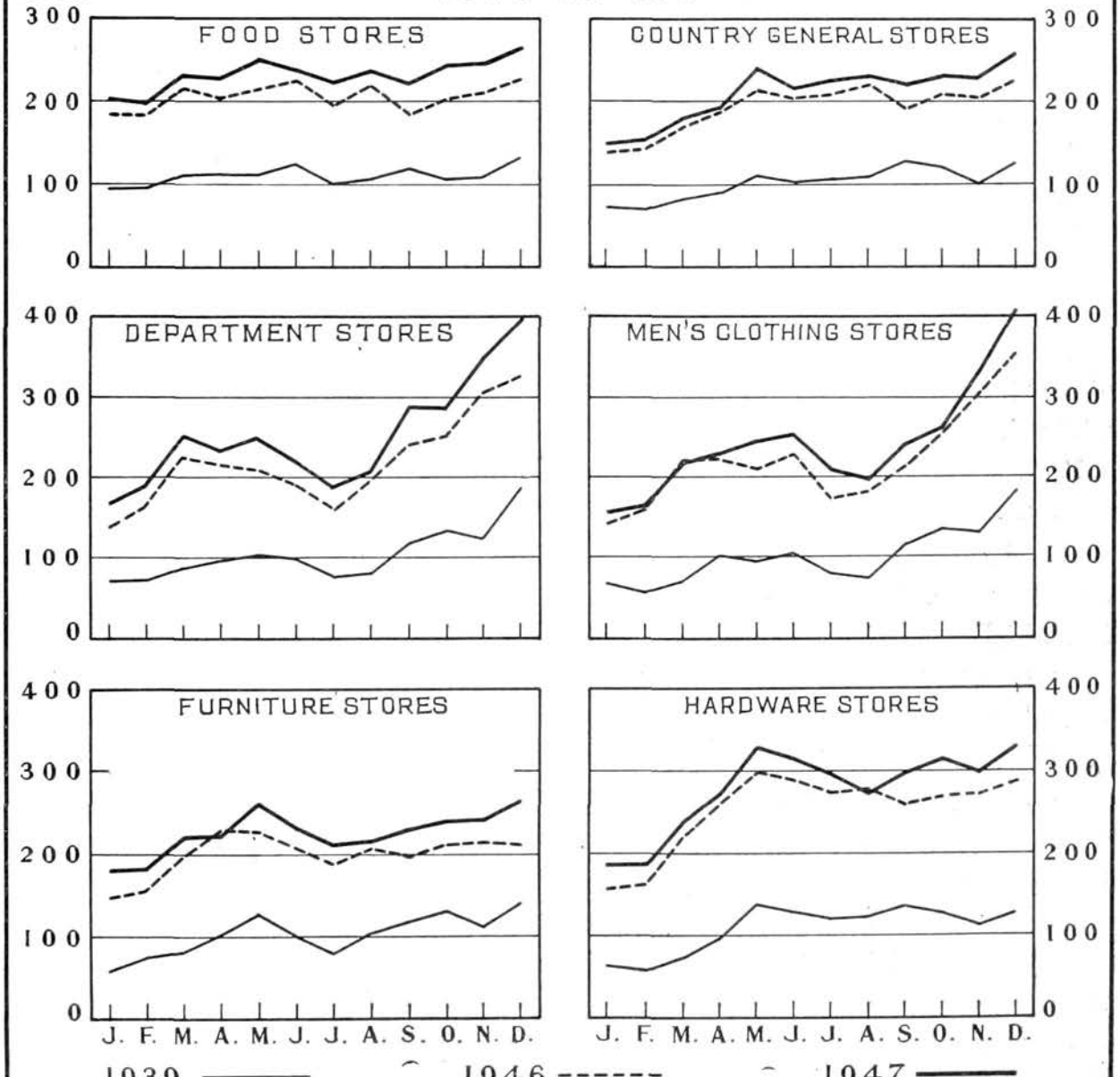
Preliminary estimates place the total dollar volume of retail trade in 1947 at $6,250,000,000. By the latter half of the year sales of durable goods had begun to display much smaller gains than in the previous months. Store sales of food, influenced by climbing prices, had begun to absorb more of the consumer dollar and in 1947 stood 13 p.c. above the previous year. This group of stores (grocery, combination meat and grocery and meat markets) continued to show heavy gains in the early months of 1948. The various store types in the apparel group increased between 7 p.c. and 10 p.c. compared with 1946.

RETAIL SALES IN CANADA



MONTHLY INDEXES OF RETAIL SALES

1935-39=100



21.—Estimated Retail Merchandise Sales, by Provinces and Kinds of Business, 1944-46

NOTE.—Group totals may include kinds of business for which separate figures are not shown. Chain-store figures are included in this table, but are also given in detail in Table 23.

Province and Kind of Business	1944	1945	1946	P.C. Change 1946 from 1945
Province	$'000	$'000	$'000	
Maritime Provinces	359,566	394,297	464,157	+17·7
Quebec	1,001,963	1,121,145[1]	1,315,485	+17·3
Ontario	1,558,510	1,742,409	2,113,916	+21·3
Manitoba	264,982	292,735	362,189	+23·7
Saskatchewan	248,031	277,466	328,254	+18·3
Alberta	292,622	321,250	383,806	+19·5
British Columbia	390,584	438,838	529,213	+20·6
Yukon and Northwest Territories	6,893	7,527	9,266	+23·1
Canada	**4,123,151**	**4,595,667**[1]	**5,506,286**	**+19·8**
Kind of Business				
Food Group—				
Grocery, combination and meat markets	842,336	918,744	1,018,232	+10·8
Totals, Food Group	**1,017,541**	**1,110,314**	**1,230,492**	**+10·8**
Country General Stores	**321,308**	**354,684**	**395,214**	**+11·4**
General Merchandise Group—				
Department stores	464,880	516,141	613,611	+18·9
Variety stores	102,857	111,573	124,897	+11·9
Totals, General Merchandise Group	**654,954**	**722,804**	**849,095**	**+17·5**
Automotive Group	**351,942**	**424,301**	**720,064**	**+69·7**
Apparel Group—				
Men's and boys' clothing and furnishings stores	102,814	112,711	129,409	+14·8
Family clothing stores	98,760	108,987	126,579	+16·1
Women's apparel and accessories stores	136,253	147,766	164,093	+11·0
Shoe stores	59,631	66,430	70,621	+ 6·3
Totals, Apparel Group	**397,458**	**435,894**	**490,702**	**+12·6**
Building Materials Group	**247,723**	**281,418**	**367,659**	**+30·6**
Furniture, Household and Radio Group—				
Furniture stores	65,766	74,500	100,473	+34·9
Household appliance or radio dealers	33,965	40,487	68,981	+70·4
Totals, Furniture, etc. Group	**107,056**	**123,520**	**182,242**	**+47·5**
Restaurant Group	**202,463**	**210,465**	**222,885**	**+ 5·9**
Other Retail Stores (including second-hand)—				
Coal and wood yards (ice dealers)	122,765	126,819	124,661	− 1·7
Drug stores	139,104	194,928	166,564	−14·6
Jewellery stores	56,228	64,850	72,885	+12·4
Government liquor stores[2]	165,677	221,157[1]	258,973	+17·1
Totals, Other Retail Stores	**822,706**	**932,267**[1]	**1,047,933**	**+12·4**
Totals, All Establishments	**4,123,151**	**4,595,667**[1]	**5,506,286**	**+19·8**

[1] Revised since the publication of the 1947 Year Book. [2] The disparity between figures for government liquor stores shown here and those appearing in Table 23 arises from variations in the processes used in developing the two series.

Chain Stores.—Chain stores sales in 1947 amounted to $1,170,029,000, a gain of 15 p.c. over 1946, when sales volume was $1,014,847,000. Sales in the average of 6,653 chain store units made up 18·7 p.c. of all retail sales in Canada. Chain-store statistics are summarized in Tables **22** and **23.**

22.—Chain-Store Statistics, 1930 and 1941-47

NOTE.—Figures for the years 1941-45 have been revised since the publication of the 1947 Year Book.

Year	Average Number of Stores	Net Retail Sales	Salaries and Wages Paid to Store Employees	Stocks on Hand, End of Year		Accounts Outstanding, End of Year
				Stores	Warehouses	
		$'000	$'000	$'000	$'000	$'000
1930	8,097	487,336	50,405	60,457	[1]	[1]
1941	7,622	639,210	57,777	68,619	20,976	38,376
1942	7,010	687,447	57,654	66,940	22,633	[1]
1943	6,780	703,950	58,804	67,628	22,603	15,527
1944	6,560	769,643	63,300	66,944	21,855	15,093
1945	6,580	876,209	68,196	68,247	29,013	16,369
1946	6,559	1,014,847	77,474	85,345	37,436	19,643
1947	6,653	1,170,029	90,072	102,974	43,495	30,796

[1] Not available.

23.—Chain Store Sales, by Provinces and Kinds of Business, 1945-47

NOTE.—Group totals may include kinds of business for which separate figures are not shown.

Province and Kind of Business	1945[1]	1946	1947[2]	P.C. Change 1947 from 1946
	$'000	$'000	$'000	
Maritime Provinces	73,039	88,125	93,408	+ 6·0
Quebec	173,920	202,105	245,898	+21·7
Ontario	382,463	435,194	506,050	+16·3
Manitoba	42,735	50,009	54,564	+ 9·1
Saskatchewan	49,879	59,760	62,575	+ 4·7
Alberta	58,743	65,608	72,333	+10·3
British Columbia	92,351	109,839	130,094	+18·4
Yukon and Northwest Territories	3,079	4,207	5,107	+21·4
Canada	**876,209**	**1,014,847**	**1,170,029**	**+15·3**
Kind of Business				
Food Group—				
Grocery, combination and meat markets	220,285	245,278	308,198	+25·7
Totals, Food Group	**231,579**	**258,579**	**322,763**	**+24·8**
Country General Stores	**12,432**	**14,145**	**12,282**	**−13·2**
General Merchandise Group[3]—				
Variety stores	95,998	107,586	117,925	+ 9·6
Totals, General Merchandise Group	**106,751**	**119,582**	**130,339**	**+ 9·0**
Automotive Group	**12,207**	**16,828**	**22,975**	**+36·5**

For footnotes, see end of table.

23.—Chain Store Sales, by Provinces and Kinds of Business, 1945-47—concluded

Province and Kind of Business	1945[1]	1946	1947[2]	P.C. Change 1947 from 1946
Kind of Business—concluded	$'000	$'000	$'000	
Apparel Group—				
Men's and boys' clothing and furnishing stores	11,219	13,037	15,331	+17·6
Family clothing stores	20,018	23,570	27,765	+17·8
Women's apparel and accessories stores	19,456	23,076	28,272	+22·5
Shoe stores	23,745	26,107	28,731	+10·1
Totals, Apparel Group	**74,438**	**85,790**	**100,100**	**+16·6**
Building Materials Group	**43,259**	**51,474**	**59,973**	**+16·7**
Furniture, Household and Radio Group—				
Furniture stores	17,633	22,245	32,748	+47·2
Household appliance and radio dealers	11,534	16,960	22,658	+33·6
Totals, Furniture Group	**29,167**	**39,205**	**55,406**	**+41·3**
Restaurant Group	**19,062**	**20,565**	**20,726**	**+ 0·8**
Other Retail Stores—				
Drug stores	24,127	26,484	26,869	+ 1·5
Jewellery stores	16,253	18,709	18,851	+ 0·8
Government liquor stores[4]	211,075	249,023	264,491	+ 6·2
Totals, Other Retail Stores	**347,314**	**408,679**	**445,465**	**+ 9·0**
Totals, All Chain Stores	**876,209**	**1,014,847**	**1,170,029**	**+15·3**

[1] Revised since the publication of the 1947 Year Book. [2] Subject to revision. [3] Department stores excluded. [4] The disparity between figures for government liquor stores shown here and those appearing in Table 21 arises from variations in the processes used in developing the two series.

New Motor-Vehicle Sales.—In 1947, a total of 230,255 motor-vehicles were purchased in Canada at a value of $416,237,495, an all-time record in both numbers and value. The values used are prices actually paid by purchasers at point of manufacture, including sales and excise taxes, charges for standard accessories and dealers' commissions, but excluding freight charges from factory to point of purchase. Of the total, 159,205 units or 69 p.c. were passenger vehicles, more than double the 1946 total of 77,742. Increases in list prices due to rising manufacture costs and added excise taxes raised the average value of passenger vehicles sold to $1,779 in 1947 as compared with $1,548 in 1946 and an approximate range of $1,000 to $1,100 in the immediate pre-war years.

With the exception of certain higher-priced models, vehicles were sold as soon as shipments were made available from factories or from border points in the case of imported motor-cars. With effective demand at all times being equal to available shipments, the seasonal pattern of sales is determined by availability rather than demand. The trend was upward throughout 1947 and continued so in the early months of 1948 but with a slower rate of increase, due more to fewer units being imported from the United States rather than to any falling-off in demand.

24.—Retail Sales of New Motor-Vehicles, 1935-47

Year	Passenger Cars		Trucks and Buses		Totals	
	No.	$	No.	$	No.	$
1935	83,242	83,429,114	18,219	18,313,335	101,461	101,742,449
1936	92,287	95,403,199	21,027	22,179,597	113,314	117,582,796
1937	114,275	116,886,334	30,166	32,284,193	144,441	149,170,527
1938	95,751	105,006,462	25,414	30,005,446	121,165	135,011,908
1939	90,054	97,131,128	24,693	28,836,393	114,747	125,967,521
1940	101,789	114,928,833	28,763	33,916,445	130,552	148,845,278
1941	83,650	108,907,312	34,432	43,008,207	118,082	151,915,519
1942-45	[1]	[1]	[1]	[1]	[1]	[1]
1946	77,742	120,325,496	42,302	73,003,509	120,044	193,329,005
1947	159,205	283,190,390	71,050	133,047,105	230,255	416,237,495

[1] Not available.

Financing of Motor-Vehicle Sales.—The financing of motor-vehicles accounted for 87 p.c. of all retail financing activities of the 90 finance companies in operation at the time of the 1941 Census. The remaining 13 p.c. consisted of paper issued mainly on radios and household appliances, with smaller amounts on furniture, jewellery and clothing. Motor-vehicles may be financed through such sources as personal loans, bank loans, etc. For this reason the statistics shown in Table 25 represent only a partial picture of the financing of purchases of new and used motor-vehicles.

25.—Financing of Motor-Vehicle Sales by Finance Companies, 1935-47

Year	New Vehicles		Used Vehicles		All Vehicles	
	No.	Financing	No.	Financing	No.	Financing
		$		$		$
1935	31,950	22,410,656	68,228	17,840,865	100,178	40,251,521
1936	42,863	29,887,861	94,651	24,971,951	137,514	54,859,812
1937	56,247	40,664,675	121,651	35,185,498	177,898	75,850,173
1938	45,267	33,701,624	117,436	35,984,229	162,703	69,685,853
1939	37,320	27,852,627	115,787	34,916,119	153,107	62,768,746
1940	42,982	33,473,397	133,596	41,762,396	176,578	75,235,793
1941	41,032	34,887,591	141,387	49,829,192	182,419	84,716,783
1942	7,398	6,207,111	58,912	18,389,804	66,310	24,596,915
1943	1,077	1,254,878	38,496	13,637,688	39,573	14,892,566
1944	2,371	2,927,396	30,599	11,643,541	32,970	14,570,937
1945	3,630	4,934,456	24,356	9,502,726	27,986	14,437,182
1946	22,866	27,978,992	30,527	13,607,573	53,393	41,586,565
1947	46,700	65,422,230	72,167	43,322,528	118,867	108,744,758

The proportion of new motor-vehicles sold which has been financed through finance companies and the proportion of their financed value have varied greatly in the years for which statistics are available. The low percentages characteristic of 1946 and 1947 demonstrate two principal factors: first, that ready cash in large amounts in the hands of the public allowed the buying outright of this commodity; and secondly, that loans for the purpose of purchasing motor-vehicles have been more readily procured from sources other than finance companies than was the case in the 1930's.

26.—Financing of New Motor-Vehicles (Passenger and Commercial), Selected Years, 1933-47

Year	Vehicles Sold	Vehicles Financed	P.C. of Total Sales Financed		Average Financial Value
			Number	Value	
	No.	No.			$
1933	45,332	15,880	35·0	22·1	632
1935	101,461	31,950	31·5	22·0	701
1937	144,441	56,247	38·9	27·3	723
1938	121,165	45,267	37·4	25·0	745
1939	114,747	37,320	32·5	22·1	746
1940	130,552	42,982	32·9	22·5	779
1941	118,082	41,032	34·7	23·0	850
1946	120,044	22,866	19·0	14·5	1,224
1947	230,255	46,700	20·3	15·7	1,401

Farm Implement Sales.—Annual reports on the sale of farm implements and equipment in Canada, based on returns submitted by Canadian manufacturers and by importers have been compiled and published by the Bureau of Statistics since 1936. In 1945 the reporting was expanded to include a larger number of classes of farm implements, and to provide a tabulation of sales in the Prairie Provinces by type of implement.

Domestic sales of farm implements and equipment as reported by manufacturers and importers, mainly at wholesale prices to dealers or agents, amounted to $81,698,185 in 1946, an increase of 27·1 p.c. over 1945. This was the highest volume of sales recorded since the inception of this series of annual reports in 1936. The figures exclude sales of parts, binder twine, motor-trucks or used equipment. Supplementary information indicated that in 1946 an average mark-up of 20·5 p.c. may be applied to the wholesale sales figures to bring these to a retail basis. On this basis, retail sales of farm equipment and machinery during 1946 amounted to about $98,446,313.

Sales of repair parts, also secured from manufacturers and importers, were $20,790,007 in 1946, a gain of 11 p.c. over the 1945 figure of $18,734,009. The retail value of repair parts sold in 1946 was approximately $27,380,439, obtained by applying an average mark-up of 31·7 p.c.

Preliminary estimates indicate that sales of farm implements and equipment in 1947 advanced 47·7 p.c. above 1946, amounting to $120,649,687. While sales increases in 1946 were more pronounced in the Maritimes, Quebec and Ontario, the 1947 estimates reveal a concentration of gains in the Prairie Provinces.

27.—Farm Implement and Equipment Sales, by Provinces, 1946-47

NOTE.—Values are mainly at wholesale prices.

Region	1946		1947[1]		P.C. Increase 1947 over 1946
	Amount	P.C. of Total	Amount	P.C. of Total	
	$		$		
Maritime Provinces	3,768,645	4·6	4,312,883	3·6	+14·4
Quebec	8,867,989	10·9	11,174,016	9·3	+26·0
Ontario	20,268,580	24·8	27,804,205	23·0	+37·2
Manitoba	9,987,683	12·2	15,227,377	12·6	+52·5
Saskatchewan	20,308,054	24·9	32,846,966	27·2	+61·7
Alberta	15,698,660	19·2	25,760,033	21·3	+64·1
British Columbia	2,798,574	3·4	3,524,207	3·0	+25·9
Totals	**81,698,185**	**100·0**	**120,649,687**	**100·0**	**+47·7**

[1] Subject to revision.

Motion Picture Theatres.—In 1946, there were 1,477 theatres in Canada, representing an increase of 154 over 1945. A further increase of 216 theatres in 1947 brought the total to 1,693, according to preliminary figures. Box office receipts in 1947 totalled $78,653,799, an increase of 5 p.c. over the $74,941,966 receipts in 1946. Taxes collected by Federal and Provincial Governments amounted to $16,375,226 in 1947 and $15,052,994 in 1946. Net receipts in 1947 were $62,278,573 or 4 p.c. in excess of 1946. Preliminary figures indicate that paid admissions dropped slightly from 227,538,798 in 1946 to 220,714,785 in 1947.

In the 1,477 theatres reporting in 1946, 12,226 persons were employed of whom 1,270 were active proprietors or partners. Salaries and wages paid to employees amounted to $10,466,251, a figure which excludes the withdrawals of proprietors and partners.

The number of exhibitors employing portable equipment, classified as itinerant operators, increased from 167 in 1945 to 288 in 1946. In 1,248 towns at which performances were given, 2,417,990 persons paid admission totalling $745,978 of which $131,693 was paid in taxes to Federal and Provincial Governments. Legitimate theatres in 1946 numbered 5, and had 956,473 paid admissions totalling $1,121,628 in net receipts and $263,302 in taxes.

28.—Motion Picture Theatres and Receipts, by Provinces, 1930, 1941, 1946 and 1947

NOTE.—Itinerant operators and legitimate operators are not included in these figures. Receipts are exclusive of amusement taxes.

Province	1930		1941[1]		1946		1947[2]	
	No.	Receipts	No.	Receipts	No.	Receipts	No.	Receipts
		$		$		$		$
Prince Edward Island	5	188,300	6	141,317	10	223,804	14	255,835
Nova Scotia	56	1,814,500	61	2,195,599	71	2,953,633	79	2,666,189
New Brunswick	39	1,093,400	39	1,102,265	44	1,758,866	59	1,773,904
Quebec	146	8,046,600	202	8,047,022	250	12,732,391	319	13,919,917
Ontario	323	15,806,700	410	18,757,372	420	25,684,210	472	26,483,044
Manitoba	73	2,712,800	111	2,475,949	137	3,433,687	146	3,526,223
Saskatchewan	104	1,977,300	145	1,673,313	240	2,889,343	254	2,890,727
Alberta	85	2,323,700	144	2,257,115	156	3,626,140	178	3,707,668
British Columbia	76	4,166,800	122	4,145,945	149	6,586,898	172	7,055,066
Totals	**907**	**38,130,100**	**11,244**	**40,795,897**	**1,477**	**59,888,972**	**1,693**	**62,278,573**

[1] Revised since the publication of the 1947 Year Book to exclude legitimate theatres. [2] Subject to revision.

Power Laundries, Cleaning and Dyeing Establishments.—Annual reports on this service trade have been issued by the Dominion Bureau of Statistics since 1930. Summary data appear in Table 29, together with regional statistics for 1946.

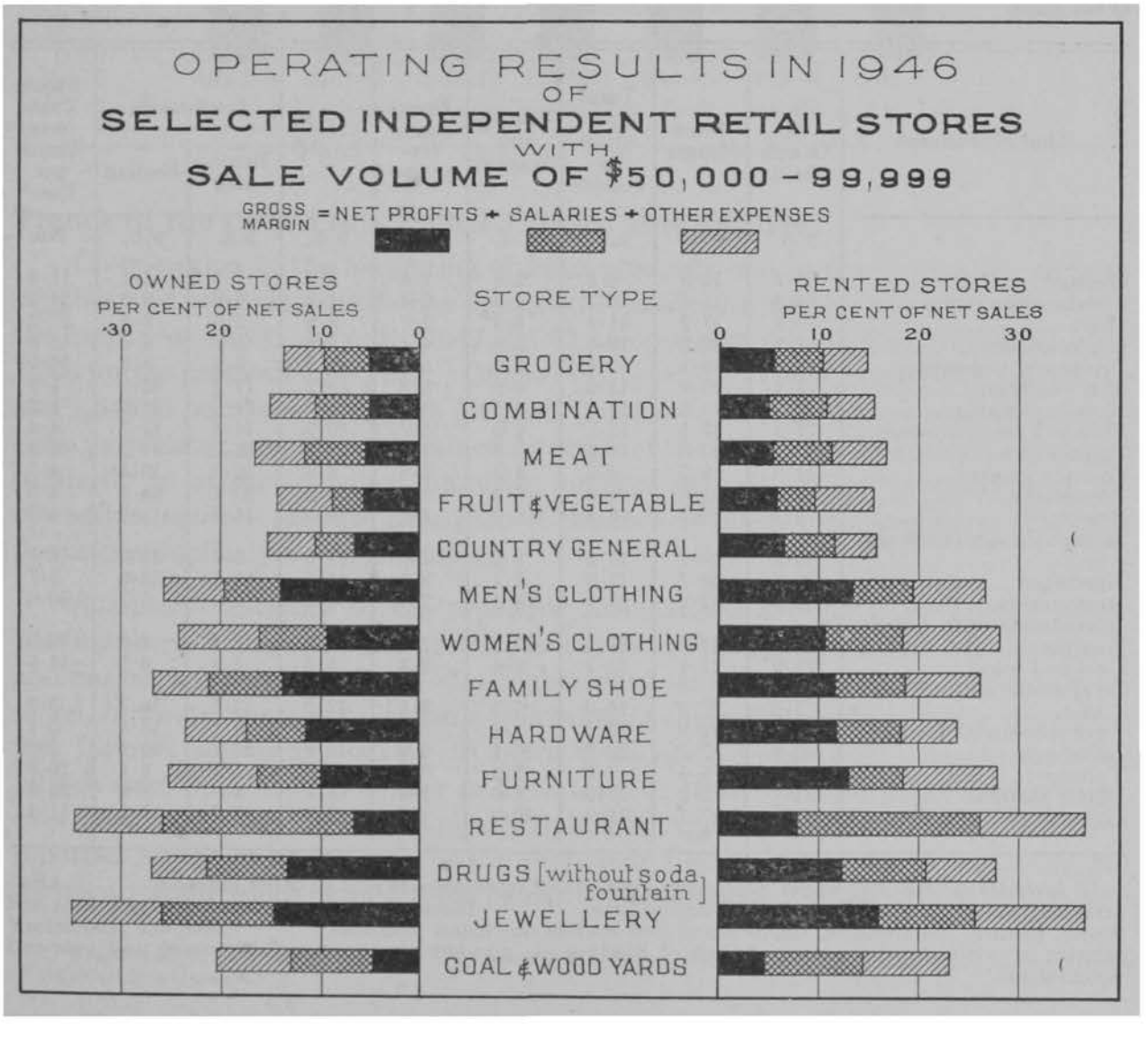
Receipts of the 690 power laundries, cleaning and dyeing plants in 1946 amounted to $51,148,159, 16 p.c. higher than the receipts of 602 establishments reporting for the year 1945. Of the total receipts, laundry work accounted for 42 p.c.; dry cleaning and dyeing, 52 p.c.; coat and towel rentals, 4 p.c.; and all other work, 2 p.c.

29.—Summary Statistics of Power Laundries, Cleaning and Dyeing Establishments, 1930 and 1940-46, and by Provinces, 1946

Year and Province	Plants	Capital Employed	Employees	Salaries and Wages	Cost of Materials	Value of Work Performed
	No.	$	No.	$	$	$
1930	368	24,086,269	11,885	11,249,945	2,196,139	22,695,880
1940	530	24,863,328	15,508	13,112,465	2,965,125	26,775,841
1941	600	28,626,165	18,398	16,246,296	3,782,530	32,495,470
1942	603	29,974,266	19,839	18,631,692	3,986,450	36,747,368
1943	587	30,755,570	20,597	20,204,624	4,049,361	38,654,761
1944	626	30,701,187	20,991	20,993,502	4,185,542	41,445,857
1945	602	31,070,696	21,379	22,499,459	4,668,779	44,081,170
1946	690	34,845,495	23,554	26,260,679	5,577,433	51,148,159
1946						
Prince Edward Island and Nova Scotia	41	1,425,489	874	926,205	181,621	1,874,319
New Brunswick	24	925,950	576	589,507	144,992	1,256,475
Quebec	108	7,265,206	6,011	7,037,657	1,489,941	13,599,857
Ontario	318	15,916,508	9,405	10,253,011	2,099,718	20,262,277
Manitoba	31	1,797,880	1,721	1,860,684	460,171	3,400,721
Saskatchewan	32	1,084,463	701	760,230	241,699	1,614,221
Alberta	47	2,213,426	1,344	1,480,974	289,450	2,803,137
British Columbia[1]	89	4,216,573	2,922	3,352,411	669,841	6,337,152

[1] Includes Yukon.

Operating Results of Retail Stores.—Studies concerning the operating ratios of independent retail merchants have been carried on over an extended period by the Merchandising and Services Section of the Dominion Bureau of Statistics.



Such statistics have been gathered to assist merchants in assessing the efficiency of various phases of their operations, to provide estimates of the contribution made to national income by unincorporated retail stores and to assist the prospective entrant into any of the retail trades in sizing up his opportunities and prospects of success. Since publication of recent detailed studies, their value as a basis for marketing research and as essential elements in the understanding of the structure of retail distribution has become evident.

Attention has been focussed on the relations between net sales, gross trading profit or margin, operating expenses and net profit. Expenses have been examined in some detail to include salaries and wages paid to employees; advertising; store supplies; losses on bad debts; tax and insurance costs; rentals; heat, light and power used; repair and maintenance expense; depreciation; and other items.

While certain operational features of the retail trade are a part of the annual summary of distribution from 1933 to 1940, it has been only since 1944 that comprehensive surveys have been made. These have depended upon representative samples of firms for basic data. In most of the trades, results are available for 1944, 1945 and 1946 in detail, with certain phases of the information extant for 1941 and 1938.

30.—Operating Ratios in Retail Trades, by Kinds of Business, 1946

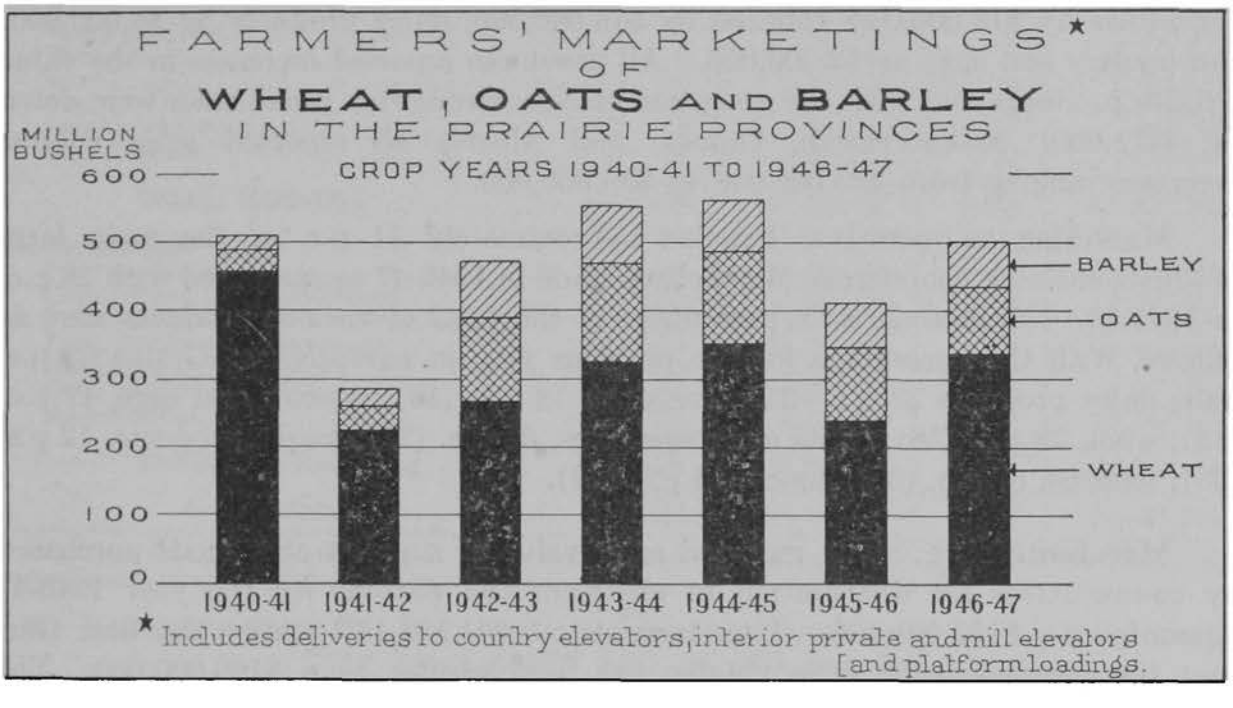
NOTE.—Independent, unincorporated firms only. All figures except stock turnover are percentages of net sales.

Kind of Business	Cost of Goods Sold	Gross Margin	Total Operating Expenses[1]	Salaries and Wages[2]	Occupancy Expense[3]	Net Profit[4]	Inventories		Stock Turnover Times per Year[5]
							Beginning	Ending	
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	No.
Grocery	85·7	14·3	8·3	3·8	2·5	6·0	7·1	8·1	11·4
Combination stores	84·9	15·1	10·3	5·6	2·4	4·8	5·2	6·2	14·9
Meat	82·8	17·2	11·4	5·9	2·7	5·8	2·0	2·4	37·2
Confectionery	81·1	18·9	10·1	3·9	4·4	8·8	5·7	6·9	13·0
Fruits and vegetables	83·9	16·1	9·6	3·7	3·2	6·5	3·2	3·6	24·6
Men's clothing	73·1	26·9	13·2	5·9	3·8	13·7	17·2	23·0	3·6
Family clothing	76·2	23·8	13·1	5·9	3·5	10·7	21·7	26·3	3·2
Women's ready-to-wear	72·9	27·1	16·2	6·9	4·7	10·9	14·3	17·7	4·6
Family shoe	73·2	26·8	14·3	6·9	4·2	12·5	22·7	27·5	2·9
Country general	84·5	15·5	8·9	4·3	2·5	6·6	16·7	19·4	4·7
Dry goods	74·2	25·8	13·3	6·3	3·7	12·5	19·4	23·4	3·5
Furniture	73·3	26·7	15·2	6·2	4·1	11·5	14·1	19·7	4·3
Household appliances and radio	70·8	29·2	17·6	8·5	4·0	11·6	8·4	15·2	6·0
Hardware	76·3	23·7	12·2	6·1	3·1	11·5	18·5	22·6	3·7
Restaurants	62·8	37·2	29·2	18·2	7·4	8·0	1·9	2·2	30·6
Restaurants with merchandise	68·1	31·9	23·1	12·9	7·1	8·8	3·1	3·6	20·5
Coal and wood	78·9	21·1	16·1	8·4	3·3	5·0	3·9	6·7	14·9
Drug stores without fountain	72·8	27·2	15·0	7·8	3·9	12·2	17·5	19·7	3·9
Drug stores with fountain	75·2	24·8	15·0	8·1	3·9	9·8	14·1	15·4	5·1
Jewellery	62·9	37·1	20·7	10·1	5·0	16·4	27·2	36·1	2·0
Tobacco	84·4	15·6	7·7	2·9	3·5	7·9	7·3	8·4	10·8
Filling stations	81·8	18·2	11·5	6·0	3·4	6·7	2·8	3·4	26·3
Garages	72·3	27·7	18·9	10·9	4·6	8·8	5·6	7·1	11·4

[1] Includes salaries and wages, occupancy expense and store supplies plus all other expenses. [2] Salaries and wages do not include proprietors' salaries. [3] Includes taxes and insurance, light, heat and power, repairs, maintenance, depreciation and rentals on rented premises. [4] Includes proprietors' salaries or withdrawals. [5] Cost of goods sold, divided by average of beginning and year-end inventories.

Section 5.—The Co-operative Movement in Canada*

An outline of the growth of co-operative activity in Canada and of the legislation passed in connection therewith, is given at pp. 543-545 of the 1942 Year Book. Developments leading up to the appointment in November, 1944, of a Royal Commission to inquire into the application of income tax and excess profits tax to co-operatives are given at pp. 618-624 of the 1946 edition. Amendments to the Income War Tax Act based on the report of that Commission and passed in August, 1946, are given at p. 838 of the 1947 edition.



Trends in the Crop Years Ended July 30, 1946 and 1947

Co-operation in the marketing of farm products and in the purchasing of farm supplies and consumer goods has increased steadily during the past 16 years. For the crop year ended July 31, 1947, 2,095 associations reported as compared with 1,953 for the previous crop year. Of the 1947 total, 1,124 were engaged in marketing and 1,548 in purchasing supplies for their members. The larger number of associations purchasing supplies is explained by the fact that many co-operatives, organized primarily to market produce, purchase supplies as well and a few purchasing co-operatives market produce as a part of the service given their members. There is thus some duplication in the totals.

Summary statistics of the reporting associations are given in Tables **31-33**. The numbers of members and patrons in 1947 were the highest on record, Manitoba and Saskatchewan showing the most substantial increases over 1946. It should be noted, however, that there is also duplication in these figures since many members, and farmers especially, belong to more than one co-operative. Assets and liabilities were both slightly higher in 1947 than in 1946; value of plant increased by over $6,000,000 but working capital was less by about $2,000,000. Total business reported by the co-operatives for the crop year 1946-47 amounted to $712,583,246 a record volume which exceeded the figure for the previous year by over $158,000,000.

* Prepared by W. F. Chown and J. E. O'Meara, Marketing Service, Economics Division, Department of Agriculture, Ottawa.

Part of this increase resulted from a very large increase in returns for the Province of Ontario and part from the rise in the general level of prices which occurred during the period.

Marketing.—Sales of farm products in 1946-47 increased by about $124,000,000 over the figure for the previous year. Every product that co-operatives market in Canada showed an increase in sales value with the exception of honey and wool. Wool sales decreased by only a small amount but in 1946 the honey crop was almost a complete failure and sales by co-operative honey producers were down by well over 50 p.c. Sales value of grains marketed increased by $78,000,000, fruits and vegetables by $14,000,000, tobacco by $16,000,000, dairy products by $6,000,000, and poultry and eggs by $2,000,000. All provinces reported increases in the value of farm products sold with the exception of New Brunswick where sales were down by $471,000. Saskatchewan, Ontario and Alberta all reported sales volume increases ranging from $25,000,000 to $35,000,000.

Marketing co-operatives handled approximately 31 p.c. of the main farm products entering commercial channels of trade in 1946-47 as compared with 28 p.c. in 1945-46. Marketings as a percentage of the total of various products were as follows, with the percentage for the previous year in parentheses: Grains 53 p.c. (50); dairy products 22 p.c. (21); live stock 18 p.c. (16); poultry and eggs, 17 p.c. (16); wool, 73 p.c. (58); fruits and vegetables, 32 p.c. (27); maple products, 12 p.c. (28); tobacco, 87 p.c. (88); honey, 11 p.c. (23).

Merchandising.—The reported sales value of supplies and goods purchased by co-operatives for distribution to members and patrons for the year 1946-47 amounted to $127,001,488. This increase of $31,398,177 marks the first time that the merchandising sales volume has been greater than $100,000,000. The greatest single increase was recorded in feed and fertilizer with total sales of $53,400,000 compared with $38,000,000 for the previous year.

31.—Summary Statistics of Co-operative Business Organizations, Crop Years Ended July 31, 1942-47

Year	Associations	Places of Business	Patrons	Sales of Farm Products	Sales of Supplies	Total Business[1]
	No.	No.	No.	$	$	$
1942	1,722	4,291	620,034	214,762,980	42,327,447	257,090,427
1943	1,650	4,406	608,680	295,499,274	55,689,141	352,785,598
1944	1,792	4,534	719,080	459,798,798	65,508,771	527,855,540
1945	1,824	4,441	738,345	500,481,627	81,360,855	585,650,066
1946	1,953	4,488	922,928	454,564,927	95,603,311	554,329,652
1947	2,095	5,084	1,036,498	578,638,214	127,001,488	712,583,246

Year	Value of Plant	Total Assets	Liabilities to the Public	Shareholders or Members	Members Equity
	$	$	$	No.	$
1942	37,597,916	128,004,893	69,964,822	561,314	58,040,071
1943	36,866,861	186,634,839	124,264,085	585,826	62,370,754
1944	40,664,827	203,047,911	130,556,373	690,967	72,491,538
1945	43,048,326	171,128,184	87,354,033	739,804	83,774,151
1946	46,775,158	163,467,434	71,012,260	926,863	92,455,174
1947	53,027,212	168,195,387	71,403,750	982,990	96,791,637

[1] Includes other revenue.

32.—Products Marketed, Merchandise and Supplies Handled by Co-operative Business Organizations, Crop Years Ended July 31, 1946 and 1947

Item	1946		1947	
	Associations[1]	Value of Sales	Associations[1]	Value of Sales
	No.	$	No.	$
Marketing—				
Dairy products	581	76,886,462	645	83,233,972
Fruits and vegetables	183	30,701,682	176	44,205,752
Grain and seed	98	205,340,212	96	283,262,461
Live stock	312	83,023,834	325	91,593,252
Eggs and poultry	247	23,961,207	269	26,034,954
Honey	6	1,153,415	8	517,544
Maple products	1	794,285	1	1,115,982
Tobacco	6	27,624,924	7	43,747,881
Wool	13	2,135,367	15	2,093,967
Fur	3	1,609,470	4	1,966,806
Lumber and wood	6	100,229	7	121,705
Miscellaneous	28	1,233,840	37	743,938
Totals, Marketing	**1,080**	**454,564,927**	**1,124**	**578,638,214**
Merchandising—				
Food products	427	24,886,273	489	27,933,952
Clothing and home furnishings	323	3,915,741	335	3,857,771
Petroleum products and auto accessories	585	13,265,374	616	14,671,057
Feed, fertilizer or spray material	889	38,043,432	947	53,438,346
Machinery and equipment	341	1,267,160	242	1,680,228
Coal, wood and building material	503	4,992,761	557	8,034,153
Miscellaneous	734	9,232,570	829	17,385,981
Totals, Merchandising	**1,446**	**95,603,311**	**1,548**	**127,001,488**
Grand Totals	**1,953**	**550,168,238**	**2,095**	**705,639,702**

[1] Duplication exists in this column since some associations market produce as well as handle supplies. Some market more than one product and some handle many of the supplies listed.

33.—Summary Statistics of Co-operative Business Organizations, by Provinces, Crop Years Ended July 31, 1946 and 1947

Province		Associations	Shareholders or Members	Sales of Products	Sales of Merchandise	Total Business[1]
		No.	No.	$	$	$
Prince Edward Island	1946	21	6,127	2,301,638	742,092	3,131,587
	1947	20	6,254	2,425,352	963,278	3,460,836
Nova Scotia	1946	88	15,421	3,543,493	9,457,254	13,083,407
	1947	96	13,122	8,548,552	10,052,728	18,685,973
New Brunswick	1946	57	13,270	3,013,804	4,505,487	7,661,420
	1947	57	12,203	2,543,210	5,219,960	7,802,231
Quebec	1946	605	60,026	45,150,529	21,054,652	66,215,901
	1947	590	56,694	50,493,314	25,208,856	75,712,503
Ontario	1946	269	66,402	63,296,733	14,376,902	79,117,732
	1947	402	74,920	92,509,241	32,555,933	128,122,831
Manitoba	1946	102	124,330	40,586,313	7,150,983	47,919,573
	1947	108	157,822	51,765,141	9,820,607	62,190,862
Saskatchewan	1946	546	356,917	139,334,311	18,420,433	158,329,402
	1947	545	370,937	172,544,516	21,723,140	195,121,578
Alberta	1946	156	214,445	89,421,272	9,939,557	99,722,957
	1947	169	218,217	116,529,637	10,257,756	127,685,241
British Columbia	1946	103	32,483	33,032,832	7,606,711	41,895,074
	1947	102	33,255	37,041,213	8,491,384	46,641,954
Interprovincial	1946	6	37,442	34,884,002	2,349,240	37,252,599
	1947	6	39,566	44,238,038	2,707,846	47,159,237
Totals	1946	**1,953**	**926,863**	**454,564,927**	**95,603,311**	**554,329,652**
	1947	**2,095**	**982,990**	**578,638,214**	**127,001,488**	**712,583,246**

[1] Includes other revenue.

33.—Summary Statistics of Co-operative Business Organizations, by Provinces, Crop Years Ended July 31, 1946 and 1947—concluded

Province		Total Assets	Value of Plant	Liabilities to the Public	Liabilities to Members	Members Equity
		$	$	$	$	$
Prince Edward Island	1946	388,508	106,439	169,578	[1]	[1]
	1947	464,111	79,527	153,747	68,692	310,364
Nova Scotia	1946	3,570,320	1,247,545	1,481,526	[1]	[1]
	1947	4,509,546	2,221,921	1,581,548	268,286	2,927,998
New Brunswick	1946	1,412,413	376,805	466,977	[1]	[1]
	1947	1,591,096	379,276	650,416	48,504	940,680
Quebec	1946	20,731,122	9,439,223	9,533,721	[1]	[1]
	1947	24,039,899	11,143,234	12,889,223	Nil	11,150,676
Ontario	1946	10,058,566	4,291,252	4,752,402	[1]	[1]
	1947	14,034,463	5,979,702	5,564,997	2,150,252	8,469,466
Manitoba	1946	13,931,599	3,126,402	8,644,966	[1]	[1]
	1947	12,434,185	3,503,638	2,704,986	5,410,188	9,729,199
Saskatchewan	1946	64,131,354	12,944,556	20,245,880	[1]	[1]
	1947	54,949,909	12,480,603	19,993,605	26,229,385	34,956,304
Alberta	1946	20,343,973	5,260,201	9,260,491	[1]	[1]
	1947	25,362,014	6,217,130	10,738,530	10,358,479	14,623,484
British Columbia	1946	13,951,116	4,875,257	8,291,401	[1]	[1]
	1947	16,928,051	5,955,878	10,218,893	1,047,961	6,709,158
Interprovincial	1946	14,948,463	5,107,478	8,165,318	[1]	[1]
	1947	13,882,113	5,066,303	6,907,805	413,398	6,974,308
Totals	**1946**	**163,467,434**	**46,775,158**	**71,012,260**	[1]	**92,455,174**
	1947	**168,195,387**	**53,027,212**	**71,403,750**	**45,995,145**	**96,791,637**

[1] Not available.

Wholesaling.—There are 11 large co-operative associations in Canada mainly concerned in the wholesale distribution of farm supplies and consumer goods to local stores and farm supply co-operatives. Because of differences in structure accurate membership figures are not available. Total assets reported in 1946-47 amounted to $14,500,000, liabilities to the public $7,500,000 and liabilities to members $1,200,000. Members' equity amounted to $7,000,000.

Goods and supplies purchased by the wholesales and distributed to their members had a sales value of over $40,000,000, over 50 p.c. of which was feed and fertilizer, an increase of $3,000,000 over the previous year. Food products, farm machinery and petroleum products sales amounted to $14,800,000 in 1946-47. Farm products marketed by the wholesales on behalf of both individual members and corporate members in the same year amounted to $43,900,000. The main product marketed was live stock with a sales value of $22,800,000, followed by dairy products at $14,500,000 and eggs and poultry at $4,400,000. Grain, fruits and vegetables constituted the remainder.

Co-operative Stores.—During 1946 there were 991 co-operative stores and branches in Canada which reported a sales volume of $45,893,742 to 166,000 members. In 1947 the number of stores increased by 36 to a total of 1,027 with a reported membership of 185,210 and total sales of $49,582,938.

Fishermen's Co-operatives.—In addition to the co-operative business summarized in the tables of this report, there were 83 co-operatives with a membership of 10,826 mainly engaged in the marketing of fish during 1946-47 as compared with 87 in 1945-46 with a membership of 11,575. The value of fish marketed by these groups was $10,558,912; fishermen's gear and bait as well as consumer goods such as groceries, dry goods and clothing with a sales value of $1,515,276 in 1946-47 were also handled. The corresponding figures for 1945-46 were $10,720,331 and $1,392,101, respectively.

Credit Unions.—Statistics for credit unions are given in the Currency and Banking chapter at pp. 1047-1051.

Miscellaneous and Service Type Co-operatives.—During 1946 there were 2,354 co-operative telephone systems in Canada with a total investment of $22,600,000 and 117,656 connected instruments, as compared with 2,368 systems, investment of $21,200,000 and 99,851 telephones in 1945. Other services provided co-operatively include housing, board and room, transportation, fire and life insurance, funeral services, electricity, machinery and electrical repairs, medical services and hospitalization. Increased interest in the latter has led to the organization of a score or more co-operative medical services in Ontario alone and these have recently organized themselves into the Co-operative Medical Services Federation.

Section 6.—Food Consumption

Consumption of Major Foods.—A study of consumption of the major foods was undertaken during the war years by the Agricultural Division of the Bureau of Statistics in recognition of the national and international significance of such information. While data on total consumption of certain commodities such as wheat, alcoholic beverages, meats, etc., have been available for a considerable period, it was found necessary to establish a per capita level of consumption of a wide range of products on a comparable basis.

The study has been continued during the post-war years but, whereas the comparison during war years was between peacetime and wartime levels of consumption, the comparison is now made between pre-war and post-war levels.

The series in Table 34 represents the official estimates of yearly supplies of food moving into consumption, expressed in pounds per capita, for the years 1935-39 as an average for comparison with the post-war years 1946 and 1947 (the estimates for 1947 are subject to revision).

The figures represent available supplies including production and imports, adjusted for change of stocks, exports, marketing losses and industrial uses. All calculations have been made at the retail stage of distribution, except meats for which the figures are worked out at the wholesale stage. The amounts of food actually eaten would be somewhat lower than indicated because of losses and waste occurring after the products reached the hands of the consumer. It should also be pointed out that there are minor discrepancies in certain of the figures since storage stocks in the hands of retailers and consumers were not available. In the main, however, the figures represent the best summary of food consumption data that has been compiled for Canada.

All basic foods have been classified under 13 main commodity groups. Totals for each group have been computed using common denominators for the group, as for example: milk solids (dry weight) in the case of the dairy products group; fat content in the case of fats and oils; and fresh equivalent in the case of fruits. All foods have been included in their basic form, that is, as flour, fat, sugar, etc., rather than in more highly manufactured forms.

34.—Per Capita Supplies of Food Moving into Consumption, 1946 and 1947, with Averages, 1935-39

NOTE.—Many figures in this table have been revised since the publication of the 1947 Year Book, due to the regrouping of component items of certain groups.

Item	Specification	Pounds per Capita per Annum			Percentages of 1935-39 Average	
		1935-39	1946	1947[1]	1946	1947[1]
Cereals—						
Flour (including rye flour)[2]	Retail wt.	184·8	205·8	155·7	111·4	84·3
Oatmeal and rolled oats	"	7·3	9·4	6·4	128·8	87·7
Pot and pearl barley	"	0·3	0·7	0·5	233·3	166·7
Corn meal and flour	"	1·4	1·1	0·2	78·6	14·3
Buckwheat flour	"	0·2	0·1	0·1	50·0	50·0
Rice	"	4·3	2·1	3·0	48·8	69·8
Breakfast food	"	7·4	8·0	7·8	108·1	105·4
Totals, Cereals	**Retail wt.**	**205·7**	**227·2**	**173·7**	**110·4**	**84·4**
Potatoes—						
Potatoes, white	Retail wt.	192·3	198·5	161·6	103·2	84·0
Potatoes, sweet	"	0·6	0·7	0·7	116·7	116·7
Totals, Potatoes	**Retail wt.**	**192·9**	**199·2**	**162·3**	**103·3**	**84·1**
Sugars and Syrups—						
Sugar	Refined wt.	94·7	72·2	87·9	76·2	92·8
Maple sugar	Retail wt.	1·8	1·3	2·4	72·2	133·3
Other	"	11·9	18·1	17·4	152·1	146·2
Totals, Sugar and Syrups	**Sugar content**	**104·0**	**84·8**	**101·0**	**81·5**	**97·1**
Pulses and Nuts—						
Dry beans	Retail wt.	3·7	4·9	4·6	132·4	124·3
Dry peas	"	5·7	4·0	3·6	70·2	63·2
Peanuts	Shelled wt.	2·2	2·6	3·2	118·2	145·5
Tree nuts	"	1·1	1·4	0·8	127·3	72·7
Soybean flour	Retail wt.	[3]	0·8	0·6	–	–
Cocoa	Green beans	3·7	3·8	3·8	102·7	102·7
Totals, Pulses and Nuts	**Retail wt. incl. shelled wt. of nuts**	**14·5**	**15·5**	**14·6**	**106·9**	**100·7**
Fruit—						
Tomatoes and Citrus Fruit—						
Tomatoes, fresh	Retail wt.	15·4	32·0	30·8	207·8	200·0
Tomato products	Net wt. canned	10·0	20·3	12·5	203·0	125·0
Citrus fruit, fresh	Retail wt.	25·1	46·8	41·8	186·5	166·5
Citrus fruit, canned	Net wt. canned	0·5	6·2	8·3	1,240·0	1,660·0
Other Fruit—						
Fresh	Retail wt.	40·5	51·1	61·1	126·2	150·9
Canned	Net wt. canned	6·3	6·9	7·1	109·5	112·7
Dried	Processed wt.	8·3	11·0	10·0	132·5	120·5
Juice	Net wt. canned	[3]	2·5	2·4	–	–
Frozen	Retail wt.	0·2	0·3	0·4	150·0	200·0
Totals, Fruit	**Fresh equiv.**	**138·7**	**230·4**	**221·3**	**166·1**	**159·6**
Starch	**Retail wt.**	**2·5**	**2·8**	**2·1**	**112·0**	**84·0**

For footnotes, see end of table.

34.—Per Capita Supplies of Food Moving into Consumption, 1946 and 1947, with Averages, 1935-39—concluded

Item	Specification	Pounds per Capita per Annum			Percentages of 1935-39 Average	
		1935-39	1946	1947[1]	1946	1947[1]
Vegetables—						
Fresh—						
Cabbage and greens	Retail wt.	16·2	16·8	13·6	103·7	84·0
Carrots	"	15·4	11·4	10·0	74·0	64·9
Legumes	"	6·2	6·4	4·8	103·2	77·4
Other	"	29·8	31·0	31·3	104·0	105·0
Canned	Net wt. canned	10·8	22·9	15·8	212·0	146·3
Frozen	Retail wt.	[3]	0·3	0·3	–	–
Totals, Vegetables	**Fresh equiv.**	**78·4**	**88·8**	**75·8**	**113·3**	**96·7**
Oils and Fats—						
Lard	Retail wt.	3·9	6·6	6·9	169·2	176·9
Shortening	"	10·6	[3]	[3]	–	–
Other oils and fats	"	1·8	[3]	[3]	–	–
Butter	"	31·0	25·8	27·9	83·2	90·0
Totals, Oils and Fats	**Fat content**	**41·4**	–	–	–	–
Meat—						
Pork	Carcass wt.	39·9	51·9	52·7	130·1	132·1
Beef	"	54·7	67·4	67·7	123·2	123·8
Veal	"	10·5	10·5	9·6	100·0	91·4
Mutton and lamb	"	5·6	4·8	4·8	85·7	85·7
Offal	Edible wt.	5·8	5·5	6·5	94·8	112·1
Canned	Net wt. canned	1·4	4·4	3·5	314·3	250·0
Totals, Meats	**Carcass wt.**	**118·4**	**146·0**	**146·0**	**123·3**	**123·3**
Poultry and Fish—						
Hens and chickens	Retail wt., dressed	15·6	19·8	18·5	126·9	118·6
Other poultry	"	2·8	3·0	2·8	107·1	100·0
Shell fish	Fresh, edible wt.	0·4	0·3	0·3	75·0	75·0
Fish, (other) fresh, frozen and cured	Filleted wt.	8·8	8·6	6·5	97·7	73·9
Fish, canned	Net wt. canned	2·7	3·1	4·0	114·8	148·1
Totals, Poultry and Fish	**Edible wt.**	**22·4**	**24·9**	**22·9**	**111·2**	**102·2**
Eggs	**Fresh egg equiv.**	**30·7**	**33·2**	**32·8**	**108·1**	**106·8**
Milk and Cheese—						
Cheddar cheese	Retail wt.	3·4	3·9	4·7	114·7	138·2
Other cheese[4]	"	0·3	0·4	0·4	133·3	133·3
Cottage cheese	"	0·1	0·5	0·4	500·0	400·0
Evaporated whole milk	"	6·1	11·9	14·5	195·1	237·7
Condensed whole milk	"	0·6	1·0	1·0	166·7	166·7
Whole milk powder	"	0·1	0·8	0·8	800·0	800·0
Malted milk	"	0·1	0·1	0·1	100·0	100·0
Condensed skim milk	"	0·4	0·3	0·3	75·0	75·0
Skim milk powder	"	1·8	2·9	3·0	161·1	166·7
Evaporated skim milk	"	0·1	0·2	0·3	200·0	300·0
Condensed buttermilk	"	0·1	0·2	0·3	200·0	300·0
Milk in ice cream	"	13·0	18·4	26·7	141·5	205·4
Powdered buttermilk	"	[5]	0·3	0·3	–	–
Fluid whole milk	"	438·7	478·2	457·8	109·0	104·4
Totals, Milk and Cheese	**Milk Solids**	**55·4**	**68·0**	**67·1**	**122·7**	**121·1**
Beverages—						
Tea	Primary distribution wt.	3·5	3·7	3·8	105·7	108·6
Coffee	Green beans	3·7	4·7	4·7	127·0	127·0
Totals, Beverages	**Primary Distribution wt.**	**7·2**	**8·4**	**8·5**	**116·7**	**118·1**

[1] Subject to revision. [2] Fluctuations in apparent per capita flour consumption are partly due to the fact that complete data on flour inventories in all positions are not available. For example, in 1947 the consumption is probably understated due to a non-inclusion of quantities of flour moving into consumption from inventories accumulated in commercial channels during the previous year or so. [3] Not available. [4] Includes farm-made cheese. [5] Less than 0·05 lb.

Consumption of Meats.—The supply, distribution and per capita consumption of meats and lard are given in detail in Table **35**. The per capita estimates represent the consumption of the civilian population only. In order to arrive at a proper comparison of meat consumption during 1940-45 with the years before the War, figures of supply were revised to compensate for amounts of meat used for non-civilian purposes. These deductions included purchases by the Department of Munitions and Supply for the Army, Navy and Air Force, supplies for ships' stores, Red Cross parcels and other similar uses.

The Canadian population figures used to arrive at the per capita consumption estimates were also adjusted for the members of the Armed Forces serving outside Canada and living in barracks in Canada. All estimates in Table **35** are on a carcass weight basis except canned meats which are in terms of the product.

35.—Supply, Distribution and Civilian Consumption of Meats and Lard, 1943-47, with Averages, 1935-39

Item		Average 1935-39	1943	1944	1945	1946[1]	1947[2]
Beef—							
Animals slaughtered in Canada.	'000	1,347·0	1,803·9	1,958·7	2,420·1	2,266·3	2,100·6
Estimated dressed weight[3].....	'000 lb.	618,556	863,175	932,831	1,119,662	1,053,339	962,801
On hand, Jan. 1.....	"	22,684	29,204	35,637	31,831	40,842	30,642
Imports[4].....	"	158[5]	375	23	2	6	8
Totals, Supply.....	"	641,398	892,754	968,491	1,151,495	1,094,187	993,451
Exports[4].....	"	10,899	13,549	107,411	194,754	136,063	48,838
Used for canning.....	"	1,406	5,993	14,181	116,302	88,480	49,580
On hand, Dec. 31.....	"	24,040	35,637	31,831	40,842	30,642	43,056
Used by non-civilians.....	"	Nil	63,418	64,546	65,000	18,218	Nil
TOTALS, CIVILIAN CONSUMPTION	"	605,053	774,157	750,522	734,597	820,784	851,977
Civilian consumption per capita.	lb.	54·7	69·3	66·6	64·6	67·4	67·7
Veal—							
Animals slaughtered in Canada.	'000	1,333·6	1,204·0	1,373·0	1,493·8	1,464·8	1,393·3
Estimated dressed weight[3].....	'000 lb.	116,372	118,209	125,993	141,391	132,022	126,426
On hand, Jan. 1.....	"	3,452	2,308	5,419	5,155	5,348	3,438
Imports.....	"	[6]	[6]	[6]	[6]	[6]	[6]
Totals, Supply.....	"	119,824	120,517	131,412	146,546	137,370	129,864
Exports.....	"	Nil	[6]	[6]	[6]	[6]	[6]
Used for canning.....	"	22	23	25	2,195	5,459	2,893
On hand, Dec. 31.....	"	3,785	5,419	5,155	5,348	3,438	6,743
Used by non-civilians.....	"	Nil	1,451	2,735	4,000	481	Nil
TOTALS, CIVILIAN CONSUMPTION	"	116,017	113,624	123,497	135,003	127,992	120,228
Civilian consumption per capita.	lb.	10·5	10·2	11·0	11·9	10·5	9·6
Pork—							
Animals slaughtered in Canada.	'000	5,165·1	10,550·8	11,421·5	8,683·7	7,896·3	7,586·0
Estimated dressed weight[7].....	'000 lb.	620,522	1,394,400	1,503,257	1,111,607	993,471	972,089
On hand, Jan. 1.....	"	34,511	55,650	85,472	48,852	33,072	38,705
Imports[4].....	"	7,394	2,306	665	17	726	5,891
Totals, Supply.....	"	662,427	1,452,356	1,589,394	1,160,476	1,027,269	1,016,685
Exports[4].....	"	179,630	587,475	717,714	462,049	297,871	248,291
Used for canning.....	"	4,495	53,764	91,438	46,116	52,143	48,072
On hand, Dec. 31.....	"	37,863	85,472	48,852	33,072	38,705	57,514
Used by non-civilians.....	"	Nil	44,088	39,948	40,000	6,506	Nil
TOTALS, CIVILIAN CONSUMPTION	"	440,439	681,557	691,442	579,239	632,044	662,808
Civilian consumption per capita.	lb.	39·9	61·0	61·4	50·9	51·9	52·7

For footnotes, see end of table.

35.—Supply, Distribution and Civilian Consumption of Meats and Lard, 1943-47, with Averages, 1935-39—concluded

Item		Average 1935-39	1943	1944	1945	1946[1]	1947[2]
Mutton and Lamb—							
Animals slaughtered in Canada.	'000	1,543·0	1,508·5	1,415·0	1,634·1	1,673·5	1,554·1
Estimated dressed weight[3]	'000 lb.	61,417	62,092	57,727	69,008	71,249	67,257
On hand, Jan. 1	"	6,190	5,054	9,419	6,930	7,778	7,072
Imports[4]	"	422	29	Nil	Nil	Nil	2
Totals, Supply	"	68,029	67,175	67,146	75,938	79,027	74,331
Exports[4]	"	248	891	1,589	7,951	11,268	4,569
Used for canning	"	37	129	218	1,563	1,303	393
On hand, Dec. 31	"	5,965	9,419	6,930	7,778	7,072	9,142
Used by non-civilians	"	Nil	5,055	3,912	4,800	578	Nil
Totals, Civilian Consumption	"	61,779	51,681	54,497	53,846	58,806	60,227
Civilian consumption per capita.	lb.	5·6	4·6	4·8	4·7	4·8	4·8
Canned Meats—							
Estimated production	'000 lb.	5,624	47,794	77,460	199,017	191,016	99,850
Imports	"	12,292	5,640	5,685	656	1	371
Change in stock[8]	"	Nil	+998[9]	+7,707[9]	+50,000[9]	Nil	−27,000[9]
Totals, Supply	"	17,916	52,436	75,438	149,673	191,017	127,221
Exports	"	1,999	18,820	39,707	98,704	137,641	83,615
Used by non-civilians	"	Nil	7,681	12,495	10,000	Nil	Nil
Totals, Civilian Consumption	"	15,917	25,935	23,236	40,969	53,376	43,606
Civilian consumption per capita.	lb.	1·4	2·3	2·1	3·6	4·4	3·5
Offal—							
Estimated production	'000 lb.	64,611	98,770	108,765	107,096	99,503	91,768
Imports	"	[10]	10	Nil	Nil	Nil	2,623
Totals, Supply	"	64,611	98,780	108,765	107,096	99,503	94,391
Exports	"	[10]	9,595	14,700	10,839	5,264	4,060
Used for canning	"	583	5,268	7,870	25,550	27,191	9,033
Used by non-civilians	"	Nil	2,411	3,196	2,000	242	Nil
Totals, Civilian Consumption	"	64,028	81,506	82,999	68,707	66,806	81,298
Civilian consumption per capita.	lb.	5·8	7·3	7·4	6·0	5·5	6·5
Lard—							
Estimated production[11]	'000 lb.	63,237	119,884	140,753	94,328	79,023	77,600
On hand, Jan. 1	"	2,685	2,852	5,481	4,961	972	1,459
Imports	"	56	Nil	[10]	[10]	5,000[9]	13,700[9]
Totals, Supply	"	65,978	122,736	146,234	99,289	84,995	92,759
Exports	"	19,485	734	32,310	3,110	442	779
Used for canning	"	75	27	13,022[11]	8,990	2,694	1,223
On hand, Dec. 31	"	2,963	5,481	4,961	972	1,459	3,447
Used by non-civilians	"	Nil	619	2,262	1,000	500	Nil
Totals, Civilian Consumption	"	43,455	115,875	93,679	85,217	79,900	87,310
Civilian consumption per capita.	lb.	3·9	10·4	8·3	7·5	6·6	6·9

[1] Revised since the publication of the 1947 Year Book. [2] Subject to revision. [3] Edible meat excluding offal. [4] Basis cold dressed carcass weight. [5] Includes edible offal of beef and veal. [6] Quantity small; included with beef. [7] Edible meat excluding fats and offal. [8] The positive changes represent deductions from the available supply during a given year and therefore are subtracted; similarly, negative changes represent an increase in disappearance. Where no changes are indicated it is assumed that stocks at the beginning and end of period were the same. [9] Estimated. [10] Negligible. [11] Includes rendered pork fat.

Section 7.—Interprovincial Freight Movements*

Statistics on interprovincial trade are difficult to collect because there are no barriers to this trade. The only comprehensive statistics available are the loadings and unloadings of freight carried by the railways. The railway traffic is segregated into 76 classes of freight and the differences between loadings and unloadings are the imports and exports *by rail* for the respective provinces. But freight might be imported by rail and exported by water, as is the case with western grain moved to the Ontario ports of Fort William and Port Arthur. Consequently, the statistics of Table 36 must not be taken as a measure of total interprovincial trade: they indicate only the interprovincial movement of railway freight which is one aspect of that trade.

* Revised by G. S. Wrong, Director, Transportation and Public Utilities Division, Dominion Bureau of Statistics.

36.—Railway Revenue Freight Movement, by Provinces, 1946 and 1947

Province	Loaded		Received from Foreign Connections		Totals Originated[1]	
	1946	1947	1946	1947	1946	1947
	tons	tons	tons	tons	tons	tons
Prince Edward Island	285,364	397,280	Nil	Nil	285,364	397,280
Nova Scotia	7,188,348	7,251,878	128,626	112,920	7,316,974	7,364,798
New Brunswick	4,111,623	4,634,685	779,234	756,298	4,890,857	5,390,983
Quebec	17,756,539	19,593,257	8,204,467	9,269,944	25,961,006	28,863,201
Ontario	34,227,479	39,124,970	28,698,888	30,734,835	62,926,367	69,859,805
Manitoba	6,352,089	6,742,719	429,650	538,446	6,781,739	7,281,165
Saskatchewan	9,976,153	10,211,162	938,113	975,385	10,914,266	11,186,547
Alberta	11,125,623	12,200,411	153,204	257,122	11,278,827	12,457,533
British Columbia	7,350,521	8,912,745	820,935	991,315	8,171,456	9,904,060
Totals	**98,373,739**	**109,069,107**	**40,153,117**	**43,636,265**	**138,526,856**	**152,705,372**
	Unloaded		Delivered to Foreign Connections		Totals Terminated[1]	
	1946	1947	1946	1947	1946	1947
	tons	tons	tons	tons	tons	tons
Prince Edward Island	502,724	494,960	739	2,089	503,463	497,049
Nova Scotia	5,933,567	6,304,587	1,113,324	1,156,370	7,046,891	7,460,957
New Brunswick	3,603,460	3,778,270	2,934,168	3,227,421	6,537,628	7,005,691
Quebec	20,556,766	22,993,476	9,296,459	9,773,658	29,853,225	32,767,134
Ontario	43,680,861	49,435,354	23,776,696	24,951,842	67,457,557	74,387,196
Manitoba	6,778,146	7,348,134	899,978	1,084,384	7,678,124	8,432,518
Saskatchewan	5,421,505	5,801,133	43,517	58,914	5,465,022	5,860,047
Alberta	4,268,690	4,981,953	10,718	9,939	4,279,408	4,991,892
British Columbia	6,163,610	7,358,350	3,573,291	3,556,882	9,736,901	10,915,232
Totals	**96,909,329**	**108,496,217**	**41,648,890**	**43,821,499**	**138,558,219**	**152,317,716**

[1] Figures for freight originating and freight terminating do not agree because that freight which originates within a certain year does not all terminate within the same year. On the other hand, some that terminated in 1947, for instance, originated within the previous year.

PART II.—GOVERNMENT AIDS TO AND CONTROL OF DOMESTIC TRADE

Section 1.—Controls Affecting Distribution and Trade, 1947-48*

With increased domestic production and a heavier volume of imports, supplies showed substantial improvement in 1947, though a few more or less acute shortages persisted. An easier labour situation and the recovery of raw material supplies, both domestic and imported, were reflected in a significant expansion of output in many lines. In the important fields of metals, durable goods, building materials, pulp and paper products and textiles a very high level of activity was achieved and production of some items reached record levels. Supplies of some important commodities such as steel, farm machinery, durable goods and textiles (particularly cotton textiles) were further increased by a higher volume of imports. Agricultural production in contrast to the general trend in domestic output fell off somewhat though there were gains in some lines. The supply of oils and fats improved slightly with larger imports but remained sufficiently acute to require the continuation of quota restrictions on industrial use. Similarly the tin supply eased somewhat in the latter part of the year but, since tin is still under international allocation, control was retained to protect essential uses for this metal and restrictions on the manufacture and use of metal containers were also continued.

With the exception of these and a few other controls retained in some important cases (notably lumber and agricultural products) to protect domestic requirements and prevent the forcing up of prices in the Canadian market to high export levels, all supply and distribution controls associated with the post-war stabilization program were withdrawn during 1947. Export controls were lifted on a large number of products, generally concurrent with or shortly after the lifting of ceiling prices on the commodity concerned. Food rationing was ended with the termination of the rationing of meat, butter, evaporated milk and sugar. Various restrictions in the textile and pulp and paper fields were also discontinued. The situation is reviewed in detail below.

Equitable Distribution Policy.—Under the original Policy governing the distribution of goods in short supply, manufacturers and wholesalers of scarce goods had been required to allocate supplies to their customers on the basis of 1941 sales to these customers. Subsequently some goods had been exempted from the application of the Policy while, for certain other goods, freedom of distribution with respect to 20 p.c. of current supplies had been permitted provided that reasonable quantities were made available to ex-service men. In January, 1947, all goods remaining subject to the Policy were placed in the latter category. At the same time a number of additional items were entirely freed from the application of the Policy. The scope of this control was steadily narrowed through 1947 as goods released from ceiling prices automatically ceased to be subject to the controls of the Equitable Distribution Policy as also did those that were no longer in short supply. However, late in the year the canned fruits and vegetables and canned citrus fruit juices on which ceilings had been reimposed were placed under the Policy as an aid to the effective enforcement of ceiling prices.

* Prepared by the Wartime Prices and Trade Board. This article deals with developments in 1947 and the first half of 1948. Information on distribution controls and rationing since their inception during the war years is given in the Year Books 1943-44 (pp. 521-526), 1945 (pp. 564-571), 1946 (pp. 574-578), and 1947 (pp. 757-763).

Licensing.—Licensing controls on the establishment of new businesses or the undertaking of new lines of business were withdrawn in 1947. These regulations had been introduced late in 1942 as a necessary supplementary control for the Board's general purposes and in particular had facilitated the Policy of Equitable Distribution and had served the beneficial purpose of preventing an undesirable expansion in trade outlets at a time when goods were scarce. Later the regulations were considerably modified and after June, 1944, licences were issued freely except in cases where the applicant would require a quota or ration of some commodity under strict distribution control such as sugar. On Apr. 7, 1947, by which time a considerable number of items had been decontrolled, the regulations were substantially relaxed. Licences continued to be required only by those persons dealing in any goods or services still subject to price control and where, for price fixation and enforcement purposes, licensing requirements still remained essential. In addition all businesses using sugar quotas continued to require licences though their products had in some cases been decontrolled. All coke and coal dealers were likewise required to hold licences though these commodities were released from ceiling prices on Apr. 16, 1947. These exceptions were necessitated by the Board's continuing interest in supply and distribution in these fields. Finally on Nov. 15, 1947, all licensing regulations were withdrawn with the exception of those affecting fuel dealers.

Foods.—Though some foods, both domestic and imported, were available in substantially greater quantities, domestic agricultural production in some important lines was down from 1946. Crops of fruits, vegetables and grains were in most cases smaller than the crops of 1946 and were only fair by average standards. Meat production was about 6 p.c. below 1946 output, owing partly to reduced supplies of feeds. The decline was concentrated in beef supplies; inspected slaughterings of cattle were about 23 p.c. fewer than in the previous year. On the other hand, the downward trend in hog slaughterings from wartime peaks appeared to have been checked and inspected slaughterings increased about 4 p.c. Egg and poultry production reached markedly high levels. The production of milk was slightly greater than in 1946 but fluid milk sales were down about 2 p.c. Increases in the production of butter and concentrated milk products were achieved at the expense of a serious decline in the already low cheese output. Sugar was one of the bright spots in the supply picture as a result of an exceptionally good Cuban crop. Despite some continuing difficulties the removal of supply controls in the foods field had been largely completed by Sept. 15, 1947.

Meat.—Meat rationing was discontinued on Mar. 27, 1947, after a duration of approximately eighteen months. It had been imposed for a second time in September, 1945, as a means of making more meat available for export to the United Kingdom. The rationing of meat was an expensive and difficult operation from both the standpoint of Government administration and the extra burdens imposed upon farmers, commercial slaughterers, meat distributors and consumers. It was particularly important, therefore, not to prolong it further than was absolutely necessary. The regulations governing the observance of meatless days in restaurants and public eating places were withdrawn on Aug. 15, 1947.

Hog-slaughtering quotas, an integral part of the machinery of meat rationing, were discontinued as early as Apr. 20, 1947, in so far as general application was concerned. However, to protect United Kingdom requirements for pork, the Meat Board of the Department of Agriculture continued to keep all inspected

packers, which handle the bulk of pork going to market, under domestic hog-slaughtering quotas. These quota restrictions remained in effect until the end of September. Other Board regulations associated with the control of meat distribution—those providing for permit control of all slaughterers and for the stamping of all meats—were terminated concurrently with the lifting of ceiling prices on meats on Oct. 22, 1947.

Butter.—The rationing of butter, introduced in December, 1942, continued through the early part of 1947 at the rate of 6 ounces per week until June 9, when it was terminated. With the removal of rationing, butter consumption increased and in spite of greater production there were acute local shortages during the late winter and early spring of 1948.

Cream.—A number of controls affecting the supply and distribution of dairy products were withdrawn in April, concurrently with similar decontrol action by the Department of Agriculture. On Apr. 1, 1947, the Board terminated controls which had limited the butterfat content of fluid cream to 18 p.c. and had thus prohibited the sale of whipping cream, and had restricted the number of grades of cream that might be sold by distributors. Restrictions limiting monthly sales by cream distributors in about 80 important markets, on the basis of their sales in June, 1944, were also withdrawn.

Cheese.—At the beginning of April, 1947, with the approach of the heavy production season, restrictions on the distribution of cheddar cheese were withdrawn. Under these controls, imposed in October, 1946, the Administrator had directed the allocation of supplies as between the domestic and export markets. However, in August, 1947, when production was falling off very sharply the Dairy Products Board of the Department of Agriculture resumed the requisitioning of cheese for export to the United Kingdom until the end of November, 1947.

Evaporated Milk. — Restrictions on the sale of evaporated milk were removed on June 9, 1947, concurrently with the lifting of ceiling prices on this product. Under the priority system, as established in October, 1943, sales of evaporated milk in areas adequately supplied with fresh milk had been restricted to infants and invalids, while in "deficiency areas" these users received first priority. Subsequently it had been possible to relax the regulations by removing controls in areas deficient in fresh milk and also by lifting all restrictions in the western provinces. In November, 1946, however, it had been necessary to extend the area of control and prior to its termination the priority system had been in effect in the southern parts of Ontario and Quebec, some parts of the Maritimes and many of the large cities and towns of Western Canada. In these areas sales of evaporated milk had been restricted by coupon to infants and invalids.

Sugar.—The sugar supply position improved rapidly during the year, culminating in the termination of rationing to consumers and industrial users on Nov. 3, 1947. Previous to this the ration had been liberalized both by increases in the amount of the sugar allowance itself and by the removal of various items from the list of rationed preserves, thus making more coupons available for the remaining sugar-preserve alternatives.

The rationing of maple syrup and maple sugar was discontinued in February, 1947, with the approach of a new maple products season. Improved supplies permitted the removal from the ration list of corn, cane and blended syrups in March followed by jams, jellies, marmalade and honey on June 9, 1947.

The consumer sugar and preserves ration was increased approximately 14 p.c. on Apr. 1, 1947, bringing it from 7 to 8 lb. per quarter. Industrial users were given an increase of 10 p.c. of 1941 usage on which their quotas were based. After this, adjustment quotas for industrial users stood at the following percentage of 1941 usage: bakers, 90 p.c.; biscuit and cereal manufacturers, 85 p.c.; and soft drink and confectionery manufacturers, 80 p.c. Quotas for hotels, restaurants, hospitals and other such places were increased by corresponding amounts. Further increases were announced on June 25, as a result of increased allocations by the Emergency Food Council. An extra 3 to 4 lb. was to be added to the consumer ration in the last half of the year, the first two additional coupons becoming valid in August. Quotas for industrial users were again advanced by 10 p.c. over the 1941 usage. In the following months the sugar supply situation continued to ease and finally on Nov. 3, 1947, the rationing of sugar and edible molasses was terminated.

Canada's total allocation for 1947 amounted to 633,000 short tons of raw sugar, part of which was domestic production. This compared with a 1946 total allocation of 504,000 short tons. The actual distribution in 1947 at 98·1 lb. per capita, raw value, compared with 79·2 lb. per capita in 1946 and was close to the average pre-war (1934-38) consumption of 102·1 lb.

Wheat.—It was necessary in the early summer of 1947 to restrict the quantity of wheat that could be milled or processed for domestic consumption. To prevent hoarding in the expectation of decontrol and at the same time help maintain shipments of wheat and flour abroad at a high level, quotas based on 1945 usage were set. These restrictions were withdrawn on Sept. 15, 1947, when ceiling prices on flour were removed.

Oils and Fats.—During 1947 all supplies of oils and fats continued to be allocated by the International Emergency Food Council. The world supply showed some improvement and this was reflected in an easing in the Canadian supply position. It remained necessary, however, to continue restrictions on the use of oils and fats; quotas to industry were maintained and were increased in the case of shortening manufacturers.

Metals.—As at Mar. 31, 1948, a few key controls remained in the metals field. In view of extremely heavy demands for steel supplies the output of iron and steel continued to be directed by the Department of Reconstruction and Supply to obtain the most effective utilization of capacity and the maximum output of finished steel products. Despite the serious shortage of scrap, both cast iron and steel, the output of steel reached a very high level. In addition to the direction of steel production there were several priorities affecting the distribution of iron and steel products. Steel mills and foundries were required to meet specified minimum requirements of manufacturers of farm machinery. The requirements of the housing program also received priority and assistance was given for the procurement of steel plate tonnage for the domestic railway car building program and for shipbuilding.

Tin continued in short supply; world stocks had been heavily drawn upon in previous years and replacement was slow. Allocation by the Combined Tin Committee continued and careful utilization of supplies was necessary. During the first half of the year all tin, both primary and secondary, was released on the basis of 75 p.c. of 1946 usage. However, extra quantities were allocated over and above quota for certain essential requirements. During the last half of the year

the supply eased somewhat and releases were allowed on the basis of 100 p.c. of 1946 usage. In addition, ex-quota allocations were freely made to essential industries to the extent of reasonable requirements. With further improvement in supply all domestic allocations of tin were discontinucd in the second quarter of 1948.

In view of the shortage of tin and steel plate for the manufacture of cans, restrictions designed to provide for the most essential needs for metal containers were continued substantially unchanged through 1947. These regulations limited the use of metal containers to the packing of specified products in designated sizes and in some cases subject to quotas. In addition, under a priority system governing the manufacture and delivery of containers, preference had to be given to requirements for the packing of staples such as perishable fruits and vegetables, fish and meat products as well as special products including certain chemicals, drugs and medicinals. Some slight modification of the restrictions was made on Apr. 1, when annual quota pack limitations were lifted on a number of products. On Sept. 15, 1947, quotas were withdrawn on packs of several commodities and a few food items were added to the list of products which could be packed in metal containers. Finally, in May, 1948, the Metal Containers Order was revoked entirely.

Other Controls.—In 1947 the long drawn out shortage of textiles was at length overcome and supplies in most lines became quite satisfactory. In part the improvement reflected increased domestic production of woollens, rayons and cottons and in part it was the result of a larger volume of imports, particularly of cotton goods from the United States. The few remaining supply and distribution controls carrying over into 1947 were wound up. In the textile field one of the major control features was the program of production directives, employed as a means of obtaining the largest practicable output of essential garments. Only a small remnant of this program was carried over into 1947 and by mid-year all such controls had been dropped.

The various controls employed to regulate the distribution of pulp and paper products were gradually terminated during 1947. Most packing and wrapping materials were produced in greater quantities in 1947 but with continued heavy demand careful utilization of supplies remained necessary in the early part of the year. The distribution of shipping cases was under a priority system which gave preference in delivery to orders for essential uses such as the packaging of foods and building materials. These controls were withdrawn in July however, and in the same month regulations affecting the distribution of multi-wall bags were discontinued. One of the last controls to be terminated was that on the distribution of wood-pulp. To protect essential Canadian requirements in spite of the high prices prevailing in the export market, allocation of wood-pulp to the domestic market was continued until Dec. 31, 1947.

Section 2.—Trade Standards*

The Standards Division of the Department of Trade and Commerce was created in the latter part of the fiscal year 1946-47, and provided for the consolidation of several important services and for the administration, under one director, of the Electricity Inspection Act, the Gas Inspection Act, the Electricity and Fluid Exportation Act, the Precious Metals Marking Act, and the Weights and Measures

*Prepared under the direction of A. F. Gill, Director of Standards, Department of Trade and Commerce, by J. L. Stiver, Assistant Director.

Act. Certain functions in the field of commodity standards were also transferred to this Division from the Dominion Trade and Industry Commission, thereby furnishing a framework for the development of commodity standards and the use of the "Canada Standard" trade mark.

Subsection 1.—Commodity Standards

The Dominion Trade and Industry Commission Act of 1935 (c. 59) authorizes the use of the trade mark "Canada Standard" which may be applied on a voluntary basis by manufacturers or dealers, as a guarantee of the fulfilment by any product of a designated standard or specification. The administration of that trade mark is the responsibility of the Standards Division, which is also responsible for recommendations which, when approved by the Governor in Council, may be given the status of regulations applicable to the quality and labelling of merchandise. One such regulation of interest applies to the labelling of fur garments, and has established itself as a code of fair practice throughout the merchandising field.

Under the terms of the Precious Metals Marking Act, 1946 (c. 26), commodities composed of gold, silver or platinum as well as gold-plated, silver-plated, or platinum-plated wares, whether imported or of domestic manufacture, must be marked. The Act permits the manufacturer to stamp the marks of quality on the articles without immediate Government supervision. The inspection staff of the Standards Division is engaged in the examination of advertising matter, in verifying the quality of articles offered for sale and in checking the marks applied.

Subsection 2.—Weights and Measures

The Weights and Measures Act prescribes the legal standards of weight and measure for use in Canada. Responsibilities under the Act require control of the type of all weighing and measuring devices used for commercial purposes, their periodic verification and surveillance directed towards the elimination of sales by short-weight or short-measure.

The number of inspections made in the fiscal year 1946-47 was 717,864, compared with 660,109 in 1945-46. The more important of these comprised the following: weighing machines, including scales of all kinds, 227,041; measuring machines for liquids, 59,507; other weights, 130,651; other measures, 300,665.

Total expenditures were $454,702 in 1946-47 compared with $425,930 in 1945-46. Total revenues were $453,482 and $414,522, respectively, for the two years.

Subsection 3.—Electricity and Gas Inspection

Responsibilities of the Standards Division under the Electricity Inspection Act and the Gas Inspection Act comprise the control of the types of electricity meters and gas meters used throughout Canada, and the testing and stamping of every meter used for billing purposes, the object being to ensure the correct measurement of all electricity and gas sold. For the administration of these two Acts, Canada is divided into three divisions and twenty districts, and the total staff is 122. During the year ended Mar. 31, 1947, 628,148 electricity and gas meters were tested as compared with 534,192 in the preceding year. Revenue derived from the testing amounted to $431,467 and expenditures to $333,998.

1.—Electricity and Gas Meters in Use, Years Ended Mar. 31, 1938-47

Year	Electricity Meters	Gas Meters				
		Manufactured	Natural	Acetylene	Petroleum Gas	Total
	No.	No.	No.	No.	No.	No.
1938	1,905,692	510,261	174,355	3	1,268	685,887
1939	1,964,729	512,373	179,988	3	1,224	693,588
1940	2,037,563	514,170	185,499	3	1,184	700,856
1941	2,109,437	519,095	192,097	4	1,157	712,353
1942	2,181,945	524,669	197,781	4	1,196	723,650
1943	2,228,716	532,160	197,585	4	1,278	731,027
1944	2,268,500	540,240	201,522	4	1,392	743,158
1945	2,348,150	552,411	208,046	4	1,529	761,990
1946	2,459,672	550,949	215,330	4	1,651	767,934
1947	2,647,040	560,046	225,952	4	1,725	787,727

The Electricity and Fluid Exportation Act came into force in 1907. Under its provisions no electric energy or fluid, whether liquid or gaseous, may be exported from Canada without a licence. Total exports of electric energy during the year ended Mar. 31, 1947, amounted to 2,388,624,624 kilowatt hours. There was also a small exportation of natural gas.

Section 3.—Combinations in Restraint of Trade*

Federal legislative measures for aiding and regulating trade include specific prohibitions of operation against the public interest by monopolies and similar commercial combinations. Monopolistic trade arrangements tending to eliminate competition in price, supply or quality of goods, and thereby to restrain trade unduly, are illegal under laws including the Combines Investigation Act and Sect. 498 of the Criminal Code. These laws are designed to assist in achieving the widest desired use of the nation's economic resources by promoting reasonable competitive opportunities for the expansion of production, distribution and employment.

The first Federal legislation in this field was enacted in 1889 and is still effective in amended form as Sect. 498 of the Criminal Code. Legislation providing for investigation of trusts or combines was first enacted in 1897 as part of the Customs Tariff Act. In 1910 a separate Combines Investigation Act was provided and further legislation was enacted in 1919 and 1923.

The Combines Investigation Act.—The Combines Investigation Act (R.S.C. 1927, c. 26, as amended in 1935, 1937 and 1946) provides for investigation of trade combinations, mergers, trusts and monopolies alleged to have been formed or operated in restraint of trade and to the detriment of the public. Organizations or commercial arrangements of this class which operate to the detriment of the public by enhancing prices, fixing common prices, restricting competition, limiting production or otherwise restraining or attempting to restrain trade, are defined in the Act as "combines". Participation in the formation or in the operation of a combine is an indictable offence, subject to penalties up to $25,000 or two years' imprisonment. Investigations of alleged combines under the Act are conducted under the direction of the Combines Investigation Commissioner who reports to the Minister of Justice. The Act provides for publication of reports of such investigations and for prosecution when a combine is found to exist.

* Revised by F. A. McGregor, Commissioner, Combines Investigation Act, Department of Justice, Ottawa.

The maintenance of a competitive economy in Canada as a matter of public policy was reaffirmed by Parliament in amendments made to the Combines Investigation Act in 1946, whereby some of the recommendations made in the report "Canada and International Cartels" were given legislative form. Under amending legislation enacted in 1946, the Commission may receive and investigate complaints respecting practices alleged to be offences under Sect. 498 and 498A of the Criminal Code, which concern offences related to those covered by the Combines Investigation Act. The amending Act of 1946 also authorized the Exchequer Court to prevent by Court order certain uses of patents or trade marks in undue restraint of trade.

An alleged combine in the manufacture and sale of dental supplies was reported by the Commissioner in July, 1947, following investigation into the activities of the Canadian Dental Trade Association and the operations of its members. Eighteen member companies were indicted by a Grand Jury at Toronto, Ont., for offences under Sect. 498 of the Criminal Code, the indictment charging a conspiracy in undue restraint of trade. The trial began on Feb. 23, 1948, in the Supreme Court of Ontario before a judge sitting with a jury and ended on Mar. 18, 1948, when the presiding judge directed the jury to bring in a verdict of not guilty on the ground that the evidence submitted by the Crown had not been adequately authenticated. The Crown appealed from this verdict to the Ontario Court of Appeal.

Five bread-baking companies operating in Saskatchewan, Alberta and British Columbia and two bakers' associations in the latter two Provinces were named as parties to an alleged combine in a report submitted in November, 1948, by the special commissioner appointed under the Act to conduct the investigation.

An investigation into the manufacture and sale of optical goods resulted in a finding by the Commissioner in a report issued in April, 1948, that a combine existed among certain manufacturers and wholesalers of optical goods. The report disclosed that in 1939 a system of patent licensing had been instituted by the principal manufacturer under which minimum resale prices were established at each stage of distribution for all but a small proportion of the types of spectacles and their parts in popular demand. Other arrangements were entered into by the parties to the alleged combine to eliminate competition in other ways. Action initiated in 1943 in the Exchequer Court to impeach certain patents involved in the licensing system had not been completed by the end of 1947. One patent had expired and four had been held invalid. Judgment had been reserved in one case and in another the trial was not completed.

A number of other major investigations at varying stages of completion are in progress. Preliminary inquiries have been made into a variety of complaints received during the year and, in many cases, the matters were disposed of when it was found that further investigation was not warranted. In other instances the preliminary examination was followed by the abandonment of features of trade programs which, if put into effect, might have led to question under the Combines Investigation Act.

International Trade Organization*. — Preliminary conferences among members of the United Nations at London, New York and Geneva in 1946 and 1947 with a view to establishing an International Trade Organization led to the adoption of a charter at the World Conference on Trade and Employment at Havana in 1948. The Havana Charter, which was signed by the representatives

* See also reference to this Organization at pp. 860-861

of 53 countries on Mar. 24, 1948, had its origin in proposals made by the United States in December, 1945, in the form of a draft charter which was taken as the basis of discussions by a Preparatory Committee which first met at London in October, 1946. The aims of the World Conference on Trade and Employment were to provide working rules acceptable to trading countries for the conduct of international trade so as to avoid inequality of treatment between countries, particularly through discriminatory practices, and in general to increase trade, promote employment and assist in the development of less advanced areas. Among the provisions of the Charter are those relating to restrictive business practices which have harmful effects on international trade. Members accepting the Charter would agree to co-operate with the International Trade Organization to prevent their commercial enterprises from engaging in business practices, through international cartels or other means, which have or are about to have harmful effects on the expansion of trade and interfere with the achievements of the Organization's objectives. This section of the Charter establishes the procedure whereby members may submit complaints of such practices and provides a means of investigation and of recommendation for remedial action. The Charter will be submitted to the respective governments for ratification and will come into force when it has been accepted by a majority. In the meantime an Interim Commission has been set up under the chairmanship of Mr. Dana Wilgress, who was head of the Canadian delegation at Havana.

Section 4.—Patents, Copyrights and Trade Marks*

Letters patent are issued subject to the provisions of the Patent Act 1935 (25-26 Geo. V., 1935, c. 32, as amended by 11 Geo. VI, 1947, c. 23), and applications for protection relating to patents should be addressed to the Commissioner of Patents, Ottawa, Canada.

2.—Patents Applied for, Granted, etc., Years Ended Mar. 31, 1942-47

Item	1942	1943	1944	1945	1946	1947
Applications for patents.....No.	9,678	10,024	11,227	12,672	14,778	16,922
Patents granted..... "	8,346	7,686	7,803	7,084	7,412	6,590
Granted to Canadians..... "	595	500	480	486	495	520
Caveats granted..... "	246	233	223	362	421	442
Assignments..... "	7,488	8,530	7,857	8,265	8,964	11,063
Fees received, net..... $	351,553	348,036	366,254	388,593	421,539	452,193

The number of Canadian patents granted increased fairly steadily each year from 4,522 at the beginning of the century to a peak of 12,542 in 1923 and has remained between 6,500 and 8,500 for the past ten years. Of the 6,590 patents granted in 1947, 5,060 or 77 p.c. were from inventors resident in the United States, 520 from Canadian residents, 727 from residents of the United Kingdom and other British Dominions, Colonies and Protectorates, while residents of Switzerland applied for 79, of France for 58, of the Netherlands for 48, of Sweden for 40, of Germany for 24 and of other countries for 34.

The year ended Mar. 31, 1947, showed a marked increase over previous years in many classes of invention. Applications in the fields of chemistry and electricity were most numerous. In the former there was great activity in artificial resins and

* The material relating to patents and copyrights has been revised by J. T. Mitchell, Commissioner of Patents, and that relating to trade marks by J. P. McCaffrey, Registrar of Trade Marks, Ottawa.

plastics and there were many inventions related to the synthesis of dyes, perfumes and textiles. The distillation of mineral oils and the improvement of lubricants also attracted much attention, as did the production of insecticides and plant-growth regulating compounds, and the improvement of therapeutic substances, especially penicillin. In the electricity field there were numerous applications for air-blast blow-out types of circuit breakers, electric welding methods and radio devices.

Invention for war purposes attracted little attention except for aeroplane structure and variable pitch propellers. There were numerous applications for jet propulsion engines and subsidiary mechanism.

Wooden and metallic prefabricated houses and materials, automatic and hydraulic control of machine tools and tractor-operated means of controlling farm implements were further exploited and there was a considerable increase in applications in the fields of photography, geometrical instruments, testing machine and gauge inventions. Many office and household appliances were also applied for.

Copyrights, Industrial Designs and Timber Marks.—Registration of copyright is governed by R.S.C., 1927, c. 32, and applications for protection relating to copyrights should be addressed to the Commissioner of Patents, Ottawa.

The Copyright Act of 1921 (consolidated in R.S.C., 1927, c. 32) sets out, in Sect. 4, the qualifications for a copyright and, in Sect. 5, its duration: "Copyrights shall subsist in Canada . . . in every original literary, dramatic, musical and artistic work, if the author was, at the date of the making of the work, a British subject, a citizen or subject of a foreign country which has adhered to the Berne Convention and the additional Protocol . . . or resident within His Majesty's Dominions. The term for which the copyright shall subsist shall, except as otherwise expressly provided by this Act, be the life of the author and a period of fifty years after his death."

Copyright protection is extended to records, perforated rolls, cinematographic films, and other contrivances by means of which a work may be mechanically performed. The intention of the Act is to enable Canadian authors to obtain full copyright protection throughout all parts of His Majesty's Dominions, foreign countries of the Copyright Union, and the United States of America, as well as in Canada.

Protection of industrial designs and of timber marks is afforded under the Trade Marks and Design Act (R.S.C., 1927, c. 201) and amendments, and the Timber Marking Act (R.S.C., 1927, c. 198) and amendments. Registers of such designs and marks are kept under the Copyright Branch of the Patent Office, and information regarding them is published in the *Patent Office Record.*

3.—Copyrights, Industrial Designs and Timber Marks Registered, Years Ended Mar. 31, 1942-47

Item		1942	1943	1944	1945	1946	1947
Copyrights registered	No.	3,741	3,214	2,869	3,374	3,823	4,102
Industrial designs registered	"	256	177	266	326	525	769
Timber marks registered	"	7	9	8	10	5	15
Assignments registered	"	485	349	315	422	374	494
Fees received, net	$	15,247	14,252	15,405	16,847	17,818	18,838

Trade Marks and Shop Cards.—The Trade Marks Office, a Branch of the Department of the Secretary of State, is charged with the administration of the Unfair Competition Act, 1932, which repealed all previous Acts governing trade marks, and also with the Shop Cards Registration Act, which came into force on Sept. 1, 1938. Applications for registration of trade marks and shop cards should be addressed to the Registrar, Trade Marks Office, Ottawa, Canada.

A Register of Trade Marks is kept, in which, subject to the provisions of the Act, any person may cause to be recorded any trade mark he has adopted, and notification of any assignments, transmissions, disclaimers and judgments relating to such trade mark. In order that the public may be kept informed in the matter of trade-mark registration, a list of marks registered appears in the *Patent Office Record* which is issued weekly.

The Shop Cards Registration Act is designed to afford a measure of protection to organizations, such as trade unions, that formerly were able to register their particular designations as Union Labels under the Trade Mark and Design Act. Registrations under the Act may be renewed every 15 years.

4.—Trade Marks and Shop Cards Registered, Years Ended Mar. 31, 1942-47

Item	1942	1943	1944	1945	1946	1947
Trade marks registered.....No.	1,443	1,185	1,164	1,144	1,952	2,703
Trade-mark registrations assigned... "	392	692	693	706	971	1,241
Trade-mark registrations renewed... "	311	365	627	696	898	1,206
Certified copies prepared..... "	174	183	193	317	475	555
Shop cards registered..... "	1	Nil	2	1	1	Nil
Fees received, net..... $	42,186	42,385	48,556	76,089	107,448	127,037

Section 5.—Bounties, Subsidies and Subventions

In 1930 the Federal Parliament passed legislation entitled "An Act to Place Canadian Coal Used in the Manufacture of Iron or Steel on a Basis of Equality with Imported Coal" (20-21 Geo. V, c. 6). In implementation of this Act bounties paid in the calendar year 1947 amounted to $287,414 on a tonnage of 580,634.

The Domestic Fuel Act 1927 (17 Geo. V, c. 52) was passed to encourage the production of domestic fuel from coal mined in Canada. Under its provisions arrangements were made for annual payments to manufacturers of coke who used Canadian mined coal to the extent of 70 p.c. of the total used. In the administration of this Act $41,735 was paid in subsidies on 45,060 tons in the calendar year 1947.

Subventions were paid on movements of coal under assisted rates as provided by Parliament as follows:—

Province	*Tons*	*Amount*
		$
Nova Scotia.....	296,599	141,156
New Brunswick.....	2,528	1,698
Saskatchewan.....	12,559	11,923
Alberta and eastern British Columbia.....	252,076	532,139
British Columbia export and bunkers.....	9,294	6,971
TOTALS.....	573,056	693,887

Section 6.—Control and Sale of Alcoholic Beverages*

The provincial liquor control Acts have been framed to establish provincial monopolies of the retail sale of alcoholic beverages, with the practical elimination of private profit therefrom. Partial exception is made in the retail sale of beer by brewers, or others which certain provinces permit, while reserving regulative rights and taxing such sales heavily. The provincial monopoly extends to the retail sale and not to the manufacture of alcoholic beverages. The original liquor control Acts have been modified from time to time as deemed advisable.

During the war years, restrictions were placed on the manufacture, advertisement, importation and sale of alcoholic beverages. They are outlined at p. 586 of the 1946 Year Book.

The distilled liquor industry produces not only beverage spirits, but also industrial alcohol as (1) unmatured, denatured by distillers, used in anti-freeze and numerous other items, and (2) unmatured, non-denatured, used in chemical compounds, pharmaceutical preparations, and vinegar. Production of denatured alcohol was 8,093,259 proof gal. in 1947, an increase of some 2,581,391 proof gal. over 1946. Non-denatured industrial alcohol reached an abnormal production of 17,824,944 proof gal. in 1944, due to war needs, but by 1946 production had declined to 3,362,668 proof gal., and 3,211,317 proof gal. in 1947.

Beverage spirits produced and placed in bond for maturing totalled 16,344,309 proof gal. in 1946, with 16,853,384 proof gal. in 1947, an evident increase of about 2,940,000 proof gal. in all new spirits produced being accounted for by the rise in denatured industrial alcohol production.

Materials used showed important changes. Wheat is normally the major item, but in 1947, due to restrictions resulting from world food problems, consumption declined to only 27,325,210 lb. from a peak of 402,535,232 lb. in 1944. Corn replaced wheat, increasing from 15,833,741 lb. in 1944 and 45,191,740 lb. in 1945 to 220,533,419 lb. in 1947. Wheat flour (alcomeal), introduced during the war and consumed to the extent of 77,268,410 lb. in 1944, ceased to be of importance.

Net Revenue from Liquor Control.—The provincial figures of net revenue shown in Table 5, include not only the net profits made by Liquor Control Boards or Commissions, but also additional amounts of revenue received for permits, licences, etc., sometimes paid direct to Provincial Governments. The Federal Government, for the year ended Mar. 31, 1947, also collected in excise duties, customs duties, excise taxes, licence fees, etc., $78,377,155 on spirits; $51,825,575 on malt and malt products and $3,310,378 on wines.† Corresponding collections for the year ended Mar. 31, 1948, were: $84,944,648 on spirits; $57,534,701 on malt and malt products and $2,921,811 on wines.

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* Abridged from the report "The Control and Sale of Alcoholic Beverages in Canada", Dominion Bureau of Statistics, Price 50 cents. This report gives an outline of Dominion and provincial legislation concerning the control and sale of alcoholic beverages.

† These figures do not include sales tax, details of which are not available for separate commodities.

5.—Total Net Revenue Received by the Provincial Governments from Liquor Control, by Provinces, 1940-47

NOTE.—These figures are for provincial fiscal years ended on the following dates: N.S., Nov. 30; N.B., Oct. 31; Que., Apr. 30; Ont., Mar. 31; Man., Apr. 30; Sask., Mar. 31; Alta., Mar. 31; and B.C., Mar. 31.

Year	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
	$	$	$	$	$	$	$	$
1940.....	2,284,229	1,655,739	7,572,121	11,051,912	1,781,089	1,706,357	2,937,226	4,456,948
1941.....	3,358,235	2,220,308	7,270,810	12,294,175	2,056,253	1,941,185	3,207,627	4,841,482
1942.....	4,885,365	2,950,957	9,474,417	15,068,065	2,740,498	2,407,066	3,897,175	5,928,444
1943.....	5,613,367	3,054,932	12,332,540	18,546,295	3,738,980	3,030,953	5,050,216	8,145,795
1944.....	6,738,081	3,497,089	14,034,564	21,024,903	3,831,368	3,661,301	5,356,107	6,946,254
1945.....	7,428,911	4,247,301	17,120,638	19,181,266	4,379,365	4,162,775	6,026,112	7,881,497
1946.....	9,020,665	6,890,562	23,095,957	30,373,016	6,101,352	6,605,448	8,248,814	11,194,187
1947.....	8,245,687	6,879,632	29,715,051	34,998,051	6,527,122	8,104,620	9,705,075	14,725,990

Apparent Consumption of Alcoholic Beverages.—Accurate measurement of the consumption of alcoholic beverages by Canadians is practically impossible. Temporary additions to the resident population through tourist travel are, at certain seasons, extremely large. In 1948, for example, more than 22,000,000 visitors crossed the international boundary into Canada. Sales of alcoholic beverages to certain of these visitors undoubtedly reached considerable proportions. Precise measurement is impossible since no separate record is kept of sales to non-residents of Canada.

In Tables **6**, **7** and **8** an attempt is made to indicate the apparent consumption in Canada of spirits, beer and wine, respectively, on the basis of the quantities produced, imported, exported, etc. It should be noted that these figures take no account of increases or decreases in the quantities held in stock by the Boards or by licensees. For instance, the Boards may, in certain years, buy heavily to replenish stocks or create reserves; such purchases would unduly weight the consumption figures for those years.

Practically the total production of spirits is placed in bonded warehouses whence it is released for various purposes. The quantities shown in Table **6** as entered for consumption are released from warehouses, duty paid, presumably for consumption for beverage purposes in Canada.

Only a small part of the output of beer is placed in warehouses. The available supply, as shown in Table **7**, is therefore made up of (1) production; (2) changes in warehouse stock; and (3) imports.

The apparent consumption of native wines as shown in Table **8** is obtainable by dividing the rates of excise tax into the total tax collections.

6.—Apparent Consumption of Beverage Spirits, Years Ended Mar. 31, 1939-48

NOTE.—Figures for the years 1924-38 are given at p. 532 of the 1941 Year Book.

Year	Entered for Consumption	Add Exports in Bond	Add Imports	Deduct Re-Exports of Imported Spirits	Deduct Total Domestic Exports	Apparent Consumption
	pf. gal.	pf. gal.	pf. gal.	pf. gal.	pf. gal.	pf. gal.
1939	2,299,474	1,956,358	1,265,909	121	2,087,956	3,433,664
1940	2,032,987	1,876,964	1,612,906	38	1,704,410	3,818,409
1941	2,371,633	3,327,365	1,479,606	42	3,463,772	3,714,790
1942	2,944,391	2,096,392	1,390,192	3,077	2,079,458	4,348,440
1943	3,445,872	[1]	1,284,116	69	[1]	4,729,919
1944	2,620,297	[1]	823,422	3	[1]	3,443,716
1945	2,676,482	[1]	1,043,709	273	[1]	3,719,918
1946	4,087,690	[1]	1,775,935	113	[1]	5,863,512
1947	4,446,128	[1]	2,097,427	382	[1]	6,543,173
1948	4,632,506	[1]	2,691,302	3,420	[1]	7,320,388

[1] The large quantities of non-potable alcohol produced and exported for war uses in the years 1943-45 necessitated a change in the method of estimating the consumption of beverage spirits. The exports in bond and the domestic exports do not now enter into the calculations. Details of the change are given in the Bureau of Statistics report "The Control and Sale of Alcoholic Beverages in Canada".

7.—Apparent Consumption of Beer, Years Ended Mar. 31, 1939-48

NOTE.—Figures for the years 1924-38 are given at p. 533 of the 1941 Year Book.

Year	Production	Add Quantities Entered for Consumption from Warehouses	Add Imports	Deduct Quantities Placed in Warehouses	Deduct Domestic Exports	Deduct Re-Exports of Imported Goods	Apparent Consumption
	gal.	gal.	gal.	gal.	gal.	gal.	gal.
1939	63,331,620	675,909	97,374	678,425	123,726	Nil	63,302,752
1940	66,496,129	646,399	92,873	753,067	192,612	32	66,289,690
1941	79,006,028	533,470	98,403	751,781	256,970	2	78,629,148
1942	101,081,682	755,456	86,122	6,777,839	5,639,946	Nil	89,505,475
1943	108,980,613	1,197,658	85,211	6,813,251	5,839,905	"	97,610,326
1944	104,062,427	726,817	61,634	7,536,054	6,604,977	"	90,709,847
1945	122,530,269	6,177,745	76,225	12,591,822	5,968,602	"	110,223,815
1946	138,941,170	2,596,574	26,550	6,910,528	4,567,667	"	130,086,099
1947	155,800,830	1,035,203	17,015	5,763,200	4,108,944	"	146,980,904
1948	173,201,842	3,368,130	36,662	6,839,460	4,024,332	"	165,742,842

8.—Apparent Consumption of Wines, Years Ended Mar. 31, 1939-48

NOTE.—Figures for the years 1924-38 are given at p. 533 of the 1941 Year Book.

Year	Native	Imported			Apparent Consumption, Native and Imported
	Apparent Consumption	Imports	Less Re-Exports	Apparent Consumption	
	gal.	gal.	gal.	gal.	gal.
1939	3,010,981	450,953	67	450,886	3,461,867
1940	3,544,910	468,098	91	468,007	4,012,917
1941	4,310,295	502,354	35	502,319	4,812,614
1942	3,733,449	434,888	1,094	433,794	4,167,243
1943	4,192,903	434,699	35	434,664	4,627,567
1944	3,314,260	290,691	11,005	279,686	3,593,946
1945	3,409,303	303,153	Nil	303,153	3,712,456
1946	3,979,857	595,732	12	595,720	4,575,577
1947	4,655,734	928,664	Nil	928,664	5,584,398
1948	4,594,361	619,249	2	619,247	5,213,608

PART III.—COMMERCIAL FAILURES

According to Sect. 91 of the British North America Act, "the exclusive legislative authority of the Parliament of Canada" extends to bankruptcy and insolvency legislation, and an Insolvency Act (32-33 Vict., c. 16) was passed by the Federal Parliament in 1869, and applied to the four orignal provinces. This Act was renewed by c. 46 of the Statutes of 1874. In 1875 a new Insolvency Act (38 Vict., c. 16) applicable to the whole Dominion was passed, but was repealed in 1880. After this there was no Federal legislation on the subject of bankruptcy until 1919. During the interval of nearly 40 years commercial failures were handled under provincial legislation, and the statistics relating to such failures during this period were compiled and published by two commercial agencies, R. G. Dun and Co., and the Bradstreet Co. Statistics of commercial failures dealt with under the Dominion Bankruptcy Act of 1919 have been compiled and published by the Dominion Bureau of Statistics since 1920. (See pp. 856-857.)

The three Sections of this Part, although closely related so far as subject matter is concerned, cover different aspects of the field and the statistics presented in each Section are not comparable.

Statistics of industrial and commercial failures in Canada, given in Section 1, are compiled by Dun and Bradstreet, Incorporated. This mercantile agency is interested primarily in credit information, and it is not to be expected that their figures would be compiled on the same basis as those of the Dominion Bureau of Statistics or the Superintendent of Bankruptcy. These statistics include bankruptcies in general, insolvencies under provincial companies' Acts and such proceedings as bulk sales, bailiffs' sales, landlords' seizures, etc., when loss to creditors results. On the other hand the statistics do not include assignments of farmers (under the Farmers' Creditors Arrangement Act) or of wage-earners, so that, as a general rule, the totals run lower than those in Section 2. As pointed out, between 1875 and 1919 the agencies, now Dun and Bradstreet, Incorporated, were the only source of figures of commercial failures and their statistics have an added value because they present an unbroken historical series, though not on a comparable basis since 1934 (see text preceding Table 1). Dun and Bradstreet, Incorporated, have ceased to publish statistics of assets since 1940.

Section 2, on the other hand, is limited to bankruptcies and insolvencies made under Federal legislation, such as the Bankruptcy Act (including the Farmers' Creditors Arrangement Act), the Winding Up Act and the Companies' Creditors Arrangement Act, but not failures, sales, or seizures carried out apart from such Federal legislation. The Dominion Bureau of Statistics figures include failures of individuals such as wage-earners and farmers.

A word should be added about the value to be placed upon figures of assets and liabilities. Such values are estimates made by the debtor and, unfortunately, are not made uniformly. The human equation enters into them to a considerable degree and they must be accepted with this qualification.

Section 3 is limited to the administration of bankrupt estates by the Superintendent of Bankruptcy, under the Bankruptcy Act (including the Farmers' Creditors Arrangement Act). This Section, however, gives definite information on the amounts realized from the assets as established by debtors and indicates that values actually paid to creditors are invariably very much lower than such estimates alone would imply. It can, therefore, be assumed that this applies in even greater degree to the more extended fields covered in Sections 1 and 2.

Section 1.—Industrial and Commercial Failures from Private Sources

A historical table giving failures for Canada and Newfoundland, by classes, for the years 1915 to 1935 is given at p. 969 of the 1936 Year Book. Early in 1936, Dun and Bradstreet, Incorporated, from whose reports these figures were taken, adopted a new method of classification. The principal changes consisted of setting up a new group of construction enterprises previously included in manufacturing and a new class for commercial service. Real estate companies, holding, and other financial companies and agents of various kinds, were dropped. These changes have had the effect of confining the failure records more to industrial and commercial lines of activity, and liabilities are reduced more in proportion to the number of failures since the companies eliminated usually ran high in indebtedness. The figures in Table 1, which are available back to 1934, are therefore not comparable with the earlier series and are for Canada only.

1.—Industrial and Commercial Failures in Canada, by Classes, 1939-46, and by Provinces, 1947

(From Dun and Bradstreet, Incorporated)

NOTE.—Figures for 1934-38 are given at p. 628 of the 1946 Year Book.

Year and Province	Manufacturing		Wholesale Trade		Retail Trade		Construction		Commercial Service		Totals	
	No.	Liabilities	No.	Liabilities	No.	Liabilities	No.	Liabilities	No.	Liabilities	No.	Liabilities
		$'000		$'000		$'000		$'000		$'000		$'000
Totals, 1939	**234**	**3,829**	**77**	**1,293**	**874**	**4,946**	**53**	**793**	**61**	**774**	**1,299**	**11,635**
Totals, 1940	**197**	**3,482**	**72**	**1,128**	**774**	**3,949**	**56**	**569**	**59**	**450**	**1,158**	**9,578**
Totals, 1941	**130**	**2,419**	**42**	**539**	**614**	**3,118**	**55**	**519**	**41**	**364**	**882**	**6,959**
Totals, 1942	**87**	**3,630**	**33**	**516**	**393**	**2,499**	**61**	**526**	**35**	**173**	**609**	**7,344**
Totals, 1943	**36**	**2,357**	**7**	**137**	**96**	**500**	**32**	**519**	**15**	**121**	**186**	**3,634**
Totals, 1944	**33**	**1,042**	**12**	**242**	**33**	**514**	**15**	**265**	**3**	**56**	**96**	**2,119**
Totals, 1945	**37**	**1,511**	**7**	**246**	**26**	**250**	**20**	**240**	**5**	**58**	**95**	**2,305**
Totals, 1946	**41**	**2,684**	**19**	**421**	**41**	**451**	**21**	**231**	**8**	**216**	**130**	**4,003**
1947												
P. E. Island	Nil	–	Nil	–	2	24	Nil	–	Nil	–	2	24
Nova Scotia	"	–	"	–	2	20	1	45	"	–	3	65
New Brunswick	2	23	"	–	9	34	Nil	–	1	7	12	64
Quebec	86	2,684	32	997	50	560	24	326	9	153	201	4,720
Ontario	28	927	8	206	11	77	6	177	4	195	57	1,582
Manitoba	2	35	Nil	–	4	88	Nil	–	Nil	–	6	123
Saskatchewan	Nil	–	"	–	1	7	1	15	1	8	3	30
Alberta	1	49	2	22	1	3	Nil	–	1	2	5	76
British Columbia	7	97	Nil	–	4	69	4	378	Nil	–	15	544
Totals, 1947	**126**	**3,815**	**42**	**1,225**	**84**	**882**	**36**	**941**	**16**	**365**	**304**	**7,228**

In 1947, Quebec and Ontario accounted for 66 p.c. and 19 p.c., respectively, of the total failures in the Dominion. As regards liabilities, Quebec accounted for 65 p.c. of the total as compared with 22 p.c. registered for Ontario.

According to Dun and Bradstreet, Incorporated, the number of commercial failures during the war years 1939-45 showed a steady decrease year by year, and, whereas before the War the great majority of failures were in retail trading establishments, the proportion in that group also showed a steady decrease during those years. Since the end of the War, however, the numbers of failures have shown substantial increases amounting to 37 p.c. in 1946 over 1945 and to 134 p.c. in 1947 over 1946. Each industrial group contributed to the advance in 1947, though almost half of the increase was accounted for by manufacturing industries.

2.—Industrial and Commercial Failures, by Divisions of Industry, 1945-47

(From Dun and Bradstreet, Incorporated)

NOTE.—Comparable figures for 1934-44 are given in the corresponding table of previous Year Books.

Industry and Division	Failures			Liabilities		
	1945	1946	1947	1945	1946	1947
	No.	No.	No.	$'000	$'000	$'000
Manufacturing—						
Foods	1	2	10	8	20	270
Textiles	3	4	13	24	102	309
Forest products	12	7	28	341	108	942
Paper, printing and publishing	5	2	3	343	126	60
Chemicals and drugs	Nil	2	4	–	99	24
Fuels	"	Nil	1	–	–	6
Leather and leather products	"	"	7	–	–	124
Stone, clay, glass and products	"	"	3	–	–	43
Iron and steel	"	2	4	–	909	301
Machinery	4	4	17	192	84	835
Transportation equipment	3	2	1	90	51	18
All other	9	16	35	513	1,185	883
Totals, Manufacturing	**37**	**41**	**126**	**1,511**	**2,684**	**3,815**
Wholesale Trade—						
Farm products, foods, groceries	5	5	6	115	156	292
Clothing and furnishings	Nil	Nil	Nil	–	–	–
Dry goods and textiles	"	"	3	–	–	27
Lumber, building materials, hardware	"	5	4	–	59	127
Chemicals and drugs	"	Nil	5	–	–	55
Fuels	"	"	1	–	–	30
Automotive products	"	"	Nil	–	–	–
Supply houses	"	"	"	–	–	–
All other	2	9	23	131	206	694
Totals, Wholesale Trade	**7**	**19**	**42**	**246**	**421**	**1,225**
Retail Trade—						
Foods	7	5	25	105	37	187
Farm supplies, general stores	8	8	8	74	70	158
General merchandise	Nil	1	2	–	3	12
Apparel	1	5	7	10	115	80
Furniture, household furniture	Nil	1	2	–	26	23
Lumber, building materials, hardware	1	3	5	25	21	84
Automotive products	1	4	18	11	72	119
Restaurants	4	6	5	6	44	16
Drugs	Nil	1	1	–	10	20
All other	4	7	11	19	53	183
Totals, Retail Trade	**26**	**41**	**84**	**250**	**451**	**882**
Construction—						
General contractors	13	13	20	182	186	642
Carpenters and builders	1	1	2	18	1	6
Building sub-contractors	6	7	14	40	44	293
Other contractors	Nil	Nil	Nil	–	–	–
Totals, Construction	**20**	**21**	**36**	**240**	**231**	**941**
Commercial Service—						
Cleaners and dyers, tailors	Nil	1	1	–	3	8
Haulage, buses, taxis, etc	3	4	5	51	203	208
Hotels	Nil	Nil	1	–	–	81
Laundries	"	1	1	–	5	14
Undertakers	"	Nil	1	–	–	26
All other	2	2	7	7	5	28
Totals, Commercial Service	**5**	**8**	**16**	**58**	**216**	**365**
Grand Totals	**95**	**130**	**304**	**2,305**	**4,003**	**7,228**

Section 2.—Commercial Failures as Compiled by the Dominion Bureau of Statistics

Under the Bankruptcy and Winding Up Acts (R.S.C. 1927, cc. 11 and 213), certain documents relating to estates administered under these Acts have, since July, 1920, been forwarded to the Dominion Statistician for statistical analysis. However, changes in the Acts effective in 1923 affected the comparability of the figures for 1921 and 1922, the two earliest full years for which statistics were compiled. The series, therefore, begins with 1923, except for the analysis by branches of business, in which case 1924 was the first year in which statistics were compiled. The statistics of this Section cover all bankruptcies and insolvencies that fall under Federal legislation, including assignments of individuals and farmers.

3.—Commercial Failures, by Provinces, 1938-47

NOTE.—Figures for 1923-37 will be found at p. 570 of the 1942 Year Book.

Year	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1938	4	35	31	588	391	67	56	20	27	1,219
1939	3	38	45	669	403	74	67	37	56	1,392
1940	3	26	12	622	362	36	46	31	35	1,173
1941	4	17	7	587	279	23	45	25	21	1,008
1942	2	9	8	456	192	16	29	11	14	737
1943	Nil	3	Nil	217	72	2	8	2	10	314
1944	"	2	"	209	29	1	5	3	11	260
1945	1	3	1	225	27	3	Nil	4	8	272
1946	Nil	3	2	236	20	1	"	4	12	278
1947	2	6	7	422	72	4	2	6	24	545

4.—Commercial Failures, by Branches of Business, 1938-47

NOTE.—Figures for 1923-37 will be found at p. 570 of the 1942 Year Book.

Year	Trade	Manufacturing	Agriculture	Logging and Fishing	Mining	Construction	Transportation and Public Utilities	Finance	Service	Not Classified	Total
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
1938	667	200	101	1	11	50	9	4	109	67	1,219
1939	664	210	108	6	18	80	22	12	197	75	1,392
1940	591	167	67	4	15	53	13	11	201	51	1,173
1941	482	132	34	2	14	64	13	8	188	71	1,008
1942	342	80	14	Nil	10	58	17	2	181	33	737
1943	105	23	13	1	7	41	11	9	78	26	314
1944	71	42	4	2	3	27	11	7	62	31	260
1945	58	54	2	Nil	3	39	12	6	70	28	272
1946	77	57	2	4	3	32	14	7	64	18	278
1947	153	152	6	7	Nil	57	20	5	92	53	545

5.—Estimated Assets and Liabilities of Commercial Failures, 1938-47

NOTE.—Figures for 1923-37 will be found at p. 571 of the 1942 Year Book.

Year	Estimated Total Assets	Estimated Total Liabilities	Year	Estimated Total Assets	Estimated Total Liabilities
	$	$		$	$
1938	8,782,191	14,017,061	1943	2,675,846	5,339,523
1939	11,186,360	15,089,461	1944	1,628,959	3,460,181
1940	7,676,295	10,663,326	1945	1,864,359	3,995,109
1941	7,325,738	9,133,657	1946	4,039,339	5,966,153
1942	4,500,195	6,019,308	1947	5,933,211	10,077,557

6.—Commercial Failures, by Provinces and Branches of Business, 1947, with Totals for 1946

Branch of Business	P.E.I. and N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Total for 1947	Total for 1946
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Trade—										
General stores	3	Nil	17	2	1	Nil	1	2	26	10
Grocery	Nil	1	13	1	Nil	"	1	Nil	16	4
Confectionery	"	Nil	8	Nil	"	"	Nil	"	8	2
Drink and tobacco	"	"	4	1	"	"	"	"	5	Nil
Fish and meat	"	"	11	Nil	"	"	"	"	11	"
Boots and shoes	"	"	2	"	"	"	"	"	2	"
Dry goods	"	"	2	"	"	1	"	"	3	3
Clothing	"	1	8	1	"	Nil	"	"	10	3
Furniture	"	Nil	2	1	"	"	"	2	5	2
Books and stationery	"	"	2	Nil	"	"	"	Nil	2	Nil
Automobile	"	"	Nil	1	"	"	"	"	1	3
Hardware	"	"	"	1	"	"	"	"	1	Nil
Electrical apparatus	"	"	1	Nil	"	"	"	"	1	1
Jewellery	"	"	2	"	"	"	"	"	2	6
Coal and wood	"	"	3	1	"	"	"	"	4	9
Drugs and chemicals	"	"	4	Nil	"	"	"	"	4	1
Miscellaneous	"	"	39	10	1	"	"	2	52	33
Totals, Trade	**3**	**2**	**118**	**19**	**2**	**1**	**2**	**6**	**153**	**77**
Manufacturing—										
Vegetable foods	Nil	Nil	13	2	Nil	Nil	Nil	Nil	15	5
Drink and tobacco	1	"	1	Nil	"	"	"	1	3	1
Animal foods	Nil	"	1	"	"	"	"	Nil	1	Nil
Fur and leather	"	"	16	2	"	"	"	"	18	6
Pulp and paper	"	"	Nil	Nil	"	"	"	1	1	1
Textiles	"	"	1	"	"	"	"	Nil	1	Nil
Clothing	"	"	9	"	"	"	"	"	9	2
Lumbering and manufactures	"	2	26	6	2	"	1	5	42	12
Iron and steel	"	Nil	11	5	Nil	"	Nil	Nil	16	11
Non-ferrous metals	"	"	6	1	"	"	"	"	7	5
Non-metallic minerals	"	"	2	Nil	"	"	"	"	2	2
Drugs and chemicals	"	"	8	"	"	"	"	"	8	2
Miscellaneous	"	"	18	8	"	"	"	3	29	10
Totals, Manufacturing	**1**	**2**	**112**	**24**	**2**	**–**	**1**	**10**	**152**	**57**
Service—										
Garages	Nil	Nil	9	1	Nil	Nil	1	1	12	2
Other customs and repairs	"	"	17	Nil	"	"	Nil	Nil	17	9
Personal service	"	1	28	1	"	"	"	"	30	24
Restaurants	"	Nil	9	Nil	"	"	"	"	9	13
Professional service	"	"	16	1	"	"	"	1	18	8
Recreational service	"	"	2	Nil	"	"	"	Nil	2	2
Business service	"	"	4	"	"	"	"	"	4	6
Totals, Service	**–**	**1**	**85**	**3**	**–**	**–**	**1**	**2**	**92**	**64**
Other—										
Agriculture	Nil	Nil	3	3	Nil	Nil	Nil	Nil	6	2
Mining	"	"	Nil	Nil	"	"	"	"	–	3
Logging, fishing and trapping	"	"	6	"	"	"	"	1	7	4
Construction	2	"	42	7	"	1	1	4	57	32
Transportation and public utilities	Nil	"	17	2	"	Nil	1	Nil	20	14
Finance	"	"	2	2	"	"	Nil	1	5	7
Totals, Other	**2**	**–**	**70**	**14**	**–**	**1**	**2**	**6**	**95**	**62**
Not classified	2	2	37	12	Nil	Nil	Nil	Nil	53	18
Grand Totals	**8**	**7**	**422**	**72**	**4**	**2**	**6**	**24**	**545**	**278**

Section 3.—Administration of Bankrupt Estates

The administration of bankrupt estates is supervised by the Superintendent of Bankruptcy (appointed in 1932) with the object of conserving as far as possible the assets of bankrupt estates for the benefit of the creditors.

7.—Assets, Liabilities, Assets Realized and Costs of Administration in Bankrupt Estates Closed, 1937-46, and by Provinces, 1947

(From the Annual Report of the Superintendent of Bankruptcy)

NOTE.—Figures for the years 1933-36 are given at p. 846 of the 1947 Year Book.

Year and Province or City	Estates Closed	Assets Estimated by Debtor	Liabilities Estimated by Debtor	Total Realization	Cost of Administration	Percentage of Costs to Total	Paid to Creditors
	No.	$	$	$	$	p.c.	$
Totals, 1937	**1,149**	**18,397,022**	**20,431,515**	**2,805,743**	**770,563**	**27·5**	**2,035,180**
Totals, 1938	**1,098**	**15,995,276**	**21,740,131**	**2,526,562**	**717,485**	**28·4**	**1,809,077**
Totals, 1939	**1,119**	**13,174,172**	**15,760,643**	**2,667,708**	**815,396**	**30·6**	**1,852,312**
Totals, 1940	**1,084**	**11,315,392**	**14,932,651**	**2,495,254**	**756,646**	**30·3**	**1,738,608**
Totals, 1941	**981**	**11,597,029**	**14,315,281**	**3,408,625**	**896,554**	**26·3**	**2,512,071**
Totals, 1942	**879**	**10,994,748**	**12,023,215**	**2,393,661**	**772,995**	**32·3**	**1,620,666**[1]
Totals, 1943	**675**	**7,633,251**	**9,593,541**	**2,046,612**	**706,257**	**34·5**	**1,340,355**[1]
Totals, 1944	**468**	**3,495,148**	**6,154,052**	**1,196,725**	**425,121**	**35·5**	**771,604**[1]
Totals, 1945	**351**	**4,969,923**	**6,795,160**	**1,037,252**	**339,119**	**32·7**	**698,133**[1]
Totals, 1946	**299**	**3,030,599**	**4,716,747**	**1,202,650**	**281,999**	**23·5**	**920,651**[1]
1947							
Prince Edward Island	1	3,417	6,112	3,021	997	33·0	2,024
Nova Scotia	4	50,948	75,817	13,891	3,051	22·0	10,840
New Brunswick	3	4,113	8,132	2.997	764	25·5	2,233
Quebec[2]	99	603,797	1,091,980	263,423	78,312	29·7	185,111
Montreal	165	519,693	1,594,826	255,490	92,853	36·3	162,637
Ontario[2]	15	338,467	421,866	111,880	39,600	35·4	72,280
Toronto	9	172,161	220,542	44,097	12,528	28·4	31,569
Manitoba	4	26,080	35,984	11,445	2,852	24·9	8,593
Saskatchewan	1	13,361	8,840	3,178	542	17·1	2,636
Alberta	5	253,737	258,716	93,660	22,374	23·9	71,286
British Columbia	14	898,050	1,118,676	371,026	54,226	14·6	316,801
Totals, 1947	**320**	**2,883,824**	**4,841,491**	**1,174,108**	**308,099**	**26·2**	**866,010**[1]

[1] In addition to the payments by the trustee, secured creditors valued their security or realized on it themselves without the intervention of the trustee to an amount of approximately $2,596,068 in 1942, $1,799,722 in 1943, $1,201,289 in 1944, $1,811,803 in 1945, $684,039 in 1946 and $582,811 in 1947. [2] Exclusive of city shown separately.

The Farmers' Creditors Arrangement Act came into effect Sept. 1, 1934. This Act was amended in 1935 and 1938 and was repealed and replaced by the Farmers' Creditors Arrangement Act, 1943. Assignments are made only in those cases in which the farmers are hopelessly insolvent and, in many cases, the assignments follow the rejection of proposals submitted to the creditors. Receiving orders are made only in cases in which the farmers have failed to fulfil the terms of their proposals as accepted by the creditors and approved by the court. Table 8 shows only statistics of estates closed by assignments or receiving orders and does not indicate the proposals that have been approved and are being carried out under the Farmers' Creditors Arrangement Act.

8.—Assets, Liabilities, Assets Realized and Costs of Administration in Estates Closed by Assignments or Receiving Orders Under the Farmers' Creditors Arrangement Act, 1938-46, and by Provinces, 1947.

(From the Annual Report of the Superintendent of Bankruptcy)

NOTE.—Figures for the years 1935-37 are given at p. 847 of the 1947 Year Book.

Year and Province	Estates Closed	Assets Estimated by Debtor	Liabilities Estimated by Debtor	Total Realization	Cost of Administration	Percentage of Cost to Total	Paid to Creditors
	No.	$	$	$	$	p.c.	$
Totals, 1938	**139**	**575,514**	**974,002**	**76,832**	**13,400**	**17·4**	**63,432**
Totals, 1939	**83**	**368,548**	**688,524**	**39,808**	**9,466**	**23·8**	**30,342**
Totals, 1940	**59**	**267,032**	**459,516**	**37,338**	**7,417**	**19·8**	**29,921**
Totals, 1941	**42**	**177,974**	**288,031**	**31,319**	**9,652**	**30·8**	**21,667**
Totals, 1942	**19**	**70,380**	**114,333**	**9,702**	**1,785**	**18·4**	**7,890**[1]
Totals, 1943	**10**	**31,080**	**50,059**	**5,053**	**1,379**	**27·3**	**3,656**[1]
Totals, 1944	**18**	**55,081**	**86,597**	**13,111**	**5,150**	**39·3**	**7,933**[1]
Totals, 1945	**3**	**3,210**	**13,697**	**1,870**	**887**	**47·4**	**983**[1]
Totals, 1946	**7**	**34,363**	**67,141**	**8,414**	**1,222**	**14·5**	**7,192**[1]
1947							
Prince Edward Island	Nil	–	–	–	–	–	–
Nova Scotia	"	–	–	–	–	–	–
New Brunswick	"	–	–	–	–	–	–
Quebec	2	11,200	12,371	25	25[2]	100·0	–
Ontario	1	5,634	3,385	765	521	68·1	244
Manitoba	Nil	–	–	–	–	–	–
Saskatchewan	2	14,652	7,344	1,091	151[2]	13·8	940
Alberta	1	500	5,418	50	50	100·0	–
British Columbia	Nil	–	–	–	–	–	–
Totals, 1947	**6**	**31,986**	**28,518**	**1,931**	**747**[2]	**38·7**	**1,184**[1]

[1] These figures do not include the levy due to the Receiver General. In addition, land and chattels under mortgage or lien, of an estimated value of $41,258 in 1942, $18,853 in 1943, $26,044 in 1944, $1,700 in 1945, $13,483 in 1946 and $10,373 in 1947, were transferred to secured creditors. [2] Further costs totalling $149 have been paid by the Federal Government.

CHAPTER XXI.—FOREIGN TRADE

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The subject of foreign trade covers more than treatment of imports and exports of commodities, important though this is. In its broader sense, it is made up of the total international exchanges of goods, services, securities and other financial exchanges all of which are presented in their proper relationship in the three Parts into which this Chapter is divided. Part I deals with Government Control of Trade so far as these controls have remained since the War of 1939-45 and the various ways in which the permanent Departments promote and encourage trade relationships. Part II is concerned with detailed statistics of external commodity trade. Part III summarizes external transactions from a standpoint of the balance of international payments.

General Review*

Foreign trade, of great significance to this country from the time of early settlement, has now developed to the point where Canada, with less than one per cent of the world's population, ranks near the top among the trading nations of the world. The Dominion has reached this position as the result of the adjustment and expansion of Canadian production to meet the enormous demands for food and reconstruction materials in devastated countries following the Second World War and to satisfy the greater requirements of the United States market. In addition, Canada's own import requirements reflected the high levels of employment and income, deferred demands, and the reconversion and development of industry. Thus, despite the disappearance of the huge contracts for munitions and other war supplies, total domestic exports for 1947 amounted to $2,775,000,000 and imports for consumption to $2,574,000,000, or a total of $5,349,000,000. This meant in effect, that external commerce in 1947 amounted to $425 per capita, compared with $248 for the United Kingdom and $142 for the United States.

* Prepared, except as indicated, by E. P. Weekes, Ph.D., Economic Research Branch, Department of Reconstruction and Supply.

Canada, with a small population in relation to vast natural resources, has found it profitable to specialize in the production of goods for export and in this way to obtain the means of payment for the heavy importation of commodities, the domestic supplies of which are lacking or insufficient for the country's high standard of living. Large investments on plant and equipment have been combined with Canadian skills and natural resources to produce a relatively small number of more or less basic commodities on a scale very much larger than domestic markets can absorb even at the low costs thereby achieved. Despite the increasing production of highly manufactured goods, the bulk of exports still consists of agricultural commodities, wood and paper products and non-ferrous metals.

A highly mechanized agricultural industry, operating under favourable natural conditions, has enabled the low cost production and export of large quantities of agricultural products—especially wheat. Similarly, heavy investments in hydro-electric power, plant and equipment for the pulp, paper and non-ferrous metal industries have contributed to Canada's competitive position in the export of these products. These large outlays on fixed capital equipment are profitable only when there is a high degree of utilization of the plant concerned, because the industries involved are vulnerable to a decline in world demand.

Canada lacks various commodities required by modern industry and the import statistics reveal many such items that are not being produced domestically or, due to geographical and other factors, are not produced in sufficient quantities. Certain specialized types of machinery, cotton, coal, petroleum and wool are the more important of industrial imports; commodities more directly important to the consumer, include large quantities of sugar, certain fruits, fresh vegetables in winter, cocoa, tea, and coffee from warmer climates.

Since Confederation, the bulk of Canadian trade has been with the United States and the United Kingdom. Prior to the War of 1939-45, Canadian exports to the United Kingdom were, normally, twice the value of imports from that country. Under the conditions of currency convertibility prevailing before the War, the surplus on United Kingdom account more than financed the deficit on United States account.

Canadian trade grew rapidly during the Second World War and, although the type of goods exchanged has since been altered, the over-all value of trade in 1947 just exceeded that of 1944—formerly the peak trading year. This increase in trade has been due to such factors as the greatly increased levels of employment and income in the Western Hemisphere, and the need for the relief, rehabilitation and reconstruction of war-devastated countries advanced partly through the medium of UNRRA and the extension of loans and credits by the United States and Canada. Post-war loans and credits made by Canada total approximately $2,000,000,000 including a $154,000,000 contribution through UNRRA. These loans and credits to the United Kingdom and other countries are shown on p. 860 with the net amounts drawn in the years 1945, 1946 and 1947 and the amounts remaining to be drawn at Dec. 31, 1947.

I.—POST-WAR LOANS AND ADVANCES TO OTHER COUNTRIES BY THE CANADIAN GOVERNMENT

Country	Export Credit Loans Authorized	Net Amounts Drawn[1]			Amounts Not Drawn by Dec. 31, 1947
		1945	1946	1947	
	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000
A. Export Credits—					
France	242·5	34·9	108·9	54·6	44·1
Netherlands	125·0	29·8	34·2	40·6	20·4
Belgium	100·0	22·5	30·1	12·3	35·1
China	60·0	–	16·5	16·1	27·4
Norway	30·0	6·2	10·2	3·6	10·0
Czechoslovakia	19·0	0·7	3·2	8·2	6·9
Netherlands Indies	15·0	0·6	4·8	4·6	5·0
Union of Soviet Socialist Republics	3·0	9·9	1·8	–	0·1
Totals—Foreign Countries	594·5	104·6	209·7	140·0	146·9
B. Loan to United Kingdom	1,250·0	–	540·0	423·0	287·0

[1] Net amounts drawn include interim advances as well as drawings on Export Credit loans less repayments of interim advances and loans. All advances had been repaid by Dec. 31, 1947, with the exception of $8·8 million to the Union of Soviet Socialist Republics.

In this general setting, the Canadian surplus on commodity trade with the United Kingdom in 1947 was $564,000,000, whereas, the average surplus in the 1935 to 1939 period was $231,000,000. On the other hand, the deficit on commodity trade with the United States, in 1947, was $918,000,000 or over eleven times as great as the 1935 to 1939 average deficit. Thus, although Canada had a slightly favourable balance on over-all trade in 1947, receipts of United States dollars fell far short of dollar expenditures, and Canadian reserves of gold and United States dollars declined from $1,245,000,000 at Dec. 31, 1946, to about $500,000,000 a year later.

This deterioration in the exchange position necessitated the introduction of a dollar saving and earning program on Nov. 17, 1947. Under this program, the importation of some luxury goods was prohibited; quotas were established on many other commodities; a 25 p.c. excise tax was placed on several consumer durables in order to reduce domestic demand; funds to be made available to individuals for pleasure travel in dollar countries were restricted; controls on the import of capital goods were instituted to encourage the expansion of export industries; and support was given to the gold-mining industry.

The operation of the Economic Co-operation Administration, established by the United States in April, 1948, by providing large sums of United States dollars for purchases in Canada, will likely maintain exports at higher levels than would otherwise have been possible. The reconstruction of Western Europe is of vital interest to Canada, and Canadian supplies under E.C.A. will do much to hasten the recovery of these traditional consumers and the restoration of multilateral trade.

In addition to the E.C.A. there have been two major trade conferences, the results of which, with the rehabilitation of Western Europe and other areas, may be of considerable long-run importance to Canadian trade. The General Agreements on Tariffs and Trade, signed by Canada and 22 other countries at Geneva on Oct. 30, 1947 (see pp. 873-877), provides for lowering tariffs on many items important in world trade. The United Nations Conference on Trade and Employment held at Havana, Cuba, from Nov. 21, 1947 to Mar. 24, 1948, drew up the

Havana Charter for the International Trade Organization. An Interim Commission was established to function until the Charter was ratified. Canada and the other fifty-three signatories undertook to co-operate with one another in the fields of trade and employment, and with the United Nations for the general purposes of attaining higher standards of living, full employment and conditions of economic and social progress and development. The participating countries pledged themselves to the many detailed clauses in the Agreements which outline proper practices in matters of trade and employment policy. This Charter marks a great step forward in providing the basis for the furtherance of international trade which is so important to the stabilization of high levels of income and employment in Canada.

Detailed Canadian trade figures for 1947 and earlier years are summarized in tables, and written analyses on pp. 895-932. This review has been largely in terms of commodity trade. Although this is by far the most important part of the broader field of international exchanges, the relationships between commodity trade and other items, such as services, tourists, etc., can be appreciated further by reference to Part III pp. 932-944.

Canada's Relation to World Trade.*—In the present world economic situation the fact looms large that some countries, which before the Second World War were important producers of either manufactured goods or primary products, have suffered a severe deterioration of their production capacity; a few have greatly improved their capacity and are now almost the sole sources of the imports needed for the reconstruction of war-devastated countries.

The producing countries, which include Canada, are unable to meet the requirements of importing countries although their industrial and domestic production is above that of pre-war output, partly because of the magnitude of the demands and partly because of the limited and unevenly distributed supply of hard currencies in which most of these imports have to be paid.

This shift in the distribution of productive facilities has contributed to considerable inflationary pressures in the world and these, in turn, have tended to complicate the problems. While the index of the world trade situation is the level of total net exports for all countries it must be noted that to the extent that net exports from any one country release materials, the short supply of which hampers reconstruction at home, the problem of meeting the international short position is, in the long run, actually delayed.

In Canada, as everywhere, reconversion was checked by shortages arising from labour disputes and the lack of imports, bottle-necks in transport, power and building materials and the unequal incidence of price controls. These, however, were being speedily reduced by 1946 and 1947, when controls on hundreds of commodities, including many essential raw materials, wage restrictions, etc., had been reduced or dropped. The success of these measures was closely linked with similar policies pursued elsewhere, particularly in the United States and the United Kingdom which countries have a very influential bearing on Canadian trade.

The aggregate value of world exports in 1938 was about $22,600,000,000. In the first half of 1947, world exports, including UNRRA deliveries and certain other exports of a non-commercial nature, were proceeding at an annual rate of some $22,400,000,000 if computed at 1938 prices and $45,000,000,000 at current prices. World imports represented somewhat higher figures owing to the inclusion in the values recorded by most countries of transport costs up to the domestic

* Material prepared from the United Nations Economic Report.

frontier. Compared with 1938, however, the discrepancy between recorded world imports and recorded world exports has declined owing to the omission by most countries from their recorded imports of UNRRA deliveries and certain other government purchases. Recorded world imports in the year 1938 amounted to $25,000,000,000 and in the first and second halves of 1946 and the first half of 1947 to $14,700,000,000, $19,300,000,000 and $22,900,000,000, respectively. While the dollar value thus almost doubled during the period considered, the "quantum" of trade was practically the same as in 1938.

Comparison among national trade values is clouded by the fact that certain countries do not publish up-to-date information concerning their external trade and by the difficulty, under existing conditions of largely inconvertible exchanges, of turning values expressed in different currencies into a common measurement without bias.

II.—VALUE, PRICE AND QUANTUM OF WORLD EXPORTS, 1938-47

Item	1938 Semi-Annual Average	1946 Semi-Annual Average	1946 Second Half	1947 First Half
	Millions U.S. Dollars			
VALUE OF WORLD EXPORTS OF MERCHANDISE—				
At 1938 prices	11,300	8,000	10,000	11,200
At current prices	11,300	14,700	18,500	22,500
	(1938=100)			
INDEXES OF WORLD EXPORTS—				
Quantum[1]	100	78	88	99
Dollar price	100	167	185	201
Dollar value	100	130	164	199

[1] A "quantum" index reflects the changes in the value of the goods actually imported or exported, computed at the prices obtained in the base year 1938.

Only in a few countries have exports risen more than imports. This is true for instance, of the United Kingdom which has been meeting the heavy pressure on its balance of payments by a considerable reduction in imports and a rise in exports to a level exceeding that of 1938. The most striking increase in exports, however, is that recorded by the United States. In 1938, the United States exports already exceeded those of any other country and represented 14 p.c. of the value of all goods entering into world trade; during the first half of 1947, after having risen five times in dollar value, they represented one-third of world exports. United States imports, on the other hand, stood only one-third above their quantum in 1938 which, incidentally, was abnormally low as a result of the heavy impact of the business recession of that year upon the United States.

The effect of the divergent trade movements upon the balance of merchandise trade, computed in dollars at official rates of exchange, is shown in the following Statement for a number of trading countries grouped into "surplus", "devastated", and "under-developed" countries.

To a certain extent, the distribution of the countries considered among these three groups is arbitrary. Thus, several of the "surplus" countries have recently had a deficit in their current foreign transactions. Also, it may be questioned whether Denmark is a "devastated" country. Certain countries are both "devastated" and "under-developed"; this is true of China.

III.—IMPORT (−) OR EXPORT (+) BALANCES OF MERCHANDISE TRADE OF SELECTED COUNTRIES[1]

SOURCE: Statistical Office of the United Nations.

Monthly averages—1938, 1946 and 1947

Countries	1938	1946 First Half	1946 Second Half	1947 First Half	1947 Third Quarter
	(*Millions of U.S. Dollars—"Special Trade"*)				
SURPLUS COUNTRIES—					
United States of America	+92	+400	+385	+774	+680
Canada	+15	+28	+39	+16	+16
Australia	+1	+11	+28	+13	−22
Sweden	−5	−13	−24	−47	−55
Union of South Africa	−26	−32	−48	[2]	[2]
Argentina	Nil	+42	+61	+22	+ 8
Switzerland	−5	−19	−10	−25	−30
New Zealand	+1	+11	+4	+9	[2]
DEVASTATED COUNTRIES—					
United Kingdom	−157	−110	−111	−179	−268
France	−37	−102	−84	−84	−102
Belgium-Luxembourg	−3	−34	−53	−32	−33
Netherlands	−17	−41	−44	−75	−79
Italy	−3	+2	−3	−42	[2]
China—[3]					
Manchuria	−14	[2]	[2]	[2]	[2]
China (Other than Manchuria)	−9	−30	−45	−11	−13[4]
Denmark	−2	−15	−28	−14	−19
Czechoslovakia	+5	+2	+11	+1	−7
Norway	−8	−8	−26	−35	−29
Poland	−2	−2	+1	[2]	[2]
Finland	Nil	−2	+1	Nil	+5
UNDER-DEVELOPED COUNTRIES—					
India	+4	+14	−3	−2	[2]
Brazil	Nil	+22	+24	−13	−1
Venezuela	+6	+10	+21	[2]	[2]
Egypt	−3	−9	−3	[2]	[2]
Mexico	Nil	−12	−16	−24	−15[4]
Chile	+3	+2	+2	+3	−3
Turkey	Nil	+6	+10	+11	[2]
Colombia	−1	−3	−2	−13	−7

[1] Within each of the three groups shown, the countries are arranged in the order of the total value of their imports and exports in 1938. The comparability of the figures for post-war years is affected by varying national practices in the reporting of UNRRA goods and, in general, government purchases and sales. The balances are computed as the difference between recorded imports and exports. Attention should be paid to the fact that in the case of countries recording imports f.o.b. (the United States, Canada, the Union of South Africa, Venezuela, and Mexico) the balance appears more "favourable" (that is, the export balance is larger, or the import balance smaller) than in the case of countries which record imports on a c.i.f. basis. [2] Not available. [3] Excluding trade between Manchuria and the rest of China. [4] Average of July and August.

PART I.—THE GOVERNMENT AND FOREIGN TRADE*

Section 1.—Foreign Trade Service and Associated Agencies Concerned with the Development of Foreign Trade

Foreign trade contributes substantially to the welfare and prosperity of Canadians, due largely to the fact that the productive capacity of Canada is greater than the ability of her population to consume the output of farms, factories, forests, fisheries and mines. Every effort is made, therefore, to establish and maintain close commercial relations with other countries whose markets are essential to the national economy. It is appreciated, however, that two-way trade should be encouraged, in order that goods and services may be accepted in partial payment

* Sections 1 and 2 of this Part, together with the General Review at pp. 858-863, have been prepared in the several Branches concerned and collated by B. C. Butler, Director, Trade Publicity Division, Department of Trade and Commerce, Ottawa.

for the products Canada is in a position to export. Furthermore, many commodities that are not indigenous to this country have to be imported from abroad, some being required for Canadian industrial processes. Others may be classed as consumer goods, necessary for the maintenance of a high standard of living.

Although many private firms have established connections in other countries that enable them to maintain a steady flow of goods in either direction, others require the assistance of Government agencies in finding markets or sources of supply. Import and export controls, imposed by many countries for a variety of reasons, together with post-war foreign exchange difficulties, present problems that no single firm or even an association of manufacturers, exporters or importers can solve without intervention on the part of government representatives.

Subsection 1.—Foreign Trade Service

The Foreign Trade Service and a number of associated agencies are at the disposal of exporters and importers, engaged directly in the development of Canada's commercial relations with other countries. The Foreign Trade Service consists of six divisions, the directors of which constitute an executive committee, with the Deputy Minister of Trade and Commerce as Chairman. The directors, with the managing directors and general managers of the associated agencies, are also responsible to the Minister of Trade and Commerce.

The six Divisions and their respective functions are described as follows:

Trade Commissioner Service
Commercial Relations and Foreign Tariffs Division
Export Division
Import Division
Industrial Development Division
Trade Publicity Division

Trade Commissioner Service.—The Trade Commissioner Service might be defined as the sales department of the Foreign Trade Service. Consisting of a headquarters at Ottawa and 42 offices in 38 Commonwealth and other countries, the organization seeks to place Canada in as many world markets as possible. The work of the Trade Commissioners in the field is co-ordinated at Ottawa by four global areas headed by area chiefs. The area officers are familiar with every aspect of foreign trade in their geographical or political areas and are responsible to the Director of the Division for the presentation of official information on all trade matters in their respective territories.

Trade Commissioners, representing Canada in the 42 offices abroad, bring together exporters and importers of Canada and other countries. They study potential markets for specific Canadian products, report on the exact kind of goods required, competitive conditions, trade regulations, tariffs, shipping and packaging regulations. Inquiries for Canadian goods are passed to Ottawa or directly to interested Canadian firms. For the Canadian importer, Trade Commissioners seek sources of raw materials and other goods wanted in Canada, and give assistance to the foreign exporter who wishes to market his products in Canada.

In countries where Canada maintains a diplomatic mission, as well as a trade office, Trade Commissioners form an integral part of the mission and assume the titles of Commercial Counsellor or Commercial Secretary. In some foreign countries they also act as Consuls or Vice-Consuls, according to their status as Foreign Service Officers. To refresh their knowledge of the Canadian industrial picture as a whole, tours of Canadian industrial centres are arranged from time to time for Trade

Commissioners. Contacts with Canadian exporters and importers are made or re-established, and the Trade Commissioners are given an opportunity to pass on information regarding the trade conditions and potentialities of their territories directly to those most concerned.

Trade Commissioner Offices are located in the following countries: Argentina, Australia (Sydney and Melbourne), Belgian Congo, Belgium, Brazil (Rio de Janeiro and São Paulo), British West Indies (Jamaica and Trinidad), Chile, China, Colombia, Cuba, Egypt, France, Germany, Greece, Guatemala, Hong Kong, India, Ireland, Italy, Mexico, the Netherlands, Newfoundland, New Zealand, Norway, Pakistan, Peru, Portugal, Singapore, South Africa (Johannesburg and Cape Town), Sweden, Switzerland, United Kingdom (London, Liverpool and Glasgow), the United States (Washington, New York and Los Angeles), and Venezuela. Canadian representatives of the Department of Trade and Commerce are attached to the Canadian Military Mission in Germany and the Canadian Mission in Japan. There is also a regional office in Vancouver to assist exporters and importers in Western Canada.

Commercial Relations and Foreign Tariffs Division.—The Commercial Relations and Foreign Tariffs Division collects and makes available to Government agencies and exporters, data on trade agreements and trade relationships with other countries, tariffs, import and exchange regulations, quotas and embargoes. More generally, questions related to trade agreements and commercial policies of other countries are of concern to this Division. This involves minute investigation into all aspects of commercial policy and research into tariff and financial developments, as well as the preparation of data required for preliminary study and preparation of new trade agreements, trade agreement renewals and revisions.

The Foreign Tariffs Section of this Division supplies information to other Government Departments and to Canadian exporters on tariffs, quotas, embargoes, documentation and other technical factors in the import regulations of foreign countries. New foreign trade laws and tariff regulations are perused constantly and a record of up-to-date information is maintained and available upon request.

The Commercial Relations Section collects and records data required for prospective trade negotiations. Problems related to foreign tariffs and other trade obstructions are studied. The value of mutual concessions with trading countries is examined. The Section deals with representations made by Canadian exporters and initiates or advises regarding appropriate action. In carrying out these functions, it is often necessary for this Section to seek the assistance of specialists from other Government Departments in the various phases of export industry such as agriculture, forestry, mining, etc.

Export Division.—The Export Division of the Foreign Trade Service is the link between Canadian exporters and the Trade Commissioner Service in the promotion of export trade. The Division comprises 21 Commodity officers, organized into five major Sections, as follows: (a) Foods—live stock and products, fish and fish products, plants and products, and food allocations; (b) Machinery, Metals and Chemicals—iron and steel products, non-ferrous metals and non-metallic minerals, chemicals and products, machinery and industrial equipment, electrical machinery and equipment, and automotive equipment and vehicles; (c) Textiles, Leather, Rubber—textiles and apparel, leather, rubber, and products; (d) Wood and Paper—wood and products, and paper and products; (e) General Products—durable consumer goods, and miscellaneous products. The Commodity officers

serve in the dual capacity of keeping the Trade Commissioner Service abroad fully informed of supply conditions in Canada, and maintaining close liaison with actual and prospective Canadian exporters. In conjunction with the Trade Commissioner Service, they advise exporters as to trade inquiries, potential markets for their products, the selection of agents, and trade regulations and practices. They furnish the initial contact through the Foreign Trade Service at Ottawa with Canadian markets abroad.

The Export Division maintains a confidential Exporters' Directory, which lists Canadian export firms and details of their products. Copies of this Directory are in every Trade Commissioner's office and are used as a means of keeping foreign buyers in touch with Canadian manufacturers offering desired commodities.

As authorized by the Export and Import Permits Act, 11 Geo. VI, c. 17, Orders in Council made under the Act have retained a number of products under export permit control by reason of supply conditions in Canada and to implement an inter-governmental arrangement.

The commodities under control are subject to constant scrutiny with a view to removal from export control, but there are still a number of products, such as foodstuffs, cotton textiles and steel products, which are scarce, the distribution of which requires close surveys, and as to which export control is necessary. While permits are required for these scarce materials, an effort is being made constantly to ease restrictions and give Canadian shippers as much freedom of choice of markets as possible within the limited quantity available for export. Certain commodities are subject to export quotas, which are prepared by the Commodity Officers in conjunction with other interested Departments. The applications for export permits are dealt with through the Export Permit Branch, which comes under the jurisdiction of the Export Division.

The Export Division services the United Kingdom token shipment scheme, under which limited quantities of manufactured articles, at present regarded by the United Kingdom authorities as non-essential, are licensed for import into the United Kingdom.

Import Division.—An Import Division of the Foreign Trade Service was established soon after the end of the Second World War. This accorded with recognition of the primary problem in foreign trade promotion, that exchange be made available to purchase exports, and of the relationship of Canada as a customer to the export sale of Canadian goods.

The Import Division is the link between Canadian importers and the Trade Commissioner Service and corresponds to the Export Division in its particular field. The Division maintains close contact with Canadian importers, and uses facilities of the Trade Commissioner Service to reduce the difficulties experienced by Canadian importers and foreign exporters. It extends to Canadian importers assistance that can be provided in the foreign field through the Trade Commissioner Service.

The Import Division maintains a directory of Canadian importers and foreign exporters, classified according to the field of their activities. This directory assists the Trade Commissioners in their respective territories, serving as a guide. It also maintains a Canadian Trade Services Directory, copies of which are supplied to Trade Commissioners. This contains condensed reference material concerning Canadian requirements on customs, invoicing, packaging, marketing of goods, available freight and forwarding facilities, steamship rates, rail transportation and

relative marketing data. The primary purpose of this service is to obtain recognition abroad for Canada as an organized market, and to provide a reference in dealing with requests for assistance received from importers and their foreign connections.

Commodity specialists in the Division assist importers by providing information concerning new sources of supply of foreign raw materials and food products, and reports on the remaining war-engendered obstacles or restrictions in foreign markets. They also investigate import requirements in general. A manufactured goods section is maintained to assist importers of component parts, industrial equipment and finished goods.

In conjunction with other administrative authorities, the Import Division is concerned with the fair allocation to Canada of products subject to international control and distribution. Through the Trade Commissioner Service, it undertakes negotiations with foreign governments which regulate the sale of their exportable surpluses in world markets, thereby protecting Canadian interests.

Industrial Development Division.—This Division has been established to co-ordinate Federal assistance in the establishment of new industries in Canada, both of domestic and foreign origin. Close liaison is maintained with a widespread network of organizations throughout Canada, including industrial development departments of the provinces, municipalities, railways, banks, power companies, chambers of commerce, boards of trade, the Canadian Manufacturers' Association and other promotional agencies, and with trade commissioners and other Canadian Government offices abroad. Numerous inquiries from foreign concerns and individuals regarding the manufacture of new products in Canada under licence or royalty, and the placing of inventions are also processed.

Programs for the training of foreign technicians in Canada are instituted and carried out by the Division. Seventy-five Chinese have been trained in Canadian industry during 1947 and 1948, and a similar program for East Indian trainees is in progress.

Working in collaboration with the Area Sections of the Canadian Trade Commissioner Service this Division plans itineraries for visiting delegations and industrial technicians, and on occasion sends an official to conduct the tour. Arrangements are also made for visiting foreign government officials, technicians, lecturers, scientists and students.

Also included in the duties of the Division are, membership in various interdepartmental committees concerned with industrial studies, design and development, the processing of reparation plants and equipment, and the admission of German scientists to Canada for the benefit of Canadian industry. The Division also provides liaison with the War Assets Corporation in the disposal of surplus equipment, particularly for export. Every effort is made to maintain close contact with new industries in the solution of their problems and the development of plans for export.

Trade Publicity Division.—The principal function of the Trade Publicity Division is to furnish the commercial community of Canada with information concerning the assistance obtainable by exporters and importers from the Foreign Trade Service. This Division is also responsible for stimulating a better appreciation by the general public of the importance of trade to the welfare of Canada. The attention of exporters and potential exporters is directed to opportunities for the disposal of their products in markets abroad, and of importers to the sources of supply for raw materials and consumer goods unobtainable in this country.

Its principal educational and informative medium is *Foreign Trade*, the weekly publication of the Foreign Trade Service, in which are reproduced reports of Canadian Trade Commissioners on conditions in their respective territories, articles by Head Office personnel and economists of the Dominion Bureau of Statistics, news items and charts portraying trade trends. Press releases are prepared and distributed to newspapers at home, and material of a similar character despatched to Canadian Trade Commissioners for distribution to newspapers abroad. Pamphlets and brochures are prepared to supplement other information on foreign markets, sources of supply, documentation, regulations and trade restrictions. Assistance is rendered to correspondents of newspapers and periodicals at home and abroad in the preparation of articles pertaining to various phases of Canada's external trade. The educational and promotional work of this Division is supported with advertising at home and abroad. The daily press, periodicals and trade papers, as well as films and radio, are also employed. Although the Trade Publicity Division is part of the Foreign Trade Service, its functions have been expanded to include assistance to the associated agencies of the Department of Trade and Commerce concerned with the development of foreign trade. For example, it handles publicity connected with the projects undertaken by the Canadian Government Exhibition Commission in this and other countries.

Subsection 2.—Canadian Commercial Corporation

The Canadian Commercial Corporation was established on May 1, 1946, by Act of Parliament to assist in the development of trade between Canada and other nations, and to assist persons in Canada to obtain goods and commodities from outside Canada, and to dispose of goods and commodities that are available for export from Canada.

By the terms of the Act, the Corporation took over the whole of the undertaking of the Canadian Export Board, which was established by Order in Council P.C. 70, of Jan. 31, 1944. This agency was at that time carrying out procurement functions in Canada on behalf of foreign governments, the United Nations Relief and Rehabilitation Administration, and the Canadian Mutual Aid Board. As a result, the Corporation continued without interruption all procurement action being taken on Apr. 30, 1946, by the Canadian Export Board, and has continued to render similar services to a number of foreign governments, particularly those to which Canada has extended loans. In addition, the Corporation has been able to give assistance to Canadians in the procurement of goods from other countries where, by reason of regulations in those countries, it was necessary that transactions should be handled in whole or in part through a Government agency.

By Order in Council P.C. 314, of Feb. 5, 1947, the power, duty and function vested in the Minister of Reconstruction and Supply to purchase or produce munitions of war or supplies, as well as to construct or carry out projects required by the Department of National Defence, was transferred to the Minister of Trade and Commerce. In connection with this transfer, the Minister of Trade and Commerce was authorized to make use of the services of the officers and servants of the Canadian Commercial Corporation. Under this authority, the officers and employees of the Canadian Commercial Corporation have, since Feb. 1, effected all procurement for the Department of National Defence, acting as agents for the Minister of Trade and Commerce.

By an Act to amend the Canadian Commercial Corporation Act, assented to July 17, 1947, the Corporation, as such, was empowered to act as agent, on behalf of the Minister of Trade and Commerce, in carrying out the powers, duties and functions transferred to him under Order in Council P.C. 314.

The Corporation, therefore, has three separate but related functions. It acts as procurement agency in Canada for foreign governments; it is available to assist Canadian importers; and, in effect, it acts as agent for the Minister of Trade and Commerce in procurement for the Department of National Defence.

Subsection 3.—Canadian Government Exhibition Commission

The Canadian Government Exhibition Commission provides the medium for publicizing Canada and selling her products abroad by graphic presentation. Under the terms of reference, the Commission is solely responsible for the construction and administration of all Government exhibits in International Expositions, Trade Fairs and displays outside of Canada, in which the Canadian Government may decide to participate, and of all International Expositions and Trade Fairs sponsored by the Canadian Government, which may be held in Canada. The Commission's first fulfilment of the latter half of this responsibility was the development of the Canadian International Trade Fair, held in Toronto from May 31 to June 12, 1948. Manufacturers and producers in Canada and other countries had an opportunity of displaying their products at this Fair.

The Commission also co-operates with Canadian exporters in securing representation for goods at trade fairs and trade promotional displays and, on request, is prepared to advise individual Canadian companies in the preparation of their exhibits.

Though not a producer of literature itself, the distribution of large quantities of materials produced by other Canadian Government Departments and agencies is effected by the Commission at its various presentations.

Subsection 4.—Wheat and Grain Division

The problems of Canada's grain trade and milling industry are handled by the Wheat and Grain Division, close liaison being maintained with the various organizations connected with the trade. The Division acts as a procurement agency in securing supplies of cereals and certain cereal products for the Supply Missions of various countries. The Director of the Division serves as the Secretary to the Wheat Committee of the Cabinet and as the departmental liaison officer to the Canadian Wheat Board. In addition, the Director represents Canada on the International Wheat Council.

Subsection 5.—Export Credits

For the general purpose of protecting and expanding Canadian foreign trade interests, the Export Credits Insurance Act was passed in 1944, and amended in December, 1945, and August, 1946. This Act is in two parts, Part I incorporating the Export Credits Insurance Corporation, and Part II providing for loans or guarantees to governments of other countries or their agencies. In May, 1946, Parliament gave its assent in the United Kingdom Financial Agreement Act to a financial agreement between Canada and the United Kingdom making available a large credit to the United Kingdom. (See also page 870.)

Export Credits Insurance Corporation.—Administered by a board of directors, including the Deputy Minister of Trade and Commerce, the Deputy Minister of Finance and the Governor of the Bank of Canada, the Export Credits Insurance Corporation insures exporters against credits losses involved in the export or an agreement for the export of goods. Policies are issued on a yearly basis, covering exporters' sales to all countries and protecting them against certain risks of loss involved in foreign trade. The main risks covered by Export Credits Insurance Policies include: insolvency or protracted default on the part of the buyer; exchange restrictions in the buyer's country preventing the transfer of funds to Canada; cancellation of an import licence or the imposition of restrictions on the importation of goods not previously subject to restrictions; the occurrence of war between the buyer's country and Canada, or of war, revolution, etc., in the buyer's country; and additional transport or insurance charges occasioned by interruption or diversion of voyage outside Canada or continental United States.

The insurance is available under two main classifications: (1) general commodities, (2) capital goods. Coverage for general commodities can be procured by exporters under two types of Policies: (1) the Contracts Policy, which insures an exporter against loss from the time he books the order until payment is received; or (2) the Shipments Policy, obtainable at lower rates of premium, and which covers the exporter from the time of shipment until payment is received. Insurance of capital goods offers protection to exporters of such commodities as plant equipment, heavy machinery, etc., which are subject to extended credit for longer periods than is customary for general commodities. Specific policies are issued for transactions involving capital goods, but the general terms and conditions are the same as those applicable to policies for general commodities.

The Corporation insures exporters under all policies up to 85 p.c. of the contract price, or gross invoice value of shipments. This co-insurance plan also operates in the distribution of recoveries obtained after payment of a loss, and these recoveries are shared by the Corporation and the exporter in the proportion of 85 p.c. and 15 p.c., respectively.

Loans to Britain and to Foreign Governments.—The United Kingdom Financial Agreement Act approved the financial agreement signed on Mar. 6, 1946, between the Government of Canada and the Government of the United Kingdom. Under this agreement the Government of Canada extended to the United Kingdom a credit of $1,250,000,000 to facilitate purchases of goods and services in Canada and to assist the United Kingdom to meet transitional post-war deficits in its current balance of payments, to maintain adequate reserves of gold and dollars; and to assume the obligations of multilateral trade.

Part II of the Export Credits Insurance Act, 1944, as amended, enables the Governor in Council, on the recommendation of the Minister of Finance and the Minister of Trade and Commerce to authorize the Minister of Finance to enter into agreements with foreign governments or their agencies, at their request (a) to provide them with credits to enable them or any person ordinarily resident in such country to pay the cost of Canadian-produced goods or the cost of Canadian services, or (b) to purchase or guarantee securities issued by them for the purpose of making such payments, or (c) to guarantee obligations undertaken or guaranteed by such government or agency under contracts to purchase Canadian goods and services, if such action is deemed advisable for the purpose of facilitating and developing trade or any branch of trade between Canada and any other country.

The total Canadian post-war direct credits to the United Kingdom under the United Kingdom Financial Agreement Act and to other countries under Part II of The Export Credits Insurance Act are shown in Statement I, p. 860.

Subsection 6.—The Easing of Controls on Enemy Trading Regulations

Throughout the war years, this Subsection has dealt with the controls of trading with enemy countries that it was found necessary to impose. At pp. 866-867 of the 1947 Year Book the winding up of many of these controls was dealt with although, at that time, a few were still outstanding or had merely been modified in the light of the international situation then existing.

So far as enemy trading regulations are concerned, at the time of going to press of the current edition of the Year Book, an Order was issued in July, 1947, modifying the Order of June, 1946, regarding trade with Japan. The new Order was made subject to the same conditions as those for Austria, see p. 867 of the 1947 Year Book.

Generally speaking, regulations for trading with enemy countries are now at an end.

Section 2.—The Development of Tariffs

A short sketch of trade and tariffs prior to Confederation is given at pp. 480-482 of the 1940 edition of the Year Book. The 1942 Year Book, at pp. 427-428, traces the development from Confederation to the adoption of the present form of preferential tariff in 1904.

Owing to the limitations of space in the Year Book, it has been necessary, in regard to tariffs, to adopt the policy of confining any detail regarding commodities and countries to tariff relationships at present in force, and to summarize as much as possible historical data and details of preceding tariffs, giving references where possible to those editions of the Year Book where extended treatments can be found.

Subsection 1.—The Canadian Tariff Structure

The Canadian Tariff consists mainly of three sets of rates, viz., Preferential, Intermediate, and General. British Preferential rates consisted at first (1898) of a remission of 25 p.c. of the duties ordinarily paid but later (1900) were advanced to 33⅓ p.c. and, after 1904, took the form of a specially low rate of duty on almost all imported dutiable commodities. This is the first broad category of the tariff structure and these rates are applied to specified goods from British countries if shipped direct to Canada. On certain goods special rates may be applied under the British Preferential tariff; these special rates are lower on those goods than the ordinary British Preferential scale.

The second stage in the tariff edifice is the Intermediate rates. These rates apply to goods from countries that have been accorded tariff treatment more favourable than the General Tariff but which are not entitled to the British Preferential rate. To certain non-British countries, a special concession under the Intermediate rates may be granted and rates lower than the Intermediate apply by agreement.

The third class of duties is the General Tariff. This is levied on all imports that are not covered by Preferential or Intermediate rates.

British Preferential rates apply to all countries within the Empire. They may, however, be modified downward in their application to specific countries when trade agreements are being revised or discussed between Canada and other Dominions. The whole tariff structure is a very complicated piece of administrative machinery. Almost every budget that is brought down in the House of Commons changes the incidence of the tariff in some particulars. It would be impossible at this place to attempt a discussion of tariff schedules. The schedules and rates in force at any particular time may be obtained from the Department of National Revenue, which is responsible for administering the Customs Tariff.

In all cases where the tariff applies, there are provisions for drawbacks of duty on imports of semi-processed goods used in the manufacture of products later exported. The purpose of these drawbacks is to give Canadian manufacturers a fair basis of competition with foreign producers of similar goods, where it is felt to be warranted. There is a second class of drawbacks known as "home consumption" drawbacks; these apply mainly to imported materials used in the production of specified classes of goods manufactured for home consumption.

Too often one-sided competition arises out of unfair practices, such as dumping or the manipulation of exchange advantages. Wide powers have been given in certain instances to supplement tariff provisions. Thus, the Minister of National Revenue or, through him, the customs officials have at times been empowered to establish a "fair market value" as a basis of applying duties to be collected. The term "fair market value" is vague and open to various interpretations and has been frequently criticized, but in exceptional cases, for which they are designed, such valuations have proved effective.

The exchange situation as it affects the Tariff is a different problem. A foreign currency that has become considerably depreciated in relation to the Canadian dollar enables the country concerned to export goods to Canada under a very definite advantage and customs officials have been given power, under conditions such as these, to value imports from such countries at a "fair rate of exchange". Much, of course, depends on the manner in which the above powers are applied by the administrative officials and their understanding of the reasons for their application, and, while the powers of fixing "fair market value" and "fair rate of exchange" have been applied to meet extraordinary conditions in the past, these powers have lately been modified by clauses in trade agreements drawn up with individual countries.

The Tariff Board.—The Canadian Tariff Act was written in 1907 and, although there have been many changes and revisions, there has been no complete overhaul since that time. In 1931, a Tariff Board was established to make inquiry into and report on any matter in relation to goods that are subject to or exempt from customs or excise duties or on which the Minister of Finance desires information. The duties of this Board are more specifically described at pp. 965-966 of the 1941 Year Book. The Tariff Board has been inoperative since the beginning of the War in 1939, in view of the turn taken by wartime trade. Its officers and experts worked with various war bureaus and its earlier research is now unrelated to the wide changes that have been brought about in industry and trade as a result of the War. In the post-war formulation of Canadian trade and tariff policies, a change has been introduced by the setting up of a special Interdepartmental Committee. The Canadian Tariff Board has not been abolished. Indeed the Chairman of the Board is also head of the Interdepartmental Committee, but will resume its functions

along with the Committee. The Committee will hear representations from industrialists and businessmen. These arrangements should serve a useful purpose in providing valuable guidance to the Government in the formulation of trade policy.

Subsection 2.—Tariff Relations with Other Countries

The United Nations General Agreement on Tariffs and Trade—Geneva, 1947.*—Two years of preparation and study, including more than a year of international negotiations, culminated in a General Agreement on Tariffs and Trade authenticated at Geneva by 23 countries on Oct. 30, 1947. The complete text of this Agreement has been published by the United Nations.

The General Agreement on Tariffs and Trade, which includes twenty schedules of tariff concessions, was brought into force, provisionally, on Jan. 1, 1948, by the countries which have signed the Protocol of Provisional Application. This Protocol was signed before that date by Australia, Belgium, Canada, Cuba, France, Luxembourg, the Netherlands, United Kingdom and the United States. Czechoslovakia signed on Mar. 20, 1948, followed by China on Apr. 21, South Africa on May 14, India on June 9, Norway on June 10, Southern Rhodesia on June 11, Burma, Ceylon and Lebanon on June 29 and Brazil, New Zealand, Pakistan and Syria on June 30. Chile requested an extension of six months beyond the deadline of June 30, 1948, before bringing the Agreement into force.

The new rates of duty have not yet become effective for several colonial areas. The provisions of the General Agreement, applicable to dependent territories of the United Kingdom, have been suspended pending renegotiation. In addition, the date new rates applicable to the Malayan Union become effective has yet to be announced. The Netherlands Government has brought the new rates applicable to its colonies into force. At the time of going to press Belgium expected the rates applicable to its colonies to be put into effect in the near future. The French Government has not yet announced the date the General Agreement will be applied to its overseas territories, including French Equatorial Africa, French Somaliland, French Oceania, Guadeloupe, French Guiana, Indo-China, Madagascar, Martinique, New Caledonia, Reunion, St. Pierre and Miquelon and Tunisia.

Concurrent with the negotiation of the General Agreement on Tariffs and Trade the Preparatory Committee at Geneva formulated a Draft Charter which was further discussed at the World Trade Conference convened at Havana on Nov. 21, 1947. This Draft Charter formulated a code of international conduct in respect to commercial policy, commodity policy, restrictive business practices, employment, and development. Many of the provisions of the Draft Charter are incorporated in the General Agreement on Tariffs and Trade. The latter includes a provision entitled "Relation of this Agreement to the Charter for an International Trade Organization". Under this provision, the signatories to the General Agreement undertake that, "pending their acceptance of such a Charter in accordance with their constitutional procedures", they will "observe to the fullest extent of their executive authority the general principles of the Draft Charter submitted to the (Havana) Conference by the Preparatory Committee". It is further provided that, at such time when the Charter enters into force, Article I and Part II of the General Agreement shall be superseded by the corresponding provisions of the Charter. At the First Session of the Contracting Parties held at Havana following

* Prepared by A. L. Neal, Commercial Relations and Foreign Tariffs Division, Department of Trade and Commerce.

the World Trade Conference it was agreed to modify and amend certain of the Articles of the General Agreement. These changes were incorporated at that time into the Agreement. Any contracting party may on or after Jan. 1, 1951, withdraw from the General Agreement upon the expiration of six months' prior notification of such intention.

The General Agreement on Tariffs and Trade formulates principles and rules fundamental to the application and enforcement of what is, in effect, an international code. Those provisions, relative to commercial policy in the broadest sense of the phrase, deal with such matters as most-favoured-nation treatment, preferences, customs duties and other duties and charges, national treatment in connection with internal taxation and regulation, freedom of transit, anti-dumping and countervailing duties, valuation for customs purposes, formalities connected with importation and exportation of goods, marks of origin and the publication and administration of trade regulations.

Interlocking closely with the more standard provisions respecting commercial policy above referred to, are those relevant portions of the Draft Charter of the International Trade Organization on quantitative restrictions which have been embodied in the General Agreement. In principle, quantitative restrictions are prohibited. There are, however, certain exceptions to this basic rule which are carefully defined, the most important being those permitted in respect of countries involved in balance of payments difficulties. The provisions regarding non-discriminatory administration of quantitative restrictions and the exceptions to the rule of non-discrimination which are important features of the basic rules regarding the use of quantitative restrictions in any form, are carefully formulated and set forth in the General Agreement.

Other important Articles of the General Agreement relate to exchange arrangements, export subsidies, state-trading enterprises, adjustments in connection with economic development, emergency action on imports of particular products, general and security exceptions, consultation, nullification or impairment, joint action by the contracting parties, entry into force, withholding or withdrawing of concessions, modification of tariff schedules, etc.

Under the terms of the Protocol of Provisional Application, Canada and the other signatories thereto brought into force on Jan. 1, 1948, Parts I and III of the General Agreement—that is (1) those articles thereof which provide for most-favoured-nation treatment in administration of the general articles and the specified tariff concessions; (2) the schedules of tariff concessions and (3) the general articles relative to acceptance, entry into force and withdrawal. Also, on Jan. 1, 1948, the signatory countries brought, provisionally, into force Part II of the General Agreement (i.e.—all other provisions thereof) "to the fullest extent not inconsistent with existing legislation".

Although more than one hundred separate and distinct agreements respecting tariffs and preferences were worked out at Geneva, the results of all these have been combined in Schedules I to XX, inclusive of the General Agreement. Schedule No. V, allotted to Canada, consolidates the concessions granted by Canada to all countries with which negotiations were concluded; therefore, the rates of customs duty set forth therein are generalized among the participating nations or countries. As was the case with many of the countries, parties to preferential tariff arrangements, the Canadian Schedule (No. V) is in two parts: Part I comprises all items of Canadian tariff negotiated with any or all countries with the rates applicable to

all "members of the club" not entitled to lower or special preferential rates; Part II comprises those tariff items which were the subject of negotiation with Commonwealth countries, and the rates applicable to those areas of the Commonwealth entitled to the benefits of the British Preferential Tariff. All items in Part II, bearing a preferential rate, also appear in Part I, bearing the rate applicable to those other countries which are parties to the Geneva negotiations. The rates of duty specified in Part I are designated as the duties under the "most-favoured-nation tariff" and apply, provisionally, to not only those countries which participated at Geneva but to all countries with which Canada has, in the past, exchanged most-favoured-nation treatment.

The term of the General Agreement is the standard one of three years (i.e.—Jan. 1, 1948, to Jan. 1, 1951) but the Agreement contains the usual provisions for continuance in force thereafter, subject to six months' notice of termination.

Study of the terms of the new Agreement and Schedules thereto, reveals that it is the most far-reaching and comprehensive agreement of its kind in Canadian history. The Canadian portion of the multilateral instrument is a vital part of what is probably the most comprehensive multilateral trade agreement ever attempted.

A revision has been concluded of the Canada-United Kingdom Trade Agreement of 1937. By an exchange of notes each country undertakes, with respect to goods covered by the relevant Schedules of the Multilateral Agreement (Schedules V and XIX), to continue to accord to the products of the other treatment no less favourable in general than was accorded under the Agreement of 1937, and recognizes the right of the other to reduce or eliminate preferences. This exchange of notes reflects the attitude that these preferences, freely given, are not matters of rigid contractual right or obligation.

Canadian Concessions to Other Countries.—The tariff treatment to be accorded by Canada to goods, the produce of the negotiating countries, is set forth in Canadian Schedule V the General Agreement on Tariff and Trade, in the multilateral instrument.

Schedule V (Parts I and II) consists of some 1,050 items or sub-items; of these, 590 provide for reductions in most-favoured-nation tariff below existing rates, and about 460 for the binding or consolidation of most-favoured-nation rates effective at present. The British Preferential rates are reduced directly in respect of some 100 items or sub-items, and indirectly in respect of some 50 items or sub-items (in cases where the new most-favoured-nation rates are lower than existing British Preferential rates). As compared with the tariff structure in force until Dec. 31, 1947, the adoption of the duties specified in the Schedule means, in the case of the Canadian Tariff, the elimination of preferences in 94 items or sub-items.

Schedule V provides for one increase in duty, viz.: in the preferential rate on tin-plate under tariff item 383 (b). This is accompanied by a reduction in the most-favoured-nation rate.

Part II of Schedule V relates solely to the British Preferential rates in the Canadian Tariff and segregates those items in which concessions were made in favour of various Commonwealth countries. Each reduction in the preferential rate necessitated a corresponding or compensatory reduction in the rate applicable to favoured nations since, under the provisions of the Charter and the General Agreement, no existing preferential margin could be increased and no new preference could be created.

Concessions Secured by Canada.—Concessions secured for Canadian products in the various countries with which negotiations were concluded cover an extremely wide range and will be of interest to all parts of the Dominion. The following is a summary of some of the principal export commodities of Canada on which concessions were gained.

Wheat.—Maximum reduction in the United States duty and substantial reductions in the customs duty and/or "monopoly charges" in France, Belgium, Luxembourg, and the Netherlands (Benelux), Cuba, and Norway, with binding of free entry or existing duty in China and Brazil.

Wheat Flour.—Maximum reduction in United States duty and reductions in duty and/or monopoly tax in the Benelux countries and Cuba, as well as reduction in duties in French colonial possessions.

Coarse Grains.—Maximum reductions in the United States duties on oats, barley, rye, bran, shorts, middlings, grain hulls, screenings and scalpings.

Cattle.—Binding of the United States rate of 1½ cts. per lb. on cattle weighing 700 lb. or more, each together with an enlargement of the quota from 225,000 head to 400,000 head; and binding of the rate of 1½ cts. per lb. on calves with an enlargement of the quota from 100,000 head to 200,000 head.

Seed Potatoes.—Continuance in United States of existing quota rate on certified seed potatoes with increase in quota from 1,500,000 bushels to 2,500,000 bushels.

Free entry for seed potatoes bound in Brazil and in Cuba on seasonal basis.

Turnips.—Maximum reduction in United States duty.

Seeds.—Maximum reductions in United States duties on alfalfa, red clover, alsike clover, sweet clover, and timothy, with reductions on other grass and forage seeds. Binding in Benelux of free entry for clover and forage crop seeds; reduction in Czechoslovakia on lucerne and grass seeds; and binding in France of free entry of clover and other forage seeds.

Apples.—Reduction in duties in United States on fresh apples and maximum reduction on dried and canned apples. Reductions by Benelux on fresh and dried apples; by France on fresh and dried apples and apple juice; and by Norway on fresh apples.

Berries.—Reductions in United States duties on blueberries, both frozen and canned, as well as on other frozen berries.

Dairy Products, Eggs, etc.—Maximum reduction in United States duties on live poultry of all kinds; on all dressed poultry other than turkeys; and on baby chicks, canned chicken and dead game birds.

Quota retained on fresh cream but quota rate reduced from 28·3 cts. per gal. to 20 cts. Quota retained on whole milk, but quota rate reduced from 3¼ cts. per gal. to 2 cts. Reductions in rates on skimmed milk and buttermilk, condensed milk (sweetened and unsweetened), whole milk dried, and skim milk and buttermilk, dried.

Cheese.—United States duty reduced on cheddar cheese.

Butter.—United States duty reduced from 14 cts. to 7 cts. per lb. on global quota of 50,000,000 lb.

Reductions in duties in France on concentrated milk, butter and cheese.

General Products.—Reductions in United States duties on maple syrup, maple sugar, honey, hay, straw, millet, dried peas, beef and veal, edible offal, lamb, mutton, wool, dried and frozen eggs, canned fruits, dried potatoes, potato starch, onions, various fresh vegetables, soups, juices and sauces, most vegetable seeds, tobacco, etc.

Spirituous Liquors.—Substantial reduction in United States duties on whisky and gin.

Cod Fillets.—Continuance in the United States of the existing quota and quota rate but with a binding of the ex-quota rate of 2½ cts. per lb. (not bound under the existing Agreement).

Other Fisheries Products.—Maximum reductions in United States duties on fresh or frozen salmon and halibut; reductions in duties on other fresh fish, on smoked or kippered herring, on pickled salmon, and on cod, dry or green salted, pickled, etc.

Binding by Benelux of free entry of fish, fresh or chilled, salted, smoked or dried; reduction by France on canned salmon and canned lobster; reduction by Brazil on dry salted codfish and by Cuba on dried codfish; reductions by Czechoslovakia on salted herrings and preserved salmon; by India on canned fish; and by Norway on canned lobster, canned salmon and salted salmon.

Lumber.—Maximum reductions in United States duty, as well as in Internal Revenue tax, on sawn and dressed boards, planks, etc., of fir, hemlock, spruce, pine and larch. Maximum reductions also in duties on red cedar plywood, veneers (other than of birch or maple, which are bound at 10 p.c.), and binding of free entry for wood-pulp, poles, ties, staves, etc.

Binding by Benelux of free entry for logs, pulpwood and wood-pulp and of low rates on veneer sheets and tongued and grooved wood; reductions in French duties on logs, pulpwood, veneer leaves, tongued and grooved wood, and wood-pulp; and by India on Douglas fir timber.

Base Metals.—Reduction by one-third of United States duty on aluminum metal and by 50 p.c. of the duties on aluminum plates, sheet, scrap, etc. Maximum reduction on magnesium, tantalum, cadmium, nickel in all forms except tubes and tubing, and zinc sheets, scrap and dross, together with binding of free entry and maximum reduction in Internal Revenue tax on all copper.

Binding by Benelux of free entry for lead and zinc ores; copper in pigs, ingots, etc.; nickel in ingots, plates, etc.; aluminum in ingots, plates, etc.; and zinc ingots.

Binding by France of free entry for important ores and reductions in duty on various forms of copper, nickel, aluminum and zinc and free entry for lead ingots.

Binding by Czechoslovakia and Norway of free entry for certain forms of copper, nickel, aluminum, and cadmium.

Non-Metallic Minerals.—Numerous reductions in various countries in duties on mica, talc, and corundum, with continuance of free entry of asbestos in United States, Benelux, and Czechoslovakia, and of free entry in United States of coal and coke, artificial abrasives (crude), calcium cyanide, gypsum, stone, and sand (including nepheline syenite).

Chemicals.—Maximum reductions in United States duties on acetic anhydride, vinyl acetate and synthetic resins, selenium dioxide and tellurium compounds, aluminum hydroxide, ammonium nitrate, calcium carbide, acetylene and other blacks, and salt, with reductions in duties on acetic acid and crude barytes.

Manufactured Goods.—Reductions in United States duties on electric stoves and many other appliances employing an electric element; aircraft and parts, pleasure craft, reciprocating locomotives, many articles and wares of metal, paint-brush handles, baby carriages, canoes and paddles, mop handles, skis, hockey sticks, toboggans, and equipment for exercise or play; pipe organs and parts, rubber substitutes and synthetic rubber. Continuance of free entry for agricultural implements.

Reductions or binding of free entry or low rates in one or several of Benelux, France, India, Norway, Brazil, Chile, China, Cuba, and Czechoslovakia on such goods as soaps, synthetic rubber, rubber belting, agricultural implements, lamps and lanterns, heating and cooking apparatus, insulators, ice skates, aircraft and parts, domestic refrigerators, rubber tires, sewing machines, electrodes and batteries, knitting-machine needles, bronze powder, and skis.

As regards the United States, it should be stated in general that the new Agreement preserves and continues for Canada practically all the advantages obtained in former trade agreements (including the binding of free entry of goods of the kinds which represented approximately two-thirds of all Canadian exports to the United States during 1939) and embodies new and often maximum concessions on a large proportion of the remainder.

Other Tariff Relations.—Apart from the trade agreements concluded at Geneva, Canada has numerous reciprocal tariff arrangements with both Commonwealth and foreign countries. These consist of: (1) application to Canada of some old commercial treaties of the United Kingdom; (2) participation in commercial treaties of the United Kingdom by Canadian Acts of Parliament or Orders in Council; (3) Canadian Conventions of Commerce or Trade Agreements; (4) Exchanges of Notes respecting reciprocal tariff concessions. Power also exists under the Canadian Tariff Act to extend, by Order in Council, British preferential rates, intermediate rates or other reduced duties as compensation for concessions received.

Commonwealth Countries. — Either by means of direct trade agreements with Commonwealth countries or by the powers conferred by the Canadian Tariff Act, Canada now accords the Preferential tariff, or lower rates, to almost the whole of

the Commonwealth. Amongst the Commonwealth countries, Canada has trade agreements with the United Kingdom, 1937, which also provides for the extension of the preferential system between Canada and British Colonies, Eire (1932), Australia (1931), New Zealand (1932), the Union of South Africa (1932) and British West Indies (1925). The agreement concluded between Canada and Southern Rhodesia in 1932 was terminated in 1938, but each country continues to grant tariff preferences to the other.

Many Canadian products are given tariff preferences when entering the United Kingdom, Australia, New Zealand, the British West Indies, Bermuda, British Guiana, British Honduras, Fiji, Northern Rhodesia (Zambesi Basin), Gambia, Sierra Leone, the Seychelles, British Somaliland, St. Helena, Western Samoa, the British Protectorate of Tonga, the British Solomon Islands, the Gilbert and Ellice Islands, Cyprus, the Channel Islands, the Isle of Man, Southern Rhodesia, Mauritius, Ceylon, and Malta. Preferences are granted to a considerable extent to Canadian goods in Eire and the Union of South Africa; also, on some goods, in the Malayan Union, British North Borneo, Sarawak, Brunei, and the Cayman Islands. Canadian motor-cars, together with those from other Commonwealth countries, enjoy preference in Hong Kong and the Straits Settlements; spirits, wines, malt liquors, and tobaccos in Gibraltar; and wines in the Falkland Islands. The preferential system within the British Commonwealth was modified to some extent in the General Agreement on Tariffs and Trade, some preferences being retained, some reduced, and some eliminated.

Foreign Countries.—Most of the trade agreements between Canada and foreign countries are on the basis of reciprocal exchange of most-favoured-nation treatment. Usually this means that Canada and the other contracting State agree to accord each other the benefit of the lowest duties applied to similar goods of any other foreign origin. There may be reservations such as concessions which one State may grant to another on historical, political, or geographical grounds, or some other special relationship.

The concessions arising out of most-favoured-nation treatment under the Canadian tariff consist of the rates of the intermediate tariff and lower rates on some goods provided in trade agreements with France, the United States and Poland and in Schedule V of the General Agreement on Tariffs and Trade.

The benefit to Canadian exports of most-favoured-nation treatment in any country depends on the customs and treaty system of the particular importing country concerned. Several foreign nations have maximum and minimum schedules, involving two scales of duties for practically all goods imported. There may be also an intermediate scale of duties. In some countries the minimum rates involve reduced duties only on specified items of their tariffs, which they have conceded in one or more commercial treaties. Some countries adhere strictly to a single-column tariff. Even when they make concessions in a commercial treaty they may incorporate these in the normal tariff, thus avoiding discrimination in favour of or against any country. The number of countries maintaining single-column tariffs, however, is becoming smaller from year to year.

Trade Agreements at Present in Force.—At the present time (May 1, 1948), Canada's tariff relations with other countries are affected by trade agreements, conventions of commerce or similar arrangements made directly between Canada and the country concerned or by participating in treaties made by the United Kingdom with foreign powers, listed as follows:—

Commonwealth Countries

Country	Treaty or Convention	Terms
UNITED KINGDOM.....	Trade Agreement signed Feb. 23, 1937; in force Sept. 1, 1937. Modified by an Exchange of Letters, Nov. 16, 1938 resulting from United Kingdom—United States Trade Agreement of Nov. 17, 1938. Further modified by General Agreement on Tariffs and Trade and Exchange of Notes, Oct. 30, 1947.	Various concessions by both countries, including exchange of lowest tariff rates (some reservations by Canada) and binding against increase of scheduled preferential duties. Extends also to Colonial Empire. Exchange of Notes, 1947, continues in force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
EIRE.....	Trade Agreement signed Aug. 20, 1932; in force Jan. 2, 1933.	Canada concedes British Preferential Tariff in return for British Preferential treatment in Eire. Made for five years and thereafter until terminated on six months' notice.
AUSTRALIA.....	Trade Agreement signed July 8, 1931; in force Aug. 3, 1931. Modified by General Agreement on Tariffs and Trade.	Each country accords the other reduced rates on schedules of goods, and otherwise (with a few exceptions in Australia) exchange their British Preferential Tariffs with each other. Made for one year and thereafter until terminated on six months' notice. Preferences modified by G.A.T.T.
NEW ZEALAND.....	Trade Agreement signed Apr. 23, 1932; in force May 24, 1932. Modified by General Agreement on Tariffs and Trade.	Exchange specific preferences on scheduled goods and otherwise concede British Preferential Tariffs reciprocally. Made for one year, but kept in force by short-term extensions. Since Sept. 30, 1941, in force until terminated on six months' notice. Preferences modified by G.A.T.T., in force until Jan. 1, 1951, and thereafter until terminated on three months' notice.
UNION OF SOUTH AFRICA.	Trade Agreement signed Aug. 20, 1932; in force Oct. 13, 1932. Modified by General Agreement on Tariffs and Trade.	Agreement extends list of preferences formerly exchanged in absence of formal agreement. Made for five years and thereafter until terminated on six months' notice. Preferences modified by G.A.T.T., in force until Jan. 1, 1951, and thereafter until terminated on three months' notice.
BRITISH WEST INDIES..	Trade Agreement signed July 6, 1925; in force Apr. 30, 1927.	Exchange of specific margins of preferences. Made for twelve years and thereafter until terminated on one year's notice. A Canadian notice of Nov. 23, 1938, terminating the Agreement, was replaced by one of Dec. 27, 1939, continuing the Agreement subject to termination on six months' notice.

Commonwealth Countries—concluded

Country	Treaty or Convention	Terms
Southern Rhodesia..	General Agreement on Tariffs and Trade.	Without formal agreement Canada extends British Preferential rates to Southern Rhodesia and receives Dominion's Preferential rates of that country. Both countries are participants in G.A.T.T.
India.....	General Agreement on Tariffs and Trade.	Canada extends British Preferential rates to India. Both countries are participants in G.A.T.T.
Pakistan.....	General Agreement on Tariffs and Trade.	Canada extends British Preferential rates to Pakistan. Both countries are participants in G.A.T.T.
Ceylon.....	General Agreement on Tariffs and Trade.	Canada extends British Preferential rates to Ceylon and receives preferential rates of Ceylon. Both countries are participants in G.A.T.T.

Non-Commonwealth Countries

Country	Treaty or Convention	Terms
Argentina.....	Trade Agreement signed Oct. 2, 1941; provisionally in force Nov. 15, 1941.	Exchange of most - favoured - nation treatment. Provisional application may be terminated on three months' notice. To come into force definitively thirty days after exchange of ratifications for two years and thereafter until terminated on six months' notice.
Benelux (Belgium, Netherlands and Luxembourg) Belgian Colonies, Surinam and Curacao.	General Agreement on Tariffs and Trade, protocol of Provisional Application signed Oct. 30, 1947, and provisionally brought into effect Jan. 1, 1948.	Exchange of most - favoured nation treatment including scheduled concessions. In force until Jan. 1, 1951 and thereafter until terminated on six months' notice. Colonies still applying most - favoured nation rates per agreement of 1924 but have expressed intention to make G.A.T.T. schedules effective in 1948.
Bolivia.....	Order in Council of July 20, 1935, accepted Article 15 of the United Kingdom—Bolivia Treaty of Commerce of Aug. 1, 1911.	Exchange of most - favoured - nation treatment. May be terminated on one year's notice.

Non-Commonwealth Countries—continued

Country	Treaty or Convention	Terms
BRAZIL	Trade Agreement signed Oct. 17, 1941; provisionally in force from date of signing and definitively on Apr. 16, 1943. General Agreement on Tariffs and Trade, protocol of Provisional Application signed June 30, 1948.	Exchange of most-favoured-nation treatment. Made for two years from Apr. 16, 1943, and thereafter for one year periods until terminated on six months' notice. Under G.A.T.T. exchange of most-favoured-nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
BURMA	General Agreement on Tariffs and Trade, protocol of Provisional Application signed June 29, 1948.	Exchange of most-favoured-nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
CHILE	Trade Agreement signed Sept. 10, 1941; in force provisionally Oct. 15, 1941, and definitively on Oct. 29, 1943.	Exchange of most-favoured-nation treatment. Made for two years from Oct. 29, 1943, and thereafter until terminated on six months' notice.
CHINA	Modus vivendi signed Sept. 26, 1946, in effect Sept. 28, 1946.	Exchange of most-favoured-nation treatment. Made for one year and thereafter until terminated on three months' notice.
	General Agreement on Tariffs and Trade.	Exchange of most-favoured-nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
COLOMBIA	Treaty of Commerce with United Kingdom of Feb. 16, 1866, applies to Canada.	Exchange of most-favoured-nation treatment. Protocol of Aug. 20, 1912, provides means for separate termination by Dominions on one year's notice. Exchange of Notes Dec. 30, 1938, continued Treaty in force until Sept. 30, 1939, and thereafter until terminated on three months' notice.
	To be replaced by Trade Agreement signed Feb. 20, 1946.	Exchange of most-favoured-nation treatment. To come into force definitively thirty days after exchange of ratifications for two years and thereafter until terminated on six months' notice.
COSTA RICA	Exchange of Notes with United Kingdom of Mar. 1-2, 1933, and Canadian Order in Council of July 20, 1935.	Exchange of most-favoured-nation treatment.

Non-Commonwealth Countries—continued

Country	Treaty or Convention	Terms
CUBA	General Agreement on Tariffs and Trade, protocol of Provisional Application signed Oct. 30, 1947, and provisionally brought into force Jan. 1, 1948.	Exchange of most-favoured-nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
CZECHOSLOVAKIA	General Agreement on Tariffs and Trade, protocol of Provisional Application signed Mar. 20, 1948, by Czechoslovakia.	Exchange of most-favoured-nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
DENMARK	Treaties of Peace and Commerce with United Kingdom of Feb. 13, 1660-61 and July 11, 1670, apply to Canada.	Exchange of most-favoured-nation treatment. Declaration of May 9, 1912, provides means for separate termination by Dominions on one year's notice.
DOMINICAN REPUBLIC	Trade Agreement signed Mar. 8, 1940; in force provisionally Mar. 15, 1940, and definitively Jan. 22, 1941.	Exchange of most-favoured-nation treatment. Made for three years from Jan. 22, 1941, and thereafter until terminated on six months' notice.
ECUADOR	Modus vivendi by Exchange of Notes of Aug. 26, 1941; in force Oct. 1, 1941.	Exchange of most-favoured nation treatment. Made for an indefinite period subject to termination on three months' notice.
FRANCE AND FRENCH COLONIES	General Agreement on Tariffs and Trade, protocol of Provisional Application signed Oct. 30, 1947, and provisionally brought into force Jan. 1, 1948.	Exchange of most-favoured nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice. Colonies still applying rates as per agreement of 1933 and subsequent revisions but intention expressed to make G.A.T.T. schedules effective in 1948.
GREECE	Modus vivendi by Exchange of Notes of July 28, 1947; effective Aug. 28, 1947.	Exchange of most-favoured-nation treatment. Made for a period of one year and thereafter unless terminated on three months' notice.
GUATEMALA	Trade Agreement signed Sept. 28, 1937; in force Jan. 14, 1939.	Exchange of most-favoured nation treatment. Made for three years and thereafter until terminated on six months' notice.
HAITI	Trade Agreement signed Apr. 23, 1937; in force Jan. 10, 1939.	Exchange of most-favoured nation treatment. Made for one year and thereafter until terminated on six months' notice.

Non-Commonwealth Countries—continued

Country	Treaty or Convention	Terms
ITALY	Italian Peace Treaty, Feb. 10, 1947. Canadian Order in Council, Feb. 24, 1948; effective Feb. 20, 1948. Modus vivendi signed Apr. 28, 1948.	For a period of eighteen months following the signing of the Italian Peace Treaty on Feb. 10, 1947, Italy is obligated to grant most-favoured-nation rates to Canada on a reciprocal basis. The modus vivendi provides for exchange of most-favoured-nation treatment for one year and thereafter unless terminated on three months' notice.
LEBANON	Special Arrangement by Order in Council of Nov. 19, 1946.	Exchange of most-favoured-nation treatment.
	General Agreement on Tariffs and Trade.	Exchange of most-favoured-nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
MEXICO	Trade Agreement signed Feb. 8, 1946; in force provisionally same date. Ratifications exchanged on May 6, 1947.	Exchange of most-favoured nation treatment. Entered into force definitively thirty days after exchange of ratifications for two years and thereafter until termination on six months' notice.
NICARAGUA	Trade Agreement signed Dec. 19, 1946, in force provisionally same date.	Exchange of most-favoured-nation treatment. Provisional application may be terminated on three months' notice. To come into force definitively thirty days after exchange of ratifications for one year and thereafter until terminated on six months' notice.
NORWAY	Convention of Commerce and Navigation with United Kingdom of Mar. 18, 1928, applies to Canada.	Exchange of most-favoured-nation treatment. Convention of May 16, 1913, provides means for separate termination by Dominions on one year's notice.
	General Agreement on Tariffs and Trade.	Exchange of most-favoured nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
PANAMA	Order in Council of July 20, 1935, accepted Article 12 of the United Kingdom – Panama Treaty of Commerce of Sept. 25, 1928.	Exchange of most-favoured nation treatment. In force until terminated on one year's notice.
PARAGUAY	Exchange of Notes of May 21, 1940; in force June 21, 1940.	Canadian Intermediate Tariff exchanged for most-favoured-nation treatment in Paraguay. In force until terminated on three months' notice.

Non-Commonwealth Countries—continued

Country	Treaty or Convention	Terms
POLAND	Convention of Commerce signed July 3, 1935; in force Aug. 15, 1936.	Exchange of most-favoured-nation treatment and special reductions for limited lists of goods. Made for one year and thereafter until terminated on three months' notice.
PORTUGAL, INCLUDING MADEIRA, PORTO SANTO, AND AZORES.	Trade Agreements Act of June 11, 1928, accepted Article 21 of the United Kingdom - Portugal Treaty of Commerce of Aug. 12, 1914; in force Oct. 1, 1928.	Exchange of most-favoured-nation treatment. In force until terminated on one year's notice.
SALVADOR	Exchange of Notes of Nov. 2, 1937; in force Nov. 17, 1937.	Exchange of most-favoured-nation treatment. Made for one year and thereafter until terminated on four months' notice.
SPAIN	Spanish Treaty Act of June 11, 1928, sanctioned United Kingdom – Spain Treaty of Commerce of Oct. 31, 1922 (revised Apr. 5, 1927); in force Aug. 1, 1928.	Exchange of most-favoured-nation treatment. In force until terminated on six months' notice.
SWEDEN	United Kingdom – Sweden Convention of Commerce and Navigation of Mar. 18, 1826, applies to Canada.	Exchange of most-favoured-nation treatment. In force until terminated on one year's notice. Declaration of Nov. 27, 1911, provides means for separate termination by Dominions on one year's notice.
SWITZERLAND	United Kingdom Switzerland Treaty of Friendship, Commerce and Reciprocal Establishment of Sept. 6, 1855, applies to Canada. By exchange of notes Liechtenstein included under terms of this Agreement, effective Aug. 21, 1947.	Exchange of most-favoured-nation treatment. In force until terminated on one year's notice. Convention of Mar. 30, 1914, provides means for separate termination by Dominions on one year's notice.
SYRIA	Special Arrangement by Order in Council of Nov. 19, 1946.	Exchange of most-favoured-nation treatment.
	General Agreement on Tariffs and Trade.	Exchange of most-favoured-nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice.
TURKEY	Exchange of Notes signed Mar. 1, 1948.	Exchange of most-favoured-nation treatment. In effect for one year and thereafter until terminated on three months' notice.
UNITED STATES	The General Agreement on Tariffs and Trade, the protocol of Provisional Application signed Oct. 30, 1947; entered into force provisionally Jan. 1, 1948.	Exchange of most-favoured nation treatment including scheduled concessions. In force until Jan. 1, 1951, and thereafter until terminated on six months' notice. If at any time G.A.T.T. is set aside, the Trade Agreement signed Nov. 17, 1938, is to be revived.

Non-Commonwealth Countries—concluded

Country	Treaty or Convention	Terms
URUGUAY.....	Trade Agreement signed Aug. 12, 1936; in force May 15, 1940.	Exchange of most-favoured-nation treatment. Made for three years and thereafter until terminated on six months' notice.
VENEZUELA.....	Modus vivendi signed Mar. 26, 1941; in force Apr. 9, 1941.	Exchange of most-favoured-nation treatment. Made for one year subject to renewal or termination on three months' notice; renewed annually by Exchange of Notes, subject to termination on three months' notice.
YUGOSLAVIA.....	Trade Agreements Act of June 11, 1928, accepted Article 30 of United Kingdom-Serb-Croat-Slovene Treaty of Commerce and Navigation of May 12, 1927, in force Aug. 9, 1928.	Exchange of most-favoured nation treatment. In force until terminated on one year's notice.

PART II.—ANALYSES OF FOREIGN COMMODITY TRADE*

Section 1.—Explanations *re* Canadian Trade Statistics

Certain problems of procedure arise in recording trade statistics and require explanation. For the correct interpretation of the statistics of foreign trade, it is necessary that the following definitions and explanations of terms used be kept in mind.

Quantities and Values.—In all tables of imports and exports, the quantities and values are based upon the declarations of importers (import entries) and exporters (export entries), as subsequently checked by customs officials.

Imports: Valuation.—"Imports" means imports entered for consumption. "Entered for consumption" does not necessarily imply that the goods have been actually consumed in Canada, but that they have passed into the possession of the importer and that duty has been paid on that portion liable for duty.

Under the main provisions of the law, the value of merchandise imported into Canada is the fair market value or price thereof when sold for home consumption in the principal markets of the country from which said merchandise was exported. (See Sects. 35 to 45 and 55 of the Customs Act.)

Canadian Exports: Valuation.—"Canadian produce" exported includes Canadian products or manufactures, also exports of commodities of foreign origin that have been changed in form or enhanced in value by further manufacture in Canada, such as sugar refined in Canada from imported raw sugar, aluminum extracted from imported ore, and articles constructed or manufactured from imported materials. The value of exports of Canadian merchandise is the actual amount received in Canadian dollars exclusive of freight, insurance, and other handling charges.

Foreign Exports: Valuation.—"Foreign produce" exported consists of foreign merchandise that had previously been imported (entered for home consumption). The value of such commodities is the actual amount received in Canadian dollars exclusive of freight, insurance, and other handling charges.

* This Part of the Chapter is based on statistics taken from reports prepared under the direction of L. A. Kane, Chief, External Trade Section, International Trade Division, Dominion Bureau of Statistics, Ottawa.

Countries to which Trade is Credited.—Imports are classified as received from the countries whence they were consigned to Canada. The countries whence goods are consigned are not necessarily the countries of actual origin, since goods produced in one country may be purchased by a firm in another country and thence dispatched, after longer or shorter interval, to Canada. In such cases the second country would be the country of consignment, to which the goods would be credited.

Exports are credited to the country to which they are consigned.

Discrepancies in Trade Statistics between Canada and Other Countries.—Canadian statistics of exports are rarely in exact agreement with the import figures of her customers and similar differences occur with Canadian imports. Many factors contribute to these discrepancies, among which are the following:—

1. Differences in the system of valuation used by Canada and the systems used by other countries.

2. The element of time lag is of considerable importance where Canadian exports are concerned, particularly with bulk goods shipped to other continents. There are always quantities of goods in movement at the beginning or end of any trading period, and these affect the comparability between the two countries for the same period of time.

3. Canada's system of geographical classification, according to country of consignment, which may not be the ultimate destination of the goods.

Imports from the United Kingdom.—Published statistics of Canadian imports entered for consumption have always included several items that may be considered of a non-commercial character. These items were never very large in pre-war years, but since 1939 their inclusion in the total value of imports, from the United Kingdom in particular, has tended to distort published data. The distinction between commercial and non-commercial imports is not always easy to establish, but three items have been segregated, as follows:—

(a) "Articles for the use of the Imperial Army, Navy and Air Force". These imports consisted almost entirely of war equipment of various kinds for experimental purposes, training and use in Canada by the United Kingdom Government. The values applied to the articles imported under this classification were nominal and no duty was paid.

(b) "Canadian goods returned". Before the War, this item amounted in value to several hundred thousand dollars annually. Late in 1945, however, the Canadian Government began the repatriation of large stocks of war equipment, the bulk of which was shipped from the United Kingdom. On entering Canada, they were classified under "Canadian goods returned" in the trade returns. They are not shown in the United Kingdom trade returns.

(c) Settlers' effects, the property of immigrants.

The statement below shows the relation of these non-commercial items to the total.

I.—COMMERCIAL AND NON-COMMERCIAL IMPORTS FROM THE UNITED KINGDOM, 1939-47

Year	Articles for Imperial Forces	Canadian Goods Returned	Settlers' Effects	Non-Commercial Imports	Commercial Imports	Total Recorded Imports
	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000
1939	0·8	0·4	0·6	1·8	112·2	114·0
1940	23·5	0·3	0·6	24·4	136·8	161·2
1941	81·2	0·1	0·1	81·4	138·0	219·4
1942	42·5	0·4	0·1	43·0	118·1	161·1
1943	34·3	0·1	[1]	34·4	100·6	135·0
1944	16·2	0·3	0·1	16·6	94·0	110·6
1945	21·2	18·8	0·2	40·2	100·3	140·5
1946	2·3	60·1	1·4	63·8	137·6	201·4
1947	1·5	0·8	3·4	5·7	183·7	189·4

[1] Less than $50,000.

During the last few months of 1946, the proportion of non-commercial imports declined considerably and dropped to negligible proportions in 1947. When comparing 1946 figures with those of the war years, a more correct picture is presented by the use of commercial import figures as a basis for comparison.

Treatment of Gold in Trade Statistics.—The fact that gold is a money metal gives it peculiar attributes that distinguish it from other commodities in trade. In particular, the movement of gold in international trade is determined, almost exclusively, by monetary factors. The amount of exports may fluctuate widely from month to month owing to other than ordinary trade or commercial considerations. In addition, gold is generally acceptable. It does not have to surmount tariff barriers and is normally assured a market at a relatively fixed price. It should also be noted that gold does not move in international trade in any direct or normal relation to sales and purchases. Changes in the Bank of Canada's stock of gold under earmark do not enter, therefore, into the trade statistics.

Since 1939, the statistics of movement of coin and bullion have been compiled by the Bank of Canada and the basis has been considerably changed from that previously shown in the Canada Year Book (see p. 528 of the 1940 edition). The following statement of net exports of non-monetary gold for the years 1940-47 on a monthly basis is obtained from the Bank of Canada and these are the only data given publicity.

Statistics showing the *net* exports of non-monetary gold, including changes in stocks held under earmark, which supplement the trade figures, are given below.

II.—NET EXPORTS OF NON-MONETARY GOLD, 1940-47

Month	1940	1941	1942	1943	1944	1945	1946	1947
	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000
January	21·6	19·2	15·1	13·9	9·4	8·7	9·3	9·0
February	12·4	14·7	16·6	12·8	8·1	8·4	9·5	6·9
March	16·2	19·7	16·1	12·8	12·9	10·2	10·0	6·8
April	18·0	14·3	14·1	13·5	9·3	6·8	7·2	6·4
May	16·9	16·1	15·5	12·5	9·4	10·2	10·0	8·2
June	15·1	18·4	16·8	12·2	10·9	4·7	7·7	8·6
July	15·9	17·3	16·3	10·0	6·6	8·0	6·6	10·1
August	17·6	12·6	13·1	10·2	10·0	8·5	7·5	7·5
September	16·5	21·2	15·0	11·8	8·7	6·8	6·8	8·4
October	18·9	17·4	19·3	11·3	8·4	7·7	8·5	9·2
November	16·6	15·4	12·6	8·8	10·1	9·8	6·0	7·2
December	17·3	17·4	13·9	12·2	5·9	6·2	6·7	11·0
TOTALS	203·0	203·7	184·4	142·0	109·7	96·0	95·8	99·3

Section 2.—Distribution and Composition of Canadian Foreign Trade

Subsection 1.—Historical Development of Canadian Trade

Since 1867 when the provinces of Canada were federated, two countries, the United States and the United Kingdom, have played a dominant role in Canadian trade. The United Kingdom supplied the original Canadian provinces with the bulk of their requirements and British goods held first place in the markets of the new Dominion for some years. Throughout the period the reverse flow of Canadian exports to the United Kingdom consisted mainly of lumber, cattle, cheese, furs and fish with the volume of trade showing a slow but gradual increase over the period 1868-90.

Radical changes began to appear in the direction and composition of Canadian trade from 1890-1900. In 1883, the rapidly expanding republic to the south replaced the United Kingdom as the principal source of Canadian imports, and by 1896 over one-half of Canadian imports were of United States origin. Since that time United States dominance in the Canadian market has been maintained.

The importance of these two countries in Canadian trade is indicated in Table 6 at p. 902, which provides data of imports and exports for representative years from 1886 to the present time.

Commodity Trade.—Before the First World War, Canadian export trade consisted almost entirely of lumber, fish, furs and agricultural and mineral products. The growth of the wheat industry at the beginning of this century was the greatest single dynamic during that period. Between 1896 and 1914, total Canadian exports jumped from $110,000,000 to over $431,000,000, with the value of 1914 wheat and flour exports in the neighbourhood of $140,000,000.

In the decade immediately preceding the First World War, the requirements of a growing industrial organization and the rapid settlement of the West led to large increases in the imports of iron and steel products, machinery and coal, in addition to the consumer goods requirements of an expanding and relatively prosperous economy. The rapid increase in import volume was complemented by an inflow of capital, principally from the United Kingdom.

The First World War spurred the rapidly growing manufacturing industries; iron and steel products and other types of manufactured goods began to appear in volume in the list of exports. These manufactured goods consisted principally of ammunition and similar less complex types of war materials. Following the War, however, the proportion of manufactured goods subsided slightly and in 1920 the eight leading exports, with their aggregate value exceeding 50 p.c. of total exports were the products of primary industry—wheat, meat, flour, planks and boards, newsprint, cattle, wood-pulp and fish. There was, during the period 1920-40, a definite trend towards an increased manufacturing content in the commodities exported, but manufacturing generally took the form of the further processing of raw materials, rather than a gradual development of a separate and integrated manufacturing industry. One of the best examples is the pulp and paper industry, where the chief product can be exported in three forms: pulpwood, the basic raw material; wood-pulp, an intermediate stage; and newsprint, the finished product (although wood-pulp and pulpwood may have other uses). In 1910, the relative proportions of these three stages of the product were 44, 37 and 19, respectively. In 1920 the proportions had changed to 8, 40 and 52 and in 1930 to 7, 21 and 72. By 1939, newsprint formed 73 p.c. of the combined total.

Reference should also be made to the growth of the Canadian mining industry in the years immediately after the First World War. The fall in prices materially reduced the cost of operating gold mines and this industry expanded rapidly. By 1941, gold production exceeded $200,000,000 in value, although it declined subsequently by nearly 50 p.c. due to the impact of the Second World War. (Gold has been excluded from trade figures because of the difficulty of distinguishing between exports of new gold and exports of monetary gold used in settling international capital obligations.) The production of base metals—nickel, copper, zinc and lead—showed a similar rapid growth, and exports of these products in 1946 exceeded in total the value of gold production.

The following statement shows the relative proportions of exports in each of the stages of manufacture for representative years. The distinction between the three stages is somewhat arbitrary, and in assessing the change it is well to keep in mind that the fully manufactured group, at least before 1939, consisted in large part of processed raw materials such as flour, canned meat and newsprint.

III.—PERCENTAGES OF RAW, PARTIALLY AND FULLY MANUFACTURED GOODS EXPORTED FROM CANADA, SIGNIFICANT YEARS, 1910-47

Year	Raw Materials	Partially Manufactured	Fully Manufactured	Year	Raw Materials	Partially Manufactured	Fully-Manufactured
	p.c.	p.c.	p.c.		p.c.	p.c.	p.c.
1910.....	51·2	16·1	32·7	1937.....	38·2	22·5	39·3
1914.....	63·2	10·1	26·7	1939.....	27·8	26·6	45·6
1926.....	46·1	14·7	39·2	1945.....	26·7	16·6	56·7
1929.....	48·0	14·5	37·5	1946.....	26·1	22·1	51·8
1933.....	42·7	14·2	43·1	1947.....	23·2	26·0	50·8

The structure of Canadian import trade according to the stage of production has remained surprisingly stable since the beginning of this century. Fully manufactured goods formed between 60 and 70 p.c. of total imports, with raw materials approximately 25 p.c. The type of commodities imported showed a similar stability. Coal, farm and other machinery and heavy iron and steel products, and consumer goods in partly finished or fully manufactured form such as alcoholic beverages, raw cotton and textiles, wool and fabrics, sugar, rubber, vegetable oils, tea and coffee formed the principal items. One new factor that did exert a significant influence on the commodity structure was the development of the automobile; by 1930 automobiles and parts, and crude and refined petroleum made up 11 p.c. of total imports.

With the great dependence of Canada upon exports as a market for surplus domestic production, and upon imports as a source of many essential commodities, it was not surprising to find the internal level of prosperity in Canada during 1919-39, reacting to fluctuations in economic conditions in other countries. The close relationship between foreign trade and domestic prosperity was demonstrated in the great depression of the early 1930's. The deficit on commodity account in 1929 was caused by a decline in exports and a prosperity-generated increase in the volume of imports. The catastrophic nature of the drop can be seen from the following figures:—

Year	*Imports*	*Domestic Exports*	*Year*	*Imports*	*Domestic Exports*
	$'000,000	$'000,000		$'000,000	$'000,000
1927.....	1,087	1,211	1931.....	628	588
1928.....	1,222	1,339	1932.....	453	490
1929.....	1,299	1,152	1933.....	401	529
1930.....	1,008	864	1934.....	513	649

These figures show how rapidly the disease of world depression can be transmitted to a country greatly dependent on export trade and, in turn, spread from that country through a falling-off in the effective demand for imports.

Trade during the later 1930's improved gradually but not until the Second World War did it approach the level of the boom years 1928 and 1929.

Price-level changes affect the picture to a degree. Prices declined from Confederation to the 1890's, but from then on rose gradually, although the level in 1914 was lower than in 1868. Between 1914 and 1920 the price level rose by 150 p.c., suggesting that the increase in trade volume was not nearly so great as indicated by the value figures. Wartime price changes must be used with caution, however, as some of the chief components of shipments overseas were goods neither produced nor exported prior to the War. After 1920 prices declined steadily until 1928, when the level was approximately 50 p.c. higher than 1913. The depression precipitated a rapid decline until, by 1933, prices were back at the 1913 level. Prices rose again following the depression, and in 1938 stood about 25 p.c. higher than in 1913. During the Second World War price increases were held back, and by 1944 stood only about one-third above the level in 1938.

Impact of the Second World War.—The Second World War provided a stimulus to Canadian exports similar to that experienced in the First World War. With Canadian farms and factories working at maximum capacity to supply the demands of Allied Nations, the value of exports by 1944 was nearly four times as great as in 1938. Imports more than doubled in the same period. Table **10** at p. 905 gives the leading imports into Canada for the years 1939, and 1946–1947. The commodities are arranged by order of importance in 1947 and the table shows the changing significance of these major imports during the period.

The most significant difference in the impact of the two World Wars on trade was the condition of Canadian industrial development at the beginning of each. In 1914, the iron and steel and manufacturing industries in Canada were still in an embryonic state and the Canadian contribution to the Allied effort consisted mainly of food, forest and mineral products. By 1939, heavy industry had become well established and the transition to war production was accomplished with less difficulty. Although primary products still dominated the list of exports, munitions and war supplies formed a significant portion of the total. The following statement lists the important groups over the wartime period.

IV.—EXPORTS BY IMPORTANT WARTIME GROUPS, 1940-46

Item	1940	1941	1942	1943	1944	1945	1946
	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000
Wheat and flour	145·9	206·7	167·6	300·7	474·2	573·6	377·0
Bacon	58·8	77·5	100·6	116·1	148·3	96·5	66·4
Other agricultural and animal products	178·3	203·3	246·2	356·5	491·7	547·4	493·5
Wood, wood products and paper	348·0	387·1	389·8	391·1	440·9	488·0	625·6
Non-ferrous metals	194·7	244·0	308·9	332·7	339·9	352·5	247·8
Munitions and war supplies[1]	84·2	182·5	804·8	1,115·7	1,158·4	753·7	99·9
TOTALS, DOMESTIC EXPORTS[2]	1,179·0	1,621·0	2,363·8	2,971·5	3,440·0	3,218·3	2,312·2

[1] Includes motor-vehicles and parts, military wheeled vehicles, tanks, guns, aircraft, cartridges, shells, explosives and Canadian Navy, Army and Air Force stores. [2] Includes other items not specified.

One of the most interesting features of the growth in wartime exports was that it was accomplished with relatively little fall, if any, in the domestic standard of living.

Table **11** at p. 905 gives the value of leading exports for the years 1939 and 1946–1947. The commodities are arranged by order of importance in 1947 and the table shows the changing significance of these major exports during the period.

Subsection 2.—Recent Developments in Canadian Trade

Throughout the War an increasingly larger proportion of Canadian imports came from the United States, see Table 2, p. 896. Imports of iron and steel machinery, heavy capital equipment, producers materials for war equipment, coal and petroleum reached unprecedented levels. Rising incomes in Canada showed gains in consumer goods imports. Allowance should be made for the fact that some goods from other foreign countries were routed through United States ports to avoid the dangers of the longer sea route to Canada, and thus were attributed to the United States in the trade figures.

By 1947, post-war trends in Canadian trade had begun to emerge. Canadian products continued high in world demand to meet with food products the urgent needs of devastated areas. Exports of forest products, at 32 p.c. of the total value and base metals, at 11 p.c., illustrate the continued importance of primary products in Canadian export trade.

The two countries which have dominated Canadian trade since exports and imports for the Dominion were first recorded maintained that position in 1947. Thirty-seven per cent of the value of exports went to the United States, 27 p.c. to the United Kingdom. Nearly 60 p.c. of purchases by the United States were forest products, with one item, newsprint, making up over 28 p.c. of the total value of exports to that country. Over 60 p.c. of United Kingdom purchases were foodstuffs.

Countries whose imports from Canada were financed chiefly by loans or donations received a wide variety of Canadian goods, although the emphasis was on food products and on vehicles and ships for the rehabilitation of destroyed transport systems. The principal countries in this group are shown below, with the main items exported to each in 1947.

Country	*Value*	*Item*
	$'000,000	
France	81·1	Trucks and parts, ships, rye, wheat and flour, rubber, copper, lead, nickel, zinc, railway locomotives.
Netherlands	55·9	Trucks, woollen clothing, wheat, planks and boards, copper, fertilizers, ships.
Belgium	52·7	Wheat, canned fish, canned meats, aluminum.
Italy	35·7	Flour, rye, rubber, aluminum.
China	35·0	Flour, ships, railroad ties, newsprint paper, machinery, copper, fertilizers.
Norway	20·3	Wheat, flour, nickel, copper, rye.
Poland	15·4	Canned meats, donations, fish, rye, aluminum.

Canadian exports to the British Commonwealth, other than the United Kingdom, exceeded $417,000,000 in 1947. Wheat, railway locomotives and cars, automobiles and parts, and lumber predominated, although the list of exports to

these countries showed wide diversification. Principal exports to leading countries in 1947 were as follows:—

Country	*Value*	*Item*
	$'000,000	
British West Indies	81·7	Flour, miscellaneous food, clothing and manufactured goods.
Union of South Africa	66·7	Planks and boards, canned fish, automobiles and parts, paper, textiles.
Australia	60·3	Automobiles and parts, newsprint, planks and boards, cotton fabrics, artificial silk fabrics, aluminum.
Newfoundland	55·1	Flour, coal, gasoline, clothing, boots and shoes, machinery.
India	42·9	Flour, automobiles and parts, paper, aluminum, copper.

A very large increase in the value of exports to Latin America is indicated by the 1947 export figures. Exports to the twenty countries in this group comprised both primary and manufactured goods. The four leading countries, with principal commodities exported, were as follows:—

Country	*Value*	*Item*
	$'000,000	
Argentina	31·7	Newsprint, crude rubber, planks and boards, sewing machines, agricultural machinery, potatoes, automobiles, aircraft, aluminum.
Brazil	31·7	Flour, newsprint, sewing machines, ships, lead, aluminum.
Venezuela	13·0	Flour, newsprint, automobiles, machinery.
Mexico	11·7	Newsprint, machinery, leather, agricultural machinery, railway cars.

The volume of Canadian imports has always been closely related to the level of national income and domestic prosperity. In 1947, with national income close to the wartime peak of 1944 and with the enforced restraints of wartime largely eliminated, consumer spending reached a record high. The accumulated demand was reflected in the import figures, particularly in the field of consumer goods. The increased domestic sales of goods produced in Canada resulted in increased requirements for fuels, producers' materials and capital equipment. Prosperity in the agricultural sector, in part due to the subsidizing of exports, increased the demand for imported farm machinery. The level of imports was apparently affected little by the price rise occurring throughout the year, with availability the prime consideration.

The total value of imports in 1947 approximated $2,600,000,000, with three-quarters of the total coming from the United States. In spite of the increased production for export in other countries, the United States appears to have a firmer grip on the Canadian market than it had before the War. The Canadian demand for United States goods is the result of a combination of factors. From the 1920's, the Canadian preference for United States manufactured consumer goods, or for domestic goods on the United States pattern, has been steadily growing. This

growing preference is not unnatural, in view of the increasing growth of United States branch plants in Canada; the exposure of Canadians to United States radio, magazines and national advertising campaigns; proximity of United States industries to Canadian consumers; a minimum of foreign exchange problems between the two countries, and the use of the same language and similar methods of business. The return of the Canadian dollar to parity with the United States dollar early in July, 1946, from a 10 p.c. discount position, served partially to offset the price increases and improved the relative position of United States goods on the Canadian market. The trend in 1947 was particularly pronounced, as the value of imports from the United States in that year was over 40 p.c. greater than in 1946. Exports to the United States have not kept pace and the commodity deficit on current account amounted, in 1947, to over $900,000,000.

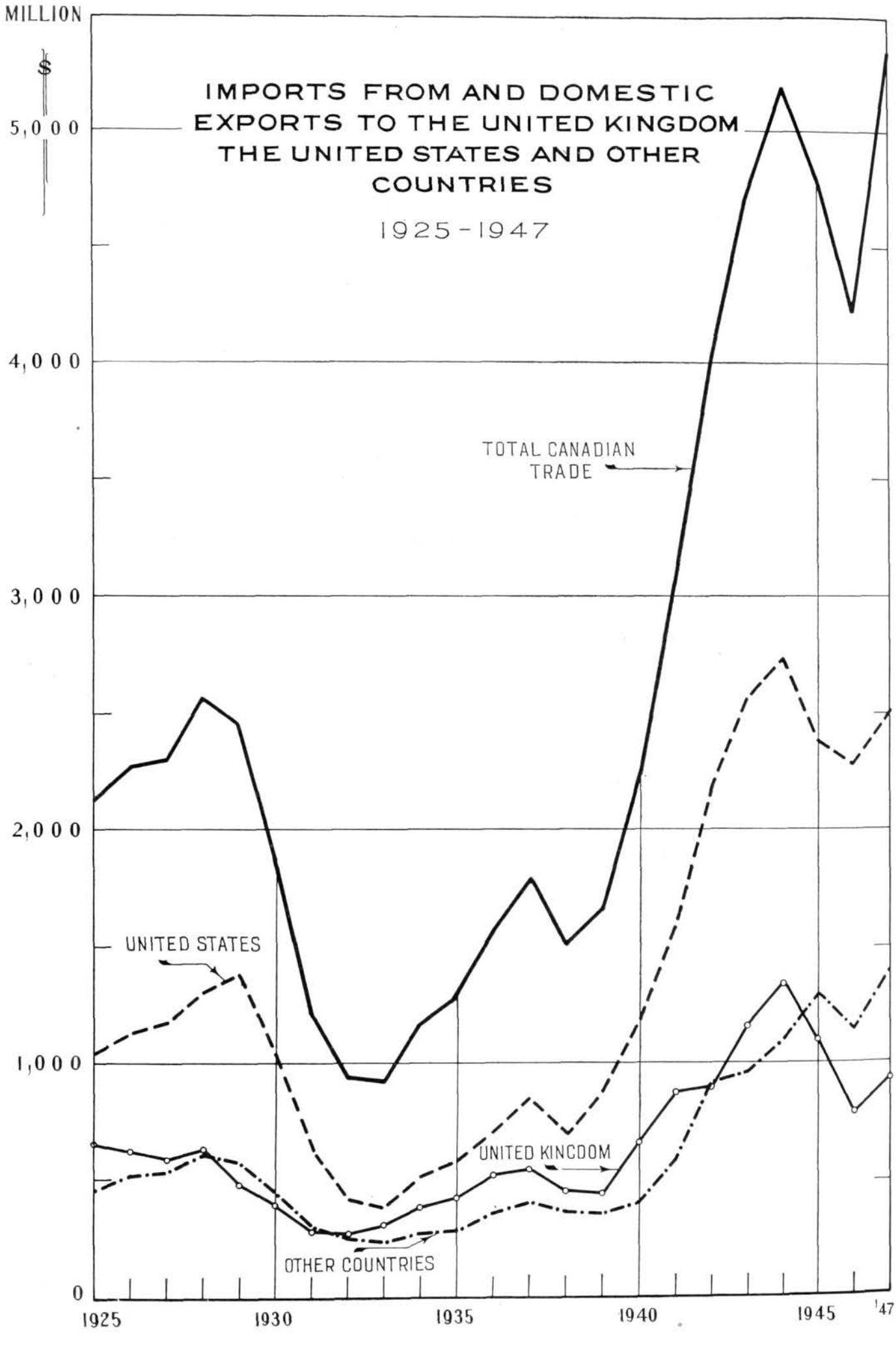
Apart from the United States, the sources of Canadian imports may be divided into three principal geographic groups. The first of these is the United Kingdom, commercial imports from which were valued at $183,700,000 in 1947, an increase of 34 p.c. over 1946 and 49 p.c. over the 1935-39 average. Principal imports from the United Kingdom were woollen fabrics and yarns, cotton fabrics, tin and tableware.

The group second in importance comprised other countries of the Commonwealth; total imports from this source were valued at $165,024,000 or 19 p.c. higher than in 1946. The principal countries, with the chief items of imports from each, are listed below:—

Country	*Value*	*Item*
	$'000,000	
India	42·2	Jute fabrics, tea, rugs.
British Malaya	16·9	Rubber, tin.
Australia	14·2	Wool, raisins, rabbit skins, wines.
British Guiana	12·4	Bauxite ore, sugar.
Ceylon	11·7	Tea, rubber, cocoanuts.
New Zealand	10·8	Wool, sausage casings, hides.

Imports from Latin America, at $159,100,000, were the third group in importance. The 1947 total was 27 p.c. higher than the corresponding figure for 1946 and more than eight times as great as the average for 1935-39. Principal countries, with commodities, were as follows:—

Country	*Value*	*Item*
	$'000,000	
Venezuela	46·7	Crude petroleum.
Cuba	23·7	Sugar, pineapples, tobacco, industrial alcohol.
Argentina	18·0	Vegetable oils, dyes, wines.
Mexico	17·0	Raw cotton, vegetable fibres, tomatoes.
Brazil	13·9	Coffee, raw cotton, wax, cocoa beans.
Guatemala	9·5	Bananas, coffee.
Colombia	9·2	Coffee, crude petroleum.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IMPORTS FROM AND DOMESTIC
EXPORTS TO THE UNITED KINGDOM
THE UNITED STATES AND OTHER
COUNTRIES
1925 - 1947
TOTAL CANADIAN
TRADE
UNITED STATES
UNITED KINGDOM
OTHER COUNTRIES
1925
1930
1935
1940
1945
'47

Section 3.—Statistics of Foreign Trade

In considering the figures in the following tables, reference should be made to the explanatory notes on trade statistics at pp. 885-887. It must be emphasized that gold imports and exports are excluded from all tables. Imports from the United Kingdom from 1939 to 1946 are distorted by the inclusion of large amounts of non-commercial items in the trade returns (see p. 886). United Kingdom figures can be viewed in a proper perspective only if these non-commercial items are excluded from the recorded import statistics.

Subsection 1.—Trade by Geographic Areas

The tables in this Subsection provide information about Canada's foreign trade in total, by continents, and by countries with special reference in Tables 4 to 7 to the division between Empire and foreign countries.

1.—Trade of Canada (Excluding Gold) with All Countries, 1919-47

NOTE.—These figures are available on a calendar-year basis only since 1919; for figures for the fiscal years 1868-1919, see the Canada Year Book 1940, p. 526.

Year	Imports			Exports			Balance of Trade: Excess of Exports (+) Imports (−)
	Dutiable	Free	Total	Domestic Produce	Foreign Produce	Total	
	$	$	$	$	$	$	$
1919...	607,458,191	333,555,422	941,013,613	1,235,958,483	53,833,452	1,289,791,935	+348,778,322
1920...	890,847,353	446,073,668	1,336,921,021	1,268,014,533	30,147,672	1,298,162,205	− 38,758,816
1921...	546,863,395	252,615,088	799,478,483	800,149,296	13,994,461	814,143,757	+ 14,665,274
1922...	513,330,771	249,078,538	762,409,309	880,408,645	13,815,268	894,223,913	+131,814,604
1923...	594,098,589	308,931,926	903,030,515	1,002,401,467	13,584,849	1,015,986,316	+112,955,801
1924...	528,912,308	279,232,265	808,144,573	1,029,699,449	12,553,718	1,042,253,167	+234,108,594
1925...	561,061,127	329,132,221	890,193,348	1,239,554,207	12,111,941	1,251,666,148	+361,472,800
1926...	642,448,478	365,893,433	1,008,341,911	1,261,241,525	15,357,292	1,276,598,817	+268,256,906
1927...	696,253,024	390,864,906	1,087,117,930	1,210,596,998	20,445,231	1,231,042,229	+143,924,299
1928...	788,271,150	434,046,766	1,222,317,916	1,339,409,562	24,378,794	1,363,788,356	+141,470,440
1929...	849,114,653	449,878,039	1,298,992,692	1,152,416,330	25,926,117	1,178,342,447	−120,650,245
1930...	647,230,123	361,249,356	1,008,479,479	863,683,761	19,463,987	883,147,748	−125,331,731
1931...	416,179,513	211,918,873	628,098,386	587,653,440	11,907,020	599,560,460	− 28,537,926
1932...	288,425,260	164,188,997	452,614.257	489,883,112	8,030,485	497,913,597	+ 45,299,340
1933...	235,195,782	166,018,529	401,214,311	529,449,529	6,034,260	535,483,789	+134,269,478
1934...	295,566,101	217,903,396	513,469,497	649,314,236	6,991,992	656,306,228	+142,836,731
1935...	306,913,652	243,400,899	550,314,551	724,977,459	12,958,420	737,935,879	+187,621,328
1936...	350,903,936	284,286,908	635,190,844	937,824,933	12,684,319	950,509,252	+315,318,408
1937...	436,327,558	372,568,767	808,896,325	997,366,918	14,754,862	1,012,121,780	+203,225,455
1938...	379,095,355	298,355,999	677,451,354	837,583,917	11,100,216	848,684,133	+171,232,779
1939...	427,470,633	323,584,901	751,055,534	924,926,104	10,995,609	935,921,713	+184,866,179
1940...	582,934,898	499,015,821	1,081,950,719	1,178,954,420	14,263,172	1,193,217,592	+111,266,873
1941...	732,791,033	716,000,617	1,448,791,650	1,621,003,175	19,451,366	1,640,454,541	+191,662,891
1942...	715,018,745	929,223,188	1,644,241,933	2,363,773,296	21,692,750	2,385,466,046	+741,224,113
1943...	836,548,673	898,528,217	1,735,076,890	2,971,475,277	29,877,002	3,001,352,279	+1,266,275,389
1944...	884,751,584	874,146,613	1,758,898,197	3,439,953,165	43,145,447	3,483,098,612	+1,724,200,415
1945...	798,795,201	786,979,941	1,585,775,142	3,218,330,353	49,093,935	3,267,424,288	+1,681,649,146
1946...	1,078,943,972	848,335,430	1,927,279,402	2,312,215,301	26,950,546	2,339,165,847	+411,886,445
1947...	1,562,690,081	1,011,254,044	2,573,944,125	2,774,902,355	36,888,055	2,811,790,410	+237,846,285

2.—Trade of Canada, by Continents, 1939, and 1945-47

NOTE.—The percentages for 1945 and 1946 are distorted somewhat by the inclusion in the import figures of Canadian military equipment returned from overseas.

Continent	1939		1945		1946		1947	
	$'000,000	p.c.	$'000,000	p.c.	$'000,000	p.c.	$'000,000	p.c.
Imports								
Europe—								
United Kingdom	114·0	15·2	140·5	8·9	201·4	10·4	189·4	7·4
Other Europe	37·1	4·9	18·6	1·2	39·7	2·1	57·7	2·2
North America—								
United States	496·9	66·1	1,202·4	75·8	1,405·3	72·9	1,974·7	76·7
Other North America	17·1	2·3	76·9	4·8	93·9	4·9	110·3	4·3
South America	21·1	2·8	56·7	3·6	79·6	4·1	102·1	4·0
Asia	38·1	5·1	40·4	2·5	47·9	2·5	87·3	3·4
Oceania	18·6	2·5	28·5	1·8	35·7	1·9	30·0	1·1
Africa	8·2	1·1	21·8	1·4	23·8	1·2	22·6	0·9
Totals, Imports	**751·1**	**100·0**	**1,585·8**	**100·0**	**1,927·3**	**100·0**	**2,574·1**	**100·0**
Exports (Domestic)								
Europe—								
United Kingdom	328·1	35·5	963·2	29·9	597·5	25·8	751·2	27·1
Other Europe	57·9	6·3	406·0	12·6	334·4	14·5	372·3	13·4
North America—								
United States	380·4	41·1	1,197·0	37·2	887·9	38·4	1,034·2	37·3
Other North America	28·7	3·1	108·6	3·4	122·6	5·3	164·1	5·9
South America	16·2	1·8	47·6	1·5	77·2	3·3	111·5	4·0
Asia	44·8	4·8	336·7	10·5	128·8	5·6	133·0	4·8
Oceania	46·1	5·0	55·6	1·7	57·6	2·5	102·9	3·7
Africa	22·7	2·4	103·6	3·2	106·2	4·6	105·7	3·8
Totals, Exports	**924·9**	**100·0**	**3,218·3**	**100·0**	**2,312·2**	**100·0**	**2,774·9**	**100·0**

3.—Trade of Canada, by Leading Countries, 1939, 1946 and 1947

NOTE.—Countries arranged in order of importance, 1947

Ranks			Country	1947	1946	1939
1939	1946	1947				
			Imports	$'000	$'000	$'000
1	1	1	United States	1,974,679	1,405,297	496,898
2	2	2	United Kingdom	189,370	201,433	114,007
27	4	3	Venezuela	46,688	26,886	1,943
5	3	4	India	42,250	27,877	10,358
31	10	5	Cuba	23,751	13,228	889
12	8	6	Argentina	17,961	14,372	4,406
37	7	7	Mexico	16,980	14,610	479
3	19	8	British Malaya	16,908	5,871	13,145
4	5	9	Australia	14,222	19,754	11,269
29	9	10	Brazil	13,888	14,018	1,111
7	11	11	British Guiana	12,358	12,187	6,891
19	13	12	Switzerland	11,941	11,148	3,459
18	28	13	Ceylon	11,653	3,745	3,562
13	12	14	New Zealand	10,831	11,956	4,266
8	25	15	Belgium	10,120	4,429	6,772
–	32	16	Guatemala	9,488	2,928	164
26	16	17	Newfoundland	9,427	9,268	1,955
10	15	18	Colombia	9,197	9,708	5,437
9	23	19	France	8,755	4,610	6,028
–	30	20	Netherlands West Indies	8,648	3,186	270
–	18	21	Dominican Republic	8,186	7,126	16
–	38	22	Philippine Islands	8,063	2,058	451
15	20	23	Barbados	7,776	5,548	3,874
22	29	24	British East Africa	7,683	3,603	2,626
–	6	25	Honduras	6,999	15,573	17
–	21	26	Gold Coast	6,493	5,381	251

3.—Trade of Canada, by Leading Countries, 1939, 1946 and 1947—concluded

Ranks 1939	Ranks 1946	Ranks 1947	Country	1947	1946	1939
			Imports—concluded	$'000	$'000	$'000
12	14	27	Jamaica	6,371	10,484	4,357
21	26	28	Trinidad and Tobago	5,654	4,137	2,668
33	49	29	Norway	4,999	836	680
14	17	30	British South Africa	4,257	7,892	3,991
			Totals, Above 30 Countries	**2,525,596**	**1,879,149**	**712,240**
			Grand Totals, Imports	**2,573,944**	**1,927,279**	**751,056**
			Exports (Domestic)			
1	1	1	United States	1,034,226	887,941	380,392
2	2	2	United Kingdom	751,198	597,506	328,099
12	3	3	France	81,058	74,380	6,973
5	4	4	British South Africa	67,139	68,633	17,965
3	9	5	Australia	60,294	38,194	32,029
10	10	6	Netherlands	55,940	33,883	7,357
8	8	7	Newfoundland	55,085	38,229	8,506
11	5	8	Belgium	52,749	63,626	7,261
13	6	9	India	42,947	49,046	5,166
6	17	10	New Zealand	37,386	16,110	11,954
23	13	11	Italy	35,688	20,387	2,231
22	7	12	China	34,984	42,915	2,636
18	20	13	Argentina	31,697	14,039	4,117
14	11	14	Brazil	31,660	24,602	4,407
17	15	15	Trinidad and Tobago	26,354	19,140	4,211
7	14	16	Norway	20,320	19,267	10,904
15	18	17	Jamaica	18,214	15,500	4,313
19	32	18	Eire	17,598	7,956	3,597
16	26	19	Sweden	17,461	9,133	4,284
36	12	20	Poland	15,380	22,501	1,280
22	30	21	Switzerland	14,196	8,636	1,850
–	24	22	Czechoslovakia	13,779	9,871	181
25	21	23	Venezuela	12,989	11,086	1,702
19	23	24	Mexico	11,701	10,536	3,004
–	19	25	Egypt	10,922	15,086	369
23	29	26	Philippine Islands	10,448	8,901	1,819
30	33	27	British Guiana	10,273	7,109	1,586
24	28	28	Colombia	9,950	8,930	1,781
29	36	29	Barbados	9,063	6,205	1,604
–	42	30	Palestine	8,473	3,562	230
			Totals, Above 30 Countries	**2,599,172**	**2,152,910**	**861,808**
			Grand Totals, Exports	**2,774,902**	**2,312,215**	**924,926**

4.—Total Imports, by Countries, 1941-47, with Averages, 1935-39

Country	Thousands of Dollars							
	Average 1935-39	1941	1942	1943	1944	1945	1946	1947
British Countries								
United Kingdom	124,047	219,419	161,113	134,965	110,599	149,517	201,433	189,370
Eire	69	157	70	2	3	9	53	76
Aden	4	3	24	2	3	2	Nil	Nil
Africa, British East	2,683	2,115	3,477	1,174	1,081	1,539	3,603	7,683
Southern Rhodesia	316	494	301	1,146	356	542	93	181
Northern Rhodesia	4,210	4,182	4,732	3,770	5,551	8,433	7,892	29
Union of South Africa								4,228
Other British South Africa								1
Gold Coast	701	2,157	2,653	1,713	1,758	6,367	5,381	6,493
Nigeria	370	723	579	951	2,402	3,422	4,772	2,149

[1] Less than $500.

4.—Total Imports, by Countries, 1941-47, with Averages, 1935-39—continued

Country	Thousands of Dollars							
	Average 1935-39	1941	1942	1943	1944	1945	1946	1947
British Countries—concl.								
Sierra Leone	7	2	3	[1]	Nil	9	Nil	18
Other British West Africa	[1]	Nil	Nil	Nil	"	Nil	"	Nil
British Sudan	25	31	68	19	34	67	53	26
India	8,531	17,867	21,346	17,091	27,878	30,568	27,877	42,250
Burma	165	281	67	Nil	Nil	Nil	1	3
Ceylon	4,015	6,064	6,784	5,605	4,262	5,682	3,745	11,653
British Malaya	11,154	38,737	14,651	[2]	Nil	Nil	5,871	16,908
Other British East Indies	79	141	30	Nil	"	"	Nil	30
Bermuda	102	90	209	27	490	94	122	57
British Guiana	5,846	8,429	6,091	8,255	7,225	9,338	12,187	12,358
British Honduras	87	342	272	428	456	450	1,221	584
Barbados	3,261	3,948	700	5,115	8,207	5,466	5,548	7,776
Jamaica	5,160	6,782	5,572	9,350	12,624	9,273	10,484	6,371
Trinidad and Tobago	2,387	3,899	2,009	758	979	3,101	4,137	5,654
Bahamas	1,816	2,184	714	1,044	1,147	857	788	615
Leeward and Windward Islands								199
Falkland Islands	[2]	Nil	273	1,041	244	424	Nil	Nil
Gibraltar	[1]	"	[1]	Nil	Nil	Nil	"	"
Hong Kong	842	916	410[2]	[1][2]	"	"	163	982
Malta	2	Nil	32	10	3	21	56	12
Newfoundland	2,188	4,273	5,116	7,176	9,306	16,600	9,268	9,427
Australia	9,728	19,235	12,889	11,453	12,540	17,180	19,754	14,222
Fiji	2,341	3,849	3,091	2,301	3,628	1,607	3,123	4,178
New Zealand	4,754	13,552	19,892	24,776	8,744	9,276	11,956	10,831
Other British Oceania	3	Nil	282	6	229	409	420	Nil
Palestine	68	70	327	444	605	415	500	31
Totals, British Countries	**194,961**	**359,942**	**273,777**	**238,631**	**220,354**	**271,668**	**340,501**	**354,394**
Foreign Countries								
Abyssinia	5	Nil	Nil	Nil	Nil	2	1	9
Albania	1	"	"	"	"	Nil	Nil	Nil
Afghanistan	1	"	7	1	58	2,079	1,587	"
Argentina	5,374	4,764	9,739	10,199	9,564	7,333	14,372	17,961
Austria	245	Nil	Nil	Nil	Nil	Nil	Nil	89
Belgium	6,328	76	6	1	"	380	4,429	10,120
Belgian Congo	5	306	504	1,736	792	333	664	815
Bolivia	26	10	26	Nil	14	25	32	8
Brazil	920	19,444	11,166	4,800	7,224	7,601	14,018	13,888
Bulgaria	4	[1]	Nil	Nil	Nil	Nil	Nil	Nil
Chile	125	233	792	596	723	562	424	339
China	3,344	2,549	117	21	2	[1]	2,321	2,304
Colombia	5,139	12,912	1,997	5,021	13,782	11,678	9,708	9,197
Costa Rica	77	546	1,493	1,529	1,361	594	1,546	727
Cuba	615	4,330	5,913	8,552	4,229	7,512	13,228	23,751
Czechoslovakia	1,979	Nil	Nil	Nil	Nil	Nil	964	3,645
Denmark	165	4	[1]	"	"	6	157	1,455
Greenland	311	477	1,471	1,254	128	271	271	Nil
Dominican Republic	4	4,832	612	169	4,962	6,201	7,127	8,186
Ecuador	41	170	48	260	566	1,964	157	207
Egypt	728	2,658	1,061	57	179	213	252	205
Estonia	23	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Finland	70	[1]	[1]	"	"	"	23	30
France	6,382	335	21	6	9	273	4,610	8,755
French Africa	61	3	Nil	76	32	308	353	252
French East Indies	126	8	"	Nil	4	Nil	Nil	1
French Guiana	1	Nil	"	"	Nil	"	[1]	[1]
French Oceania	3	177	47	216	8	44	22	18
French West Indies	1	Nil	2	Nil	87	94	3	19
Madagascar	31	"	70	52	80	119	123	18
St. Pierre and Miquelon	26	9	17	24	13	11	7	15
Germany	10,364	11[2]	2[2]	Nil	Nil	2	11	498
Greece	47	29	13	1	"	2	64	95
Guatemala	67	608	1,098	1,070	2,693	1,779	2,928	9,488
Haiti	63	331	221	686	2,097	514	778	227
Honduras	49	78	168	193	1,349	8,017	15,573	6,999
Hungary	130	Nil	Nil	Nil	Nil	Nil	Nil	50
Iceland	3	64	102	1	24	31	9	30
Iraq (Mesopotamia)	357	254	18	Nil	Nil	974	1,489	1,502

[1] Less than $500. [2] Ex-bond.

4.—Total Imports, by Countries, 1941-47, with Averages, 1935-39—concluded

Country	Thousands of Dollars							
	Average 1935-39	1941	1942	1943	1944	1945	1946	1947
Foreign Countries—concl.								
Italy	2,403	44[2]	1[2]	3	[1]	1	2,704	3,872
Tripoli	[1]	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Other Italian Africa	[1]	"	"	"	"	1	4	3
Japan	4,649	2,338	1,045[2]	7[2]	"	Nil	3	350
Korea	1	[1]	Nil	Nil	"	"	Nil	Nil
Latvia	11	Nil	1	"	"	"	"	"
Liberia	14	1	1	"	8	12	60	25
Lithuania	4	Nil	Nil	"	Nil	Nil	Nil	Nil
Mexico	667	1,896	4,970	12,503	13,119	13,508	14,610	16,980
Morocco	32	Nil	Nil	Nil	Nil	111	18	36
Netherlands	3,984	135	36	47[2]	51	401	2,497	3,530
Netherlands East Indies	800	4,596	1,141	123[2]	22	18	57	200
Netherlands Guiana	[1]	636	1,920	6,998	1,109	Nil	59	519
Netherlands West Indies	150	912	877	976	508	830	3,186	8,648
Nicaragua	[1]	1	10	218	1	1	29	87
Norway	742	3	Nil	Nil	Nil	641	836	4,999
Panama	32	388	156	78	6	34	38	2,107
Paraguay	62	106	559	560	208	241	264	232
Persia (Iran)	126	176	71	10	27	406	274	299
Peru	3,554	2,833	936	692	95	149	847	407
Philippine Islands	563	761	106	Nil	Nil	[1]	2,058	8,063
Poland	185	[1]	[1]	"	"	Nil	1	3
Portugal	265	570	450	557	1,308	1,658	2,188	1,409
Azores and Madeira	157	155	105	89	47	63	241	655
Portuguese Africa	15	188	356	91	128	306	510	392
Portugese Asia	1	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Roumania	96	"	"	"	"	"	1	1
Salvador	[1]	431	794	1,208	2,561	1,502	2,428	1,342
Spain	989	520	406	908	3,024	4,353	4,484	3,002
Canary Islands	10	6	1	Nil	Nil	Nil	Nil	2
Spanish Africa	Nil	Nil	Nil	"	"	"	[1]	Nil
Sweden	2,044	670	79	2	24	1,093	3,681	3,184
Switzerland	3,110	4,004	3,898	3,752	4,766	7,863	11,149	11,941
Syria	6	8	6	15	30	19	71	30
Thailand (Siam)	84	30	3	Nil	Nil	Nil	12	28
Turkey	293	42	40	14	2	277	1,880	2,672
Union of Soviet Socialist Republics	341	78	[1]	2	16	1,747	1,519	181
United States	418,738	1,004,498	1,304,680	1,423,672	1,447,226	1,202,418	1,405,297	1,974,679
Alaska	93	285	462	825	136	113	389	744
American Virgin Islands	[1]	Nil	Nil	Nil	Nil	Nil	32	16
Guam	[1]	"	"	"	"	"	50	Nil
Hawaii	186	83	4	3	1	6	346	709
Puerto Rico	13	1	24	17	67	51	198	270
Uruguay	180	688	1,322	551	248	95	618	321
Venezuela	1,662	6,527	9,274	6,004	13,826	17,267	26,886	46,688
Yugoslavia	99	22	Nil	Nil	Nil	Nil	2	23
Totals, Foreign Countries	**489,621**	**1,088,850**	**1,370,465**	**1,496,446**	**1,538,544**	**1,314,107**	**1,586,778**	**2,219,550**
Grand Totals	**684,582**	**1,448,792**	**1,644,242**	**1,735,077**	**1,758,898**	**1,585,775**	**1,927,279**	**2,573,944**

[1] Less than $500. [2] Ex-bond.

5.—Domestic Exports, by Countries, 1941-47, with Averages, 1935-39

Country	Thousands of Dollars							
	Average 1935-39	1941	1942	1943	1944	1945	1946	1947
British Countries								
United Kingdom	353,741	658,228	741,717	1,032,647	1,235,030	963,238	597,506	751,198
Eire	3,861	1,932	4,816	4,985	11,971	14,278	7,956	17,598
Aden	109	84	50	79	127	156	256	1,602
Africa, British East	789	3,898	5,067	18,707	6,209	3,787	2,220	4,682
Southern Rhodesia	970	3,042	1,247	1,386	1,187	2,008	3,284	7,369
Northern Rhodesia	15,457	36,095	27,543	35,611	23,597	31,593	68,633	450
Union of South Africa								66,674
Other British South Africa								15

5.—Domestic Exports, by Countries, 1941-47, with Averages, 1935-39—continued

Country	Thousands of Dollars							
	Average 1935-39	1941	1942	1943	1944	1945	1946	1947
British Countries—concl.								
Gambia	35	68	414	553	73	33	63	66
Gold Coast	270	722	984	2,062	683	890	871	1,652
Nigeria	145	348	1,147	3,565	912	318	1,021	2,285
Sierra Leone	203	483	1,851	1,434	852	376	410	811
Other British West Africa	[1]	[1]	Nil	Nil	Nil	[1]	Nil	2
British Sudan	109	39	128	224	47	94	510	1,028
India	3,732	38,037	167,884	134,576	174,794	307,461	49,046	42,947
Burma	71	2,713	434	Nil	Nil	478	442	823
Ceylon	246	341	1,325	7,364	6,199	8,290	2,140	4,079
British Malaya	2,173	9,630	3,168	Nil	Nil	1,114	3,224	7,464
Other British East Indies	5	5	Nil	"	"	2	51	9
Bermuda	1,381	2,903	2,802	2,011	2,472	2,511	3,805	5,108
British Guiana	1,344	5,543	6,132	5,740	5,738	6,418	7,109	10,273
British Honduras	255	279	163	227	532	884	1,110	1,375
Barbados	1,218	3,211	1,761	2,955	4,248	4,750	6,205	9,063
Jamaica	3,887	8,465	6,881	8,986	13,884	14,404	15,500	18,214
Trinidad and Tobago	3,372	15,152	14,756	13,706	16,474	16,433	19,140	26,354
Bahamas	1,600	3,736	2,931	4,365	5,819	6,865	8,341	3,688
Leeward and Windward Islands								7,592
Falkland Islands	[1]	2	27	62	115	8	2	39
Gibraltar	9	[1]	6	18	395	586	333	252
Hong Kong	1,651	3,057	[1]	Nil	Nil	99	4,362	6,397
Malta	377	10	40	990	3,056	4,740	4,671	6,705
Newfoundland	8,048	31,874	50,832	43,473	47,950	40,515	38,229	55,085
Australia	28,924	37,290	78,866	46,686	43,513	32,226	38,194	60,294
Fiji	387	433	324	297	461	261	375	1,386
New Zealand	12,799	9,981	30,336	28,114	11,916	19,102	16,110	37,386
Other British Oceania	25	2	5	22	28	64	20	63
Palestine	251	1,038	180	816	2,169	2,866	3,562	8,473
Totals, British Countries	**447,444**	**878,641**	**1,153,817**	**1,401,661**	**1,620,451**	**1,486,848**	**904,701**	**1,168,501**
Foreign Countries								
Abyssinia	[1]	[1]	Nil	[1]	4	7	30	94
Afghanistan	[1]	Nil	"	Nil	Nil	6	1	36
Albania	3	"	"	"	"	497	122	505
Argentina	4,696	7,172	4,165	3,677	3,645	6,003	14,039	31,697
Austria	27	Nil	Nil	Nil	Nil	[1]	3,679	3,070
Belgium	13,204	"	"	"	1	34,618	63,626	52,749
Belgian Congo	89	683	2,612	2,781	1,225	945	1,201	1,292
Bolivia	113	430	261	198	206	319	529	567
Brazil	4,012	8,097	3,738	4,964	7,324	16,748	24,602	31,660
Bulgaria	10	Nil	Nil	Nil	Nil	Nil	9	14
Chile	848	1,783	1,059	1,028	1,649	2,562	3,565	4,392
China	3,808	6,599	7,803	[1]	14,901	6,573	42,915	34,984
Colombia	1,296	1,792	1,215	1,338	2,215	5,011	8,930	9,950
Costa Rica	103	290	218	174	314	521	873	1,780
Cuba	1,418	2,529	2,117	2,416	3,725	4,535	5,270	7,502
Czechoslovakia	881	Nil	Nil	Nil	Nil	6,717	9,871	13,779
Denmark	1,438	"	"	"	"	109	1,527	4,328
Greenland	Nil	281	414	336	49	888	234	128
Dominican Republic	171	260	152	125	398	732	1,541	1,914
Ecuador	93	162	250	215	301	360	801	1,626
Egypt	399	79,195	213,128	188,664	108,290	36,417	15,086	10,922
Estonia	5	Nil	Nil	Nil	Nil	Nil	Nil	[1]
Finland	539	83	"	"	"	[1]	507	1,212
France	8,566	Nil	"	"	15,865	76,917	74,380	81,058
French Africa	248	159	612	71,311	32,163	16,908	8,945	4,598
French East Indies	85	6	Nil	Nil	Nil	[1]	269	858
French Guiana	36	31	63	66	29	50	180	264
French Oceania	80	24	140	24	178	143	121	230
French West Indies	157	181	40	49	208	351	1,278	1,743
Madagascar	13	Nil	Nil	618	72	54	263	177
St. Pierre and Miquelon	309	374	585	542	580	737	784	1,158
Germany	9,639	Nil	Nil	Nil	Nil	2,724	6,867	6,690

[1] Less than $500.

5.—Domestic Exports, by Countries, 1941-47, with Averages, 1935-39—concluded

Country	Thousands of Dollars							
	Average 1935-39	1941	1942	1943	1944	1945	1946	1947
Foreign Countries—concl.								
Greece	1,142	176	2,423	6,150	8,574	25,563	9,739	5,440
Guatemala	117	249	243	242	349	424	928	1,630
Haiti	131	121	390	279	505	612	1,121	1,366
Honduras	159	276	242	123	114	188	624	641
Hungary	4	Nil	Nil	Nil	Nil	[1]	1,063	946
Iceland	28	1,836	2,708	2,164	2,654	3,681	3,123	2,485
Iraq (Mesopotamia)	55	1,175	20,159	22,067	5,747	3,494	3,231	2,160
Italy	2,785	Nil	Nil	8,815	160,118	89,470	20,387	35,688
Tripoli	[1]	"	"	Nil	Nil	19	Nil	5
Other Italian Africa	2	"	"	"	49	6	3	7
Japan	21,880	1,502	Nil	Nil	Nil	Nil	1,027	559
Korea	3	[1]	"	"	"	"	126	30
Latvia	243	Nil	"	"	"	"	Nil	Nil
Liberia	17	14	12	18	19	84	67	143
Lithuania	196	Nil	Nil	Nil	Nil	Nil	[1]	Nil
Mexico	2,630	4,255	5,584	8,330	6,273	8,165	10,536	11,700
Morocco	711	29	5	7	1,282	9,192	1,169	1,447
Netherlands	10,062	Nil	Nil	Nil	[1]	39,970	33,883	55,940
Netherlands East Indies	801	3,652	548	"	Nil	856	6,833	5,807
Netherlands Guiana	49	140	128	133	195	174	476	826
Netherlands West Indies	176	424	3,474	484	329	799	1,399	1,844
Nicaragua	72	213	185	215	251	317	366	590
Norway	7,247	Nil	Nil	Nil	Nil	7,842	19,267	20,320
Panama	316	740	765	735	673	1,006	1,502	1,882
Paraguay	8	21	2	15	30	44	85	153
Persia (Iran)	118	39	124	446	1,005	1,816	431	946
Peru	1,072	1,942	1,026	767	1,339	3,957	3,080	3,695
Philippine Islands	1,523	1,548	Nil	Nil	Nil	2,153	8,901	10,448
Poland	805	Nil	"	"	"	9,249	22,501	15,380
Portugal	170	492	343	888	620	2,356	2,662	3,502
Azores and Madeira	8	2	1	Nil	69	21	71	392
Portuguese Africa	1,675	617	185	120	381	812	2,128	1,898
Portuguese Asia	1	2	Nil	Nil	1	4	76	147
Roumania	52	Nil	"	"	Nil	Nil	1	102
Salvador	69	252	196	155	275	386	454	665
Spain	495	240	11	169	90	992	695	941
Canary Islands	17	[1]	Nil	45	Nil	49	333	46
Spanish Africa	9	Nil	"	5	1	Nil	Nil	62
Sweden	3,593	28	9	44	16	4,169	9,133	17,461
Switzerland	948	1,497	6,270	11,580	16,129	10,922	8,636	14,196
Syria	80	2	28	69	67	630	228	2,546
Thailand (Siam)	22	123	Nil	Nil	Nil	Nil	58	415
Turkey	388	17	412	14,452	7,064	710	1,618	2,229
Union of Soviet Socialist Republics	336	5,331	36,603	57,660	103,264	58,820	17,705	4,866
United States	321,294	599,713	885,523	1,149,233	1,301,322	1,196,977	887,941	1,034,226
Alaska	154	231	246	89	278	223	276	300
American Virgin Islands	42	86	54	24	8	18	110	160
Guam	2	16	1	[1]	1	5	5	199
Hawaii	1,207	1,375	933	2,907	1,956	3,934	2,758	3,299
Puerto Rico	425	1,185	870	1,279	1,971	2,301	2,926	2,605
Uruguay	310	931	884	843	1,331	1,857	2,671	3,371
Venezuela	1,139	1,734	797	736	1,810	4,053	11,086	12,989
Yugoslavia	18	[1]	Nil	Nil	Nil	11,710	12,030	6,729
Totals, Foreign Countries	**437,092**	**742,362**	**1,209,956**	**1,569,814**	**1,819,502**	**1,731,482**	**1,407,514**	**1,606,401**
Grand Totals	**884,536**	**1,621,003**	**2,363,773**	**2,971,475**	**3,439,953**	**3,218,330**	**2,312,215**	**2,774,902**

[1] Less than $500.

6.—Trade with the British Empire and Foreign Countries, Significant Years, 1886-1947

Item and Year	Canadian Trade with —							
	United Kingdom		United States		Other British Empire		Other Foreign Countries	
	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total	Value	P.C. of Total
Imports	$'000'000		$'000'000		$'000'000		$'000'000	
Ended Mar. 31—								
1886	39·0	40·7	42·8	44·6	2·4	2·5	11·8	12·2
1891	42·0	37·7	52·0	46·7	2·3	2·1	15·2	13·5
1896	32·8	31·2	53·5	50·8	2·4	2·2	16·6	15·8
1901	42·8	24·1	107·4	60·3	3·8	2·2	23·9	13·4
1906	69·2	24·4	169·3	59·6	14·6	5·1	30·7	10·9
1911	109·9	24·3	275·8	60·8	19·5	4·4	47·4	10·5
1916	77·4	15·2	370·9	73·0	27·8	5·5	32·1	6·3
1921	214·0	17·3	856·2	69·0	52·0	4·2	118·0	9·5
Ended Dec. 31—								
1926	164·7	16·3	668·7	66·3	49·9	5·0	125·0	12·4
1929	194·8	15·0	893·6	68·8	62·3	4·8	148·3	11·4
1930	162·6	16·1	653·7	64·8	65·2	6·5	127·0	12·6
1937	147·3	18·2	490·5	60·7	89·3	11·0	81·8	10·1
1939	114·0	15·2	496·9	66·1	74·9	10·0	65·3	8·7
1941	219·4	15·1	1,004·5	69·4	140·5	9·7	84·4	5·8
1942	161·1	9·8	1,304·7	79·3	112·7	6·9	65·8	4·0
1943	135·0	7·7	1,423·7	82·1	103·7	6·0	72·8	4·2
1944	110·6	6·3	1,447·2	82·3	109·8	6·2	91·3	5·2
1945[1]	140·5	8·9	1,202·4	75·8	131·2	8·2	111·7	7·1
1946[1]	201·4	10·4	1,405·3	72·9	139·1	7·2	181·5	9·4
1947	189·4	7·4	1,974·7	76·7	165·0	6·4	244·9	9·5
Exports (Domestic)								
Ended Mar. 31—								
1886	36·7	47·2	34·3	44·1	3·3	4·2	3·5	4·5
1891	43·2	48·8	37·7	42·6	3·9	4·4	3·8	4·2
1896	62·7	57·2	37·8	34·4	4·0	3·7	5·2	4·7
1901	92·9	52·3	68·0	38·3	7·9	4·5	8·7	4·9
1906	127·5	54·2	83·5	35·5	11·0	4·6	13·5	5·7
1911	132·2	48·2	104·1	38·0	16·8	6·1	21·2	7·7
1916	451·9	60·9	201·1	27·1	30·7	4·2	58·0	7·8
1921	312·8	26·3	542·3	45·6	90·6	7·6	243·4	20·5
Ended Dec. 31—								
1926	459·2	36·4	457·9	36·3	95·7	7·6	248·4	19·7
1929	290·3	25·2	492·7	42·8	105·0	9·1	264·4	22·9
1930	235·2	27·2	373·4	43·3	81·1	9·4	173·9	20·1
1937	402·1	40·3	360·0	36·1	104·2	10·4	131·1	13·2
1939	328·1	35·5	380·4	41·1	102·7	11·1	113·7	12·3
1941	658·2	40·6	599·7	37·0	220·4	13·6	142·6	8·8
1942	741·7	31·4	885·5	37·5	412·1	17·4	324·4	13·7
1943	1,032·6	34·8	1,149·2	38·7	369·0	12·4	420·6	14·2
1944	1,235·0	35·9	1,301·3	37·8	385·4	11·2	518·2	15·1
1945	963·2	29·9	1,197·0	37·2	523·6	16·3	534·5	16·6
1946	597·5	25·8	887·9	38·4	307·2	13·3	519·6	22·4
1947	751·2	27·1	1,034·2	37·3	417·3	15·0	572·2	20·6

[1] See p. 886 *re* Canadian military equipment returned. The percentages are considerably distorted by this factor in 1945 and 1946. With the military equipment excluded, the percentages become: 1945, 7·8, 76·7, 8·4, 7·1; 1946, 7·6, 75·3, 7·4, 9·7.

At p. 890 of the 1947 edition of the Year Book it was pointed out that statistics of dutiable and free imports from British Empire and foreign countries together with ad valorem rates of duty collected were not then available but would be given in this edition.

Tables 7 and 8 show such dutiable and free imports for 1946-47 with the proportions and ad valorem rates from 1939-47.

7.—Dutiable and Free Imports from Principal British Empire and Foreign Countries, 1946 and 1947

Country	Imports, 1946			Imports, 1947		
	Dutiable	Free	Total	Dutiable	Free	Total
	$	$	$	$	$	$
British Countries						
United Kingdom	51,595,424	149,837,796	201,433,220	76,498,936	112,870,919	189,369,855
Eire	12,209	41,237	53,446	27,261	48,593	75,854
Africa, British East	7,572	3,595,894	3,603,466	655,463	7,027,317	7,682,780
Southern Rhodesia	91,648	1,396	93,044	71,522	109,465	180,987
Northern Rhodesia				26,370	2,299	28,669
Union of South Africa	631,861	7,259,764	7,891,625	653,510	3,574,015	4,227,525
Other British South Africa				152	Nil	152
Gold Coast	3,417,370	1,963,719	5,381,089	3,517,542	2,975,585	6,493,127
Nigeria	1,845,541	2,926,003	4,771,544	1,617,954	531,043	2,148,997
India	11,300,711	16,576,665	27,877,376	12,383,112	29,866,693	42,249,805
Ceylon	3,602,563	142,774	3,745,337	9,382,868	2,269,712	11,652,580
British Malaya	3,419	5,867,912	5,871,331	192,334	16,716,060	16,908,394
Bermuda	21,128	100,530	121,658	9,918	46,870	56,788
British Guiana	313,998	11,872,898	12,186,896	2,545,840	9,811,735	12,357,575
Barbados	498,644	5,049,458	5,548,102	332,480	7,443,171	7,775,651
Jamaica	2,277,085	8,206,777	10,483,862	2,372,857	3,998,402	6,371,259
Trinidad and Tobago	637,462	3,499,433	4,136,895	748,742	4,905,602	5,654,344
Other British West Indies	62,765	725,157	787,922	80,733	733,687	814,420
Newfoundland	94,947	9,173,204	9,268,151	50,216	9,376,297	9,426,513
Australia	1,426,098	18,327,841	19,753,939	2,049,353	12,173,119	14,222,472
Fiji	78	3,122,491	3,122,569	1,698,623	2,479,240	4,177,863
New Zealand	110,039	11,845,497	11,955,536	1,325,281	9,506,088	10,831,369
Totals, British Countries[1]	**78,227,298**	**262,273,414**	**340,500,712**	**117,026,443**	**237,367,412**	**354,393,855**
Foreign Countries						
Argentina	11,227,909	3,144,304	14,372,213	14,672,497	3,288,602	17,961,099
Belgium	1,705,023	2,723,841	4,428,864	5,437,696	4,682,753	10,120,449
Brazil	10,086,060	3,932,235	14,018,295	7,432,460	6,455,259	13,887,719
China	675,514	1,645,725	2,321,239	1,178,860	1,124,921	2,303,781
Colombia	5,393,632	4,314,784	9,708,416	6,038,948	3,157,793	9,196,741
Cuba	5,093,366	8,134,354	13,227,720	7,956,819	15,794,631	23,751,450
Czechoslovakia	927,014	37,101	964,115	3,359,779	285,064	3,644,843
Denmark	121,941	34,694	156,635	186,039	1,268,732	1,454,771
Dominican Republic	183,659	6,943,023	7,126,682	1,084,552	7,101,130	8,185,682
France	2,732,260	1,877,589	4,609,849	5,340,186	3,415,208	8,755,394
Guatemala	2,255,752	671,836	2,927,588	9,389,533	98,467	9,488,000
Honduras	133,495	15,439,028	15,572,523	2,994,598	4,004,389	6,998,987
Iraq	1,486,508	2,698	1,489,206	1,500,372	1,200	1,501,572
Italy	2,079,892	624,332	2,704,224	2,852,759	1,019,497	3,872,256
Mexico	5,993,795	8,616,143	14,609,938	4,722,796	12,256,728	16,979,524
Netherlands	1,659,967	837,021	2,496,988	2,603,779	925,729	3,529,508
Netherlands West Indies	2,847,284	338,312	3,185,596	8,320,577	327,017	8,647,594
Norway	736,289	99,306	835,595	4,900,806	97,835	4,998,641
Panama	2,797	35,251	38,048	1,936,747	170,473	2,107,220
Philippine Islands	Nil	2,058,151	2,058,151	75,107	7,988,047	8,063,154
Portugal	1,471,372	716,671	2,188,043	854,789	554,463	1,409,252
Salvador	2,422,271	5,511	2,427,782	1,338,342	3,531	1,341,873
Spain	3,570,895	913,550	4,484,445	2,049,867	952,969	3,002,836
Sweden	2,492,183	1,189,094	3,681,277	2,558,402	626,084	3,184,486
Switzerland	7,663,391	3,485,589	11,148,980	10,745,979	1,194,809	11,940,788
Turkey	1,804,271	76,228	1,880,499	2,650,364	21,407	2,671,771
Union of Soviet Socialist Republics	356,296	1,163,125	1,519,421	34,792	146,328	181,120
United States	921,708,697	483,588,002	1,405,296,699	1,327,496,834	647,182,344	1,974,679,178
Venezuela	110,614	26,775,260	26,885,874	345,531	46,342,440	46,687,971
Totals, Foreign Countries[1]	**1,000,706,674**	**586,072,016**	**1,586,778,690**	**1,445,663,638**	**773,886,632**	**2,219,550,270**
Grand Totals	**1,078,933,972**	**848,345,430**	**1,927,279,402**	**1,562,690,081**	**1,011,254,044**	**2,573,944,125**

[1] Includes other countries not specified.

8.—Average Ad Valorem Rates of Duty Collected and Percentage Proportions of Imports from the United Kingdom and from the United States to Totals of Dutiable and Free Imports, 1939-47.

NOTE.—Figures for the fiscal years 1868-1938 are given at p. 532 of the 1940 edition of the Year Book.

Year	United Kingdom					United States				
	Average Ad Valorem Rates of Duty on—		Dutiable to Total Dutiable	Free to Total Free	Percentage of All Imports	Average Ad Valorem Rates of Duty on—		Dutiable to Total Dutiable	Free to Total Free	Percentage of All Imports
	Dutiable Imports	Total Imports				Dutiable Imports	Total Imports			
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
1939...	27·0	12·4	12·3	19·0	15·2	21·3	13·0	70·7	60·1	66·2
1940...	24·8	8·4	9·3	21·4	14·9	20·3	12·4	78·0	58·0	68·8
1941...	23·4	4·7	6·0	24·5	15·1	18·8	11·6	84·7	53·6	69·3
1942...	24·2	5·8	5·4	13·2	9·8	19·0	9·2	88·2	72·5	79·3
1943...	18·7	5·2	4·5	10·8	7·8	18·9	10·0	90·2	74·0	82·1
1944...	16·3	6·1	4·7	7·9	6·3	18·7	10·2	89·0	75·5	82·3
1945...	17·6	4·7	4·7	13·1	8·9	19·3	11·1	86·6	64·8	75·8
1946...	17·5	4·5	4·8	17·7	10·5	19·4	12·7	85·4	57·0	72·9
1947...	15·9	6·4	4·9	11·3	7·4	19·5	13·1	84·9	64·0	76·7

Subsection 2.—Trade by Commodities

The tables in this Subsection provide detailed information about the composition of Canada's imports and exports, with commodities shown by groups and in order of importance for various years.

9.—Trade, by Main Groups, 1926, 1932, 1939, 1945-47

Group	Values of Imports (Millions of Dollars)						Values of Domestic Exports (Millions of Dollars)					
	1926	1932	1939	1945	1946	1947	1926	1932	1939	1945	1946	1947
All Countries												
Agricultural and Vegetable Products	210·7	97·6	127·8	235·6	310·8	356·3	588·9	204·1	220·1	819·4	578·5	683·7
Animals and Products	53·5	17·5	32·8	46·6	64·2	86·9	168·0	55·6	131·8	398·1	358·5	331·4
Fibres and Textiles	184·2	69·0	100·9	196·8	264·1	390·6	7·1	4·8	14·4	56·9	53·7	49·3
Wood and Paper	46·4	22·8	33·7	49·8	69·6	89·5	286·3	134·0	242·5	488·0	625·6	886·2
Iron and Its Products	219·6	67·3	183·2	384·5	491·1	762·4	75·6	16·3	63·1	555·1	227·5	273·2
Non-Ferrous Metals	50·8	22·0	42·1	99·1	120·3	160·9	74·7	44·2	182·9	352·5	247·8	303·9
Non-Metallic Minerals	152·7	95·3	132·8	265·4	332·6	452·2	27·1	9·7	29·3	59·6	57·3	74·6
Chemicals and Allied Products	31·3	27·9	43·7	79·7	92·9	113·1	16·5	11·0	24·3	111·3	67·6	83·8
Miscellaneous Commodities	59·1	33·2	54·1	228·3	181·7	162·1	17·0	10·2	16·5	377·4	95·7	88·7
Totals, All Countries	**1,008·3**	**452·6**	**751·1**	**1,585·8**	**1,927·3**	**2,573·9**	**1,261·2**	**489·9**	**924·9**	**3,218·3**	**2,312·2**	**2,774·9**
United Kingdom												
Agricultural and Vegetable Products	37·7	21·5	13·0	4·3	5·7	8·1	339·3	108·8	94·2	237·0	224·3	319·9
Animals and Products	6·2	2·5	4·3	2·3	4·2	5·6	73·3	28·8	73·6	226·9	173·4	150·9
Fibres and Textiles	72·1	27·2	41·2	48·0	65·0	91·2	0·9	1·2	3·5	14·5	2·3	1·6
Wood and Paper	3·8	3·5	3·0	1·4	2·1	2·5	16·4	12·1	43·9	98·5	85·0	136·1
Iron and Its Products	15·4	12·5	19·3	7·0	15·4	27·5	6·9	5·2	16·0	162·5	17·1	21·7
Non-Ferrous Metals	5·7	3·7	5·1	16·3	18·4	16·1	13·8	15·1	83·4	78·4	82·0	98·9
Non-Metallic Minerals	10·4	12·3	12·0	10·5	14·3	16·7	1·8	1·3	3·4	8·5	4·5	6·6
Chemicals and Allied Products	5·0	4·7	7·4	4·8	5·7	6·4	3·3	2·9	5·7	16·4	3·9	8·1
Miscellaneous Commodities	8·4	5·6	8·7	45·9[1]	70·6[1]	15·2	3·5	2·8	4·4	120·5	5·0	7·3
Totals, United Kingdom	**164·7**	**93·5**	**114·0**	**140·5**	**201·4**	**189·4**	**459·2**	**178·2**	**328·1**	**963·2**	**597·5**	**751·2**

[1] In large part, returned Canadian military equipment.

9.—Trade, by Main Groups, 1926, 1932, 1939, 1945-47—concluded

Group	Values of Imports (Millions of Dollars)						Values of Domestic Exports (Millions of Dollars)					
	1926	1932	1939	1945	1946	1947	1926	1932	1939	1945	1946	1947
United States												
Agricultural and Vegetable Products	97·0	33·7	45·4	122·2	155·5	169·7	61·1	4·7	79·5	279·0	113·8	65·8
Animals and Products	35·0	9·7	16·9	20·8	33·9	57·2	69·7	15·3	44·1	103·7	99·0	94·1
Fibres and Textiles	70·4	25·5	41·6	109·3	140·2	217·0	3·3	0·9	2·3	10·2	10·4	10·4
Wood and Paper	39·9	17·2	28·7	46·6	64·2	82·7	244·1	105·2	165·8	329·3	447·8	611·6
Iron and Its Products	196·8	51·6	158·1	375·0	467·0	725·9	10·1	2·1	5·0	48·4	32·0	57·5
Non-Ferrous Metals	40·3	16·3	29·2	65·8	84·1	120·3	33·1	14·8	49·5	214·6	98·6	100·3
Non-Metallic Minerals	126·8	69·5	106·1	224·0	274·8	364·3	17·5	5·5	16·2	34·8	36·2	45·1
Chemicals and Allied Products	20·2	17·3	30·7	71·3	83·6	99·6	8·4	4·7	9·7	51·9	30·0	31·9
Miscellaneous Commodities	42·3	22·7	40·2	167·4	102·0	137·9	10·6	5·5	8·3	125·1	20·1	17·6
Totals, United States	**668·7**	**263·5**	**496·9**	**1,202·4**	**1,405·3**	**1,974·7**	**457·9**	**158·7**	**380·4**	**1,197·0**	**887·9**	**1,034·2**

10.—Principal Imports, 1939, 1946 and 1947

NOTE.—Commodities are arranged in order of importance, 1947.

Commodity	1947	1946	1939	Commodity	1947	1946	1939
	$'000,000	$'000,000	$'000,000		$'000,000	$'000,000	$'000,000
Machinery	206·0	130·3	42·8	Grain and products	36·5	20·2	8·9
Cotton and manufactures	179·9	119·2	36·6	Wood and products	34·6	19·8	9·6
Automobiles and parts	168·0	98·2	41·0	Artificial silk and products	34·5	22·1	5·5
Coal	153·7	120·4	41·6	Books and printed matter	31·9	30·7	15·2
Petroleum, crude	128·8	89·5	39·4	Rubber and manufactures	28·7	20·1	16·1
Farm implements	105·4	68·4	20·9	Glass and glassware	28·6	23·3	7·9
Wool and manufactures	84·5	64·6	26·2	Vegetables	24·8	27·2	7·0
Rolling-mill products	78·0	53·4	32·3	Household and personal equipment	24·2	18·6	6·5
Fruits	77·5	95·5	24·0	Clay and products	24·1	17·8	7·9
Petroleum, refined	69·0	26·8	13·3	Paper	23·0	18·8	8·7
Electrical apparatus	68·8	47·8	13·8	Furs	22·5	27·3	7·1
Sugar and products	57·4	39·9	23·4	Nuts	22·1	22·6	3·7
Engines and boilers	43·9	29·5	7·6				
Flax, hemp and jute products	37·9	23·1	9·2				

11.—Principal Domestic Exports, 1939, 1946 and 1947

NOTE.—Commodities are arranged in order of importance, 1947.

Commodity	1947	1946	1939	Commodity	1947	1946	1939
	$'000,000	$'000,000	$'000,000		$'000,000	$'000,000	$'000,000
Newsprint paper	342·3	265·8	115·7	Pulpwood	34·5	28·7	11·9
Wheat	265·2	250·3	109·1	Fertilizers	34·4	32·1	9·2
Planks and boards	208·4	125·4	48·8	Asbestos	33·0	24·5	14·4
Wheat flour	196·6	126·7	16·4	Rye	31·9	8·9	2·0
Wood-pulp	177·8	114·0	31·0	Zinc	30·2	27·8	9·9
Automobiles, trucks and parts	91·6	78·3	25·5	Raw furs	28·0	30·9	14·1
Fish	82·4	86·5	27·7	Ships and vessels	25·7	18·8	0·5
Aluminum	64·0	56·0	25·7	Whisky	23·0	29·7	7·9
Bacon and ham	62·1	66·4	32·7	Precious metals	22·6	21·5	16·3
Nickel	60·4	55·2	57·9	Alloys, iron	21·5	9·4	2·4
Copper	59·3	37·0	40·2	Shingles	20·3	11·2	8·2
Farm implements and machinery	42·2	28·9	7·0	Canned meats	19·8	27·1	0·8
Machinery, except farm	41·0	15·5	10·9	Electrical apparatus	19·1	20·9	3·2
Eggs	37·0	26·8	0·3	Locomotives and railway cars	19·0	53·3	0·4

Table 12 provides an excellent survey of the changing nature and value of Canadian commodity trade during the last sixty years. The series ends with 1939 since, after this date, trade was seriously affected by the abnormal influence of the Second World War. Statistics of trade during the period 1944-47 are dealt with on pp. 912-923.

Imported woollen and cotton goods, coal, rolling-mill products and sugar were among the six leaders until 1930 when cotton and woollen goods and sugar were replaced by machinery, petroleum and alcoholic beverages. This is an indication of the changes wrought by time in the Canadian economy; home manufactures by 1930 were replacing more of the fully manufactured goods formerly imported, especially textiles, machinery and rolling-mill products. This trend is also shown by the increase in coal imports from a value of $8,013,156 in 1890 to $56,812,418 in 1930 or 609 p.c.

Agricultural and forestry production have taken a leading part in export trade since 1890. At that time, planks and boards, cheese, fish, cattle, barley and furs were the six main exports. In 1900, wheat and gold replaced the barley and cattle exports of 1890. Wheat, since that time, has held first place in export trade until 1939 when it was replaced by newsprint which during the three decades, 1910 to 1930, has increased in value from $2,612,243 to $145,610,519 or 457 p.c. In 1939 export of this commodity had dropped by about 26 p.c.

12.—Canada's Leading Imports and Domestic Exports, for Decades Ended Mar. 31, 1890-1930 and 1939

NOTE.—Commodities arranged in order of importance, 1939.

No.	Commodity	1890	1900	1910	1920	1930	1939
	Imports	$	$	$	$	$	$
1	Petroleum, crude	[1]	23,344	1,189,081	20,306,693	50,951,202	41,483,348
2	Coal	8,013,156	11,012,223	27,516,678	60,072,629	56,812,418	35,937,195
3	Machinery, except farm.	1,877,551	5,159,952	14,690,873	36,716,791	69,702,213	35,286,756
4	Rolling-mill products	5,645,704	11,905,937	15,692,052	39,985,746	61,943,553	23,482,193
5	Automobile parts	[1]	[1]	269,586	12,674,823	35,746,929	23,455,938
6	Fruits	2,400,851	3,133,407	8,316,462	33,463,270	34,277,882	21,209,784
7	Sugar and products	6,452,654	8,610,845	14,962,770	73,618,354	27,987,156	20,281,515
8	Farm implements	161,277	2,148,867	2,661,207	14,578,106	30,075,453	18,079,948
9	Books and printed matter	1,404,583	1,588,432	4,127,179	11,228,018	18,130,779	15,340,194
10	Grain and grain products	3,034,049	8,298,884	7,806,665	9,806,073	25,082,671	15,070,858
11	Cotton goods	3,792,584	6,399,705	17,928,093	49,088,060	27,275,170	14,466,653
12	Automobiles	[1]	[1]	1,732,215	15,035,545	34,464,666	13,131,262
13	Woollen goods, incl. carpets	10,900,600	9,427,575	20,767,010	45,545,127	32,632,927	12,735,945
14	Electrical apparatus	317,315	810,900	3,688,538	15,550,254	37,611,263	12,501,483
15	Rubber products	1,512,427	2,942,044	6,151,157	18,059,435	20,025,316	12,105,836
16	Petroleum, refined	690,283	830,025	2,326,681	10,566,692	25,180,476	12,034,010
17	Cotton, raw	3,539,249	4,229,198	9,384,801	33,854,457	21,682,463	11,311,409
18	Vegetable oils	612,671	826,882	1,872,265	15,973,417	12,244,151	10,538,840
19	Tea	3,073,643	3,604,027	5,347,854	8,336,163	10,694,379	9,598,848
20	Flax, hemp, and jute	1,416,217	3,551,037	5,340,312	15,923,836	14,995,198	7,981,962
21	Paper	1,208,683	1,378,749	4,567,810	9,949,574	14,764,904	7,575,317
22	Clay and products	948.876	1,593,255	3,418,844	6,371,567	12,256,769	7,193,037
23	Engines and boilers	188,759	778,364	2,019,558	12,997,757	15,146,436	7,132,502

For footnotes, see end of table.

12.—Canada's Leading Imports and Domestic Exports, for Decades Ended Mar. 31, 1890-1930 and 1939—concluded

No.	Commodity	1890	1900	1910	1920	1930	1939
		$	$	$	$	$	$
	Imports—concluded						
24	Alcoholic beverages[2]	1,695,161	1,938,112	4,459,566	9,135,536	45,026,487	6,805,490
25	Stone and products	862,037	1,029,711	1,773,953	3,687,702	8,702,988	6,718,684
26	Glass and glassware	1,268,314	1,658,694	2,932,104	6,926,459	10,453,706	6,696,774
27	Vegetables	337,859	625,749	1,751,265	5,722,600	11,040,765	6,075,290
28	Noils, tops, and waste wool	12,100	151,510	599,446	5,830,957	3,833,801	5,582,058
29	Furs	1,058,001	2,106,441	5,768,075	12,877,520	11,923,949	5,458,739
30	Leather	1,173,777	1,879,333	4,202,934	17,102,702	11,537,331	5,052,200
	Exports (Domestic)						
1	Newsprint	[1]	[1]	2,612,243	53,640,122	145,610,519	107,360,211
2	Wheat	388,861	11,995,488	52,609,351	185,045,806	215,753,475	84,494,433
3	Nickel	[1]	1,040,498	3,320,054	9,039,221	25,034,975	49,565,526
4	Copper in forms	[1]	[1]	[1]	541,338	48,181	42,190,363
5	Planks and boards	17,637,308	22,015,990	33,100,387	75,216,193	49,446,887	37,100,824
6	Meats	895,767	13,615,621	8,013,680	96,161,234	15,030,671	35,375,618
7	Wood-pulp	168,180	1,816,016	5,204,597	41,383,482	44,704,958	26,814,418
8	Fish	8,099,674	10,564,688	15,179,015	40,687,172	34,767,739	25,622,980
9	Aluminum in bars, etc.	[1]	[1]	1,202,723	5,680,871	13,828,010	24,794,611
10	Automobiles	[1]	[1]	405,011	14,883,607	35,607,645	22,806,873
11	Wheat flour	521,383	2,791,885	14,859,854	94,262,922	45,457,195	15,777,707
12	Furs, raw	1,874,327	2,264,580	3,749,005	20,628,109	18,706,311	13,584,861
13	Fruits, chiefly apples	1,073,890	3,305,662	5,492,197	8,347,549	9,593,484	13,569,438
14	Asbestos, raw	444,159	490,909	1,886,613	8,767,856	12,074,065	13,265,885
15	Pulpwood	80,005	902,772	6,076,638	8,454,863	13,860,209	13,231,521
16	Cheese	9,372,212	19,856,324	21,607,692	36,336,863	18,278,004	12,052,703
17	Silver ore and bullion	201,615	1,354,053	15,009,937	14,255,601	11,569,855	11,509,345
18	Copper ore and blister	133,251	1,387,388	6,023,925	11,871,039	37,735,413	10,572,203
19	Cattle	6,949,417	8,704,523	10,792,156	46,064,631	13,119,462	10,280,469
20	Machinery, except farm	143,815	446,391	924,510	6,416,591	7,154,706	9,703,463
21	Whisky	25,383	396,671	1,010,657	1,504,132	25,856,136	9,457,275
22	Lead	2,000	688,891	529,422	1,193,144	10,637,887	9,433,528
23	Platinum or other metals of the platinum group, in concentrates or other forms	[1]	[1]	61,717	39,058	357,748	8,988,895
24	Zinc	[1]	[1]	[1]	950,082	8,366,712	8,872,584
25	Rubber tires and tubes	[1]	[1]	[1]	7,395,172	18,153,225	8,174,002
26	Gold, raw	657,022	14,148,543	6,016,126	5,974,334	34,375,003	8,111,940
27	Barley	4,600,409	1,010,425	1,107,732	20,206,972	10,388,735	7,997,617
28	Fertilizers	4,291	51,410	371,315	6,694,037	7,990,313	7,312,976
29	Vegetables	597,074	503,993	1,534,228	11,656,483	11,240,747	6,723,768
30	Farm implements and machinery	367,198	1,692,155	4,319,385	11,614,400	18,396,688	6,453,042
31	Shingles, wood	340,872	1,131,506	2,331,443	10,848,602	6,704,494	5,742,216
32	Stone and products	949,158	575,749	955,636	3,531,916	6,909,442	5,292,968

[1] None recorded. [2] The British excise tax was not included in the valuation of imported whisky after Apr. 1, 1935, and the values are not comparable for later years.

Detailed Imports and Exports.—Detailed statistics of all commodities of any importance imported into Canada from all countries, from the United Kingdom and from the United States during the calendar years 1944-47 are given in Table **13** while corresponding statistics for domestic exports appear in Table **14.**

13.—Principal Imports into Canada for Consumption from All Countries,

NOTE.—Dashes in this table indicate import figures not recorded.

No.	Item		All Countries			
			1944	1945	1946	1947
	I. Agricultural and Vegetable Products					
	A. MAINLY FOOD					
	Fruits—					
1	Fruits, fresh	$	50,211,815	61,337,524	69,587,133	51,702,628
2	Fruits, dried	lb.	97,930,390	104,910,885	130,452,602	122,369,623
		$	6,951,059	7,126,591	13,921,168	13,789,199
3	Fruits, canned or preserved	$	1,809,227	1,811,953	3,910,639	6,171,501
4	Fruit juices and fruit syrups	gal.	4,089,717	1,482,851	10,002,428	10,285,577
		$	2,914,908	1,213,104	8,077,469	5,813,481
	Totals, Fruits	$	61,887,009	71,489,172	95,496,409	77,476,809
5	Nuts	$	13,458,435	14,321,516	22,591,472	22,050,188
	Vegetables—					
6	Vegetables, fresh	$	14,570,397	21,251,605	25,747,714	18,977,802
7	Vegetables, dried	$	108,957	91,385	455,507	398,776
8	Vegetables, canned	lb.	1,478,089	2,597,244	4,502,898	31,717,971
		$	198,961	336,379	536,286	2,852,361
9	Pickles, sauces and catsups	gal.	138,219	247,950	460,597	2,042,521
		$	169,469	352,395	503,037	2,592,689
	Totals, Vegetables	$	15,047,784	22,031,764	27,242,544	24,821,628
	Grains and Farinaceous Products—					
10	Grains	$	9,822,021	9,447,127	15,259,716	30,580,243
11	Milled products	$	1,476,268	689,396	744,812	1,165,641
12	Prepared foods and bakery products	$	352,401	387,120	1,623,994	3,648,569
13	Other farinaceous products	$	727,774	1,983,446	2,568,665	1,058,695
	Totals, Grains and Farinaceous Products	$	12,378,464	12,507,089	20,197,187	36,453,148
14	Oils, vegetable, for food	$	1,409,234	643,798	2,591,290	2,604,740
15	Sugar and its products	$	31,773,694	32,104,387	39,878,697	57,420,210
16	Cocoa and chocolate	$	3,694,518	3,890,619	5,626,169	7,414,541
17	Coffee and chicory	lb.	96,601,344	55,496,972	85,848,068	52,672,136
		$	14,237,552	9,155,591	16,162,208	14,381,738
18	Spices	lb.	3,466,747	2,894,646	4,634,586	5,791,775
		$	871,287	880,106	1,302,394	1,679,260
19	Tea	lb.	41,470,437	53,454,367	29,851,837	47,390,998
		$	13,092,439	17,729,139	10,207,699	20,655,157
20	Other vegetable products mainly food	$	2,187,570	2,636,192	3,464,139	3,647,250
	TOTALS, A. MAINLY FOOD	$	170,037,986	187,389,373	244,760,208	268,604,669
	B. OTHER THAN FOOD					
	Beverages, Alcoholic—					
21	Brewed	$	123,900	36,756	12,309	52,010
22	Distilled	pf. gal.	939,737	1,541,404	2,153,129	2,526,853
		$	4,787,096	6,898,404	10,200,116	11,820,261
23	Wines	$	601,358	1,356,994	2,698,421	1,854,818
	Totals, Beverages, Alcoholic	$	5,512,354	8,292,154	12,910,846	13,727,089
24	Gums and resins	$	3,567,434	3,930,659	5,635,368	6,182,854
25	Oil cake and oil cake meal	cwt.	422,779	48,740	85,148	957,520
		$	1,081,642	202,509	435,987	3,531,826
26	Oils, vegetable, not food	$	9,947,648	10,835,582	12,470,757	23,037,274
27	Plants, shrubs, trees and vines	$	323,714	967,590	1,960,266	2,006,033
28	Rubber and manufactures of	$	14,659,180	15,097,626	20,078,647	28,729,591
29	Seeds	$	1,665,245	1,597,758	1,612,305	1,766,618
30	Tobacco and manufactures of	$	1,715,683	2,620,942	3,364,090	3,183,805
31	Other vegetable products, not food	$	4,144,075	4,623,908	7,524,447	5,507,787
	TOTALS, B. OTHER THAN FOOD	$	42,616,975	48,168,728	65,992,713	87,672,877
	Totals, Agricultural and Vegetable Products	$	**212,654,961**	**235,558,101**	**310,752,921**	**356,277,546**

the United Kingdom and the United States, Calendar Years 1944-47

NOTE.—Dashes in this table indicate import figures not recorded.

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
–	–	–	–	43,181,979	47,210,515	47,768,026	33,935,440	1
–	–	–	–	62,731,278	58,663,235	70,926,347	61,601,421	2
–	–	–	–	4,220,413	3,400,042	8,564,414	7,559,210	
7,851	370	28,077	48,340	136,657	241,512	528,004	3,680,861	3
20	–	71	20	3,940,610	750,724	7,719,285	9,823,280	4
128	–	372	161	2,824,719	668,290	6,152,592	5,429,444	
7,979	370	28,449	48,501	50,363,768	51,520,359	63,013,036	50,604,955	
–	–	23,659	17,380	6,660,136	5,901,824	10,232,870	10,128,746	5
–	–	–	–	12,024,984	18,705,598	22,586,615	16,046,528	6
–	–	–	3,375	103,514	77,548	446,298	370,413	7
–	–	–	–	1,338,902	2,576,340	4,487,903	31,571,009	8
–	–	–	–	173,924	332,351	531,497	2,808,222	
–	92	10,378	37,914	127,596	224,930	386,583	1,860,935	9
–	380	49,115	109,090	163,605	327,652	389,633	2,303,834	
–	380	49,115	112,465	12,466,027	19,443,149	23,954,043	21,528,997	
–	–	104	81	9,815,983	9,424,656	11,760,710	30,344,964	10
–	–	–	727	1,440,147	664,968	534,418	1,098,099	11
–	303	55,869	398,327	351,921	385,327	1,562,491	3,218,369	12
–	168	4,508	1,472	712,047	1,894,697	2,498,711	664,554	13
–	471	60,481	400,607	12,320,098	12,369,648	16,356,330	35,325,986	
–	–	1,508	–	1,108,058	586,368	2,378,189	2,335,695	14
1,061	169	6,776	723,583	312,614	588,562	1,800,777	3,380,685	15
169	68,838	986	1,761	18,405	5,187	31,514	273,243	16
–	–	248,132	355,634	861,746	1,338,020	1,364,890	1,626,922	17
–	–	202,794	250,921	265,789	379,939	485,999	980,238	
290,446	15,456	17,212	131,612	959,990	715,684	1,177,945	1,454,062	18
29,428	2,499	5,587	44,467	228,879	210,618	385,425	588,528	
–	–	–	710,997	–	–	544	2,688,279	19
–	–	–	316,425	–	–	685	1,176,212	
2,271	2,518	5,357	47,797	2,182,758	2,625,796	3,441,871	3,413,012	20
40,908	75,245	384,712	1,963,907	85,926,532	93,631,450	122,080,739	129,736,297	
123,846	26,851	6,652	51,435	54	9,905	5,657	575	21
499,241	511,466	593,346	694,562	38,067	323,618	393,905	777,008	22
3,690,939	3,855,715	4,390,123	5,293,871	118,558	759,447	997,089	2,424,282	
8,576	13,744	19,601	29,652	29,981	31,423	213,711	71,505	23
3,823,361	3,896,310	4,416,376	5,374,958	148,593	800,775	1,216,457	2,496,362	
14,729	15,234	68,326	65,241	2,638,490	2,969,672	3,621,986	4,434,199	24
–	–	–	–	347,487	48,740	85,148	957,520	25
–	–	–	–	981,339	202,509	435,987	3,531,826	
20,806	14,239	52,597	98,261	3,454,741	3,635,312	4,104,524	6,240,596	26
80,695	57,105	31,577	25,337	206,621	524,753	679,999	875,562	27
542,736	57,641	394,683	358,867	13,615,653	14,081,445	14,797,997	15,067,756	28
80,922	52,554	39,186	37,748	1,395,771	1,339,198	1,318,921	1,421,936	29
117,188	110,817	242,815	90,359	809,858	1,122,569	1,172,026	1,262,364	30
10,415	39,988	65,931	110,052	3,762,458	3,911,535	6,117,288	4,660,096	31
4,690,852	4,243,888	5,311,491	6,160,823	27,013,524	28,587,768	33,465,185	39,990,697	
4,731,760	**4,319,133**	**5,696,203**	**8,124,730**	**112,940,056**	**122,219,218**	**155,545,924**	**169,726,994**	

13.—Principal Imports into Canada for Consumption from All Countries,

No.	Item		All Countries			
			1944	1945	1946	1947
	II. Animals and Animal Products					
1	Animals, living	$	1,310,132	1,580,873	3,051,946	3,411,689
2	Bone, ivory and shell products	$	698,077	656,216	716,784	1,148,187
3	Feathers and quills and manufactures of	$	188,381	280,634	573,550	457,446
	Fishery Products, *n.o.p.*—					
4	Fish, fresh or frozen	$	2,037,136	2,455,104	3,042,740	2,197,078
5	Fish, salted, dried, smoked or pickled	lb.	5,011,341	2,741,104	6,028,215	6,608,168
		$	441,176	271,726	571,584	625,975
6	Fish, canned or preserved, *n.o.p.*	$	79,809	74,206	362,697	1,446,604
7	Other fishery products, *n.o.p.*	$	285,432	307,390	622,424	803,137
	Totals, Fishery Products, *n.o.p.*	$	2,843,553	3,108,426	4,599,445	5,072,794
8	Furs and manufactures of	$	11,434,257	21,205,173	27,291,573	22,451,123
9	Hairs and bristles and manufactures of	$	1,441,550	1,647,624	1,962,011	2,153,199
10	Hides and skins, raw (except fur skins)	cwt.	230,597	121,689	95,687	350,083
		$	4,497,546	3,059,479	3,651,169	12,011,454
11	Leather, unmanufactured	$	2,975,681	3,510,208	4,181,544	6,574,170
12	Leather, manufactured	$	2,736,136	3,052,560	5,061,512	7,458,996
13	Meats	$	1,615,794	537,615	2,346,997	3,098,409
14	Milk and its products	$	596,895	349,940	1,125,041	3,269,901
15	Oils, fats, greases and waxes	$	2,676,336	3,800,993	4,685,242	13,727,925
16	Other animal products	$	3,364,478	3,835,583	4,990,192	6,073,872
	Totals, Animals and Animal Products	$	**36,378,816**	**46,625,324**	**64,237,006**	**86,909,165**
	III. Fibres and Textiles					
	Cotton and Its Products—					
17	Cotton, raw and unmanufactured	lb.	182,821,612	203,329,152	192,605,905	204,960,867
		$	41,868,509	40,494,990	44,657,276	60,815,782
18	Yarn, thread and cordage	lb.	10,588,822	7,820,123	9,135,967	16,051,614
		$	8,024,033	7,208,054	9,197,478	16,608,358
19	Piece goods (fabrics)	lb.	48,945,147	39,911,082	46,292,835	68,029,445
		$	37,241,918	34,943,856	54,163,285	82,573,765
20	Other cotton products	$	5,448,941	6,757,734	11,139,627	19,895,772
	Totals, Cotton and Its Products	$	92,583,401	89,404,634	119,157,666	179,893,677
21	Flax, hemp, jute and manufactures of	$	18,352,297	17,829,455	23,141,786	37,872,619
22	Silk and manufactures of	$	1,509,588	2,089,026	4,041,232	7,421,092
	Wool and Its Products—					
23	Wool, raw and unmanufactured	lb.	34,598,698	33,978,067	65,412,385	52,083,030
		$	17,424,612	19,202,347	29,824,538	30,069,562
24	Piece goods (fabrics)	lb.	7,478,243	6,275,951	8,488,055	10,929,002
		$	14,732,983	14,193,624	20,114,640	29,663,026
25	Other woollen products	$	5,204,402	10,322,729	14,628,986	24,730,395
	Totals, Wool and Its Products	$	37,361,997	43,718,700	64,568,164	84,462,983
26	Artificial silk (rayon) and manufactures of	$	17,066,417	20,848,983	22,103,194	34,492,534
27	Other textile products	$	23,701,443	22,870,424	31,108,484	46,446,164
	Totals, Fibres and Textiles	$	**190,575,143**	**196,761,222**	**264,120,526**	**390,589,069**
	IV. Wood, Wood Products and Paper					
28	Lumber and timber	M ft.	35,828	51,315	59,107	114,942
		$	3,161,448	4,202,958	5,612,498	11,287,809
29	Other wood, unmanufactured	$	2,995,203	2,254,262	2,973,210	5,340,250
30	Wood, manufactured	$	7,092,144	8,482,578	11,466,655	17,957,942
31	Paper and manufactures of	$	12,156,601	13,376,067	18,834,089	23,027,200
32	Books and printed matter	$	18,230,115	21,444,851	30,736,954	31,934,970
	Totals, Wood, Wood Products and Paper	$	**43,635,511**	**49,760,716**	**69,623,406**	**89,548,171**

the United Kingdom and the United States, Calendar Years 1944-47—continued

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
88,701	83,708	165,844	234,136	1,221,327	1,495,819	2,878,293	3,158,840	1
286	83,256	160,067	232,516	680,597	544,529	477,205	770,905	2
5,534	44,727	41,963	17,759	173,546	222,922	483,426	315,705	3
–	–	–	–	313,241	602,805	700,587	699,123	4
–	–	1,820	33,680	328,405	557,488	893,747	536,375	5
–	–	267	6,095	54,560	73,254	133,882	92,953	
–	–	106	33,201	7,330	17,360	158,580	345,925	6
1,636	2,448	5,674	3,236	207,220	232,706	488,637	564,336	7
1,636	2,448	6,047	42,532	582,351	926,125	1,481,686	1,702,337	
250,280	262,775	765,577	697,737	6,832,775	9,078,294	14,764,115	18,586,408	8
3,703	7,172	21,739	15,469	1,148,947	1,213,930	996,574	1,826,321	9
–	–	215	–	15,335	11,649	16,847	276,530	10
–	–	5,200	–	331,970	212,616	577,878	8,349,818	
854,275	898,973	1,359,743	2,288,483	1,914,096	2,131,979	2,305,708	3,435,425	11
382,828	565,000	1,293,158	1,739,987	2,171,418	2,243,825	3,338,508	5,184,183	12
1,215	698	627	1,826	315,572	125,022	1,681,756	2,472,282	13
126	2,577	–	126	478,271	214,151	773,773	1,181,276	14
147,853	295,255	201,121	154,867	750,299	703,494	1,877,159	6,701,380	15
73,869	81,564	166,088	210,059	1,798,520	1,693,304	2,240,302	3,525,465	16
1,810,306	**2,328,153**	**4,187,174**	**5,635,496**	**18,399,689**	**20,806,010**	**33,876,383**	**57,210,345**	
3,723	988	8,494	23,746	171,887,212	180,135,221	158,234,999	150,538,509	17
1,530	470	3,365	9,809	39,544,581	36,264,180	37,593,554	45,821,125	
5,380,478	4,717,905	5,076,191	5,294,728	5,208,344	3,102,218	4,056,169	10,744,497	18
4,965,775	4,977,117	5,456,632	6,265,641	3,058,258	2,230,937	3,726,522	10,294,766	
2,387,825	1,742,313	1,036,087	1,767,723	46,550,168	38,159,161	45,042,699	65,715,276	19
2,200,636	2,808,182	1,948,250	4,002,465	35,030,720	32,109,680	51,892,222	77,590,922	
1,745,867	1,833,464	2,804,216	5,493,193	3,628,675	4,629,163	7,559,364	12,557,279	20
8,913,808	9,619,233	10,212,463	15,771,108	81,262,234	75,233,960	100,771,662	146,264,092	
2,919,455	3,069,718	6,839,901	9,225,005	2,189,511	2,324,731	2,785,867	3,941,054	21
175,392	183,565	434,695	528,229	1,305,936	1,796,964	3,139,931	5,997,855	22
4,797,785	6,694,364	7,748,295	9,795,030	77,314	71,955	1,351,664	3,184,896	23
4,273,311	5,583,413	5,742,739	8,599,713	140,744	70,497	1,273,061	3,968,407	
6,862,070	5,810,136	7,701,056	8,339,858	607,915	454,082	679,708	2,320,892	24
13,308,585	12,955,801	17,733,388	21,381,614	1,411,960	1,215,440	2,060,849	7,310,954	
4,467,854	5,515,594	9,798,618	15,938,838	344,230	3,817,284	2,301,422	4,246,664	25
22,049,750	24,054,808	33,274,745	45,920,165	1,896,934	5,103,221	5,635,332	15,526,025	
9,039,128	8,793,016	9,532,086	11,534,032	7,955,842	11,820,309	11,436,106	19,754,822	26
2,028,485	2,273,254	4,698,160	8,257,270	13,564,663	12,994,106	16,396,505	25,541,932	27
45,126,018	**47,993,594**	**61,992,950**	**91,235,898**	**108,175,120**	**109,273,291**	**140,165,403**	**217,025,780**	
–	5	39	30	35,246	49,429	57,117	113,137	28
–	1,776	1,604	9,556	2,969,248	3,722,666	5,046,850	10,502,779	
14,921	115	5,002	4,805	2,917,477	2,145,637	2,857,347	5,036,100	29
131,023	105,052	266,786	413,741	6,308,794	7,336,086	9,247,599	15,621,777	30
456,126	507,973	727,145	925,665	11,696,535	12,845,661	17,782,734	21,638,639	31
719,377	794,873	1,059,135	1,188,498	17,474,776	20,580,012	29,241,139	29,941,504	32
1,321,447	**1,409,789**	**2,059,672**	**2,542,265**	**41,366,830**	**46,630,062**	**64,175,669**	**82,749,798**	

13.—Principal Imports into Canada for Consumption from All Countries,

No.	Item		All Countries			
			1944	1945	1946	1947
	V. Iron and Its Products					
1	Iron ore	ton	3,126,649	3,739,867	2,281,677	3,944,550
		$	7,393,926	8,595,799	6,467,023	12,716,818
2	Ferro-alloys	$	260,630	1,015,540	676,927	1,657,533
3	Pigs, ingots, blooms and billets	$	1,915,129	2,050,839	629,241	793,655
4	Scrap iron or steel	$	1,087,695	818,021	2,162,748	4,197,477
5	Castings and forgings	$	7,382,782	8,186,092	7,445,409	8,598,084
6	Rolling-mill products	$	51,399,117	55,049,280	53,376,272	77,969,781
7	Tubes, pipes and fittings	$	5,681,634	5,641,488	8,411,415	13,464,380
8	Wire	$	3,021,507	4,314,531	3,927,855	6,556,151
9	Chains	$	2,561,716	1,886,515	1,635,528	2,857,312
10	Engines and boilers	$	63,158,580	28,039,843	29,462,014	43,882,425
11	Farm implements and machinery	$	40,611,124	50,435,476	68,351,742	105,404,869
12	Hardware and cutlery	$	4,196,999	4,672,734	7,431,482	10,388,169
13	Machinery (except agricultural)	$	78,551,171	92,780,717	130,286,814	206,011,544
14	Springs	$	120,638	517,862	785,386	188,634
15	Stamped and coated products	$	1,676,290	2,082,039	3,433,097	5,770,037
16	Tools and hand implements	$	8,602,837	7,944,826	10,135,395	11,454,000
	Vehicles, chiefly of iron—					
17	Automobiles, freight	No.	1,851	552	3,166	6,289
		$	8,096,606	1,939,667	6,493,042	12,041,505
18	Automobiles, passenger	No.	364	1,101	19,076	36,574
		$	2,668,471	2,936,550	25,209,172	57,498,704
19	Automobile parts	$	80,320,522	67,855,156	66,453,145	98,431,717
20	Other vehicles	$	5,187,399	4,379,324	9,509,837	15,681,459
	Totals, Vehicles, chiefly of iron	$	96,272,998	77,110,697	107,665,196	183,653,385
21	Other iron and steel products	$	54,466,126	33,317,599	48,784,962	66,794,743
	Totals, Iron and Its Products	$	**428,360,899**	**384,459,898**	**491,068,506**	**762,358,997**
	VI. Non-Ferrous Metals					
	Aluminum—					
22	Bauxite, ore	cwt.	26,560,509	18,794,253	25,663,512	27,853,853
		$	9,984,818	7,262,766	8,524,873	8,565,875
23	Aluminum and manufactures of, *n.o.p.*	$	2,878,895	2,347,921	6,167,879	8,616,792
	Totals, Aluminum	$	12,863,713	9,610,687	14,692,752	17,182,667
24	Brass and manufactures of	$	7,249,449	4,470,209	7,316,721	10,175,400
25	Copper and manufactures of	$	642,116	1,185,721	2,137,031	2,945,611
26	Lead and manufactures of	$	406,135	334,823	146,004	164,904
27	Nickel and manufactures of	$	918,931	1,481,283	3,527,483	4,588,752
28	Precious metals and manufactures of	$	1,252,882	5,280,719	13,897,176	12,995,528
29	Tin and its products	$	2,178,118	5,122,147	6,108,650	6,819,533
30	Zinc and manufactures of	$	1,330,934	990,618	1,783,945	2,193,102
31	Alloys, *n.o.p.*	$	614,966	801,756	1,046,065	1,282,436
32	Clocks and watches	$	5,207,313	7,333,360	7,808,075	9,026,133
33	Electrical apparatus, *n.o.p.*	$	57,859,136	43,052,284	47,787,670	68,773,183
34	Gas apparatus	$	385,877	381,032	435,733	580,487
35	Printing materials	$	816,514	1,185,373	1,570,136	1,587,041
36	Other non-ferrous metals	$	14,924,462	17,889,521	12,023,964	22,611,181
	Totals, Non-Ferrous Metals	$	**106,650,546**	**99,119,533**	**120,281,405**	**160,925,958**
	VII. Non-Metallic Minerals					
37	Asbestos and manufactures of	$	1,977,516	2,214,343	2,230,011	3,680,301
38	Clay and manufactures of	$	12,636,557	13,680,579	17,825,283	24,059,272
	Coal and Its Products—					
39	Coal, anthracite	ton	4,452,991	3,412,739	4,631,387	4,281,682
		$	33,417,990	27,568,369	41,987,460	41,012,759
40	Coal, bituminous and coal, *n.o.p.*	ton	24,270,863	21,648,817	21,475,212	24,610,248
		$	79,720,026	74,863,605	78,366,960	97,937,026
41	Coke	ton	1,035,575	1,436,772	1,122,856	832,289
		$	9,630,597	11,368,606	10,888,234	11,483,959
42	Other coal products	$	296,011	1,393,062	1,839,870	3,254,834
	Totals, Coal and Its Products	$	123,064,624	115,193,642	133,082,524	153,688,578

the United Kingdom and the United States, Calendar Years 1944-47—con.

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
22	17	–	18	2,501,737	2,988,484	1,686,236	3,126,307	1
1,683	1,400	–	1,463	6,275,867	7,184,356	4,416,699	9,688,717	
–	–	52,787	427,046	260,630	1,015,540	617,104	1,133,045	2
–	4,240	13,869	8,676	1,915,129	2,046,599	614,448	784,979	3
–	2,243	8,982	141,408	1,079,291	815,388	1,760,171	2,781,686	4
3,269	357,567	1,000,574	1,041,476	7,379,513	7,828,525	6,444,835	7,555,910	5
129,729	275,886	937,183	867,753	51,269,388	54,686,006	52,164,151	76,767,357	6
9,221	76,694	265,866	382,012	5,672,413	5,564,794	8,145,549	13,082,368	7
8,924	603,208	716,867	393,483	3,012,364	3,710,113	3,210,988	6,162,507	8
295,183	275,465	284,390	348,447	2,264,809	1,611,050	1,351,138	2,495,929	9
317,613	684,534	1,640,882	5,674,978	62,840,418	27,338,588	24,739,196	37,574,118	10
45,107	125,194	183,434	272,108	40,531,512	50,128,617	67,725,381	104,598,269	11
181,014	511,198	1,486,333	1,794,348	4,015,760	4,127,478	5,793,303	8,274,731	12
1,321,458	1,900,041	5,416,960	9,704,834	77,180,724	90,719,605	124,258,383	195,390,398	13
–	–	–	–	120,638	517,862	785,386	188,634	14
6,926	16,911	98,836	153,208	1,669,364	2,063,274	3,327,695	5,612,300	15
87,188	185,213	546,198	725,661	8,503,050	7,661,044	9,289,163	10,175,163	16
–	–	60	225	1,850	552	3,106	6,061	17
–	–	51,258	206,186	8,094,525	1,939,667	6,441,784	11,818,492	
–	–	583	1,933	364	1,101	18,493	34,633	18
229	1,602	530,230	1,839,906	2,668,242	2,934,948	24,678,942	55,641,047	
55,843	42,661	115,871	138,597	80,264,679	67,812,495	66,313,503	98,235,012	19
29,705	175,751	931,879	1,712,332	5,157,694	4,203,573	8,563,678	13,958,096	20
85,777	220,014	1,629,238	3,897,021	96,185,140	76,890,683	105,997,907	179,652,647	
4,640,524	1,728,354	1,135,415	1,679,965	49,816,345	31,068,475	46,365,799	63,978,788	21
7,133,616	**6,968,162**	**15,417,814**	**27,513,887**	**419,992,355**	**374,977,997**	**467,007,296**	**725,897,546**	
–	–	403	–	3,347,135	2,758,589	2,373,552	2,672,890	22
	–	997	–	3,473,108	2,788,415	2,050,905	2,380,191	
7,435	170,806	1,580,361	591,482	2,743,464	1,909,662	4,145,000	6,955,796	23
7,435	170,806	1,581,358	591,482	6,216,572	4,698,077	6,195,905	9,335,987	
3,090,395	101,210	254,779	1,039,174	4,156,374	4,367,007	7,023,327	9,068,006	24
12,499	30,071	146,184	114,525	626,709	1,151,105	1,980,650	2,812,423	25
2,577	1,988	20,293	21,163	388,432	332,835	124,768	137,734	26
9,543	84,449	270,072	277,824	909,388	1,313,415	3,209,450	4,203,218	27
67,971	3,848,005	8,682,472	8,310,764	1,181,056	1,418,570	4,666,999	4,603,536	28
1,570,849	4,714,856	4,112,262	3,249	558,865	386,914	368,854	456,821	29
78	191	2,135	9,504	1,330,856	990,427	1,779,987	2,149,914	30
220	146,495	156,254	162,590	614,746	655,261	889,811	1,119,538	31
1,792	6,581	133,740	298,739	1,096,979	1,317,481	2,558,831	3,564,000	32
1,990,397	2,481,602	2,141,802	3,749,546	55,844,220	40,493,660	45,320,530	64,395,713	33
6,727	5,424	8,056	11,253	379,150	375,438	422,752	568,092	34
12,160	7,230	12,554	18,232	804,354	1,177,957	1,557,304	1,568,326	35
1,252,603	4,711,082	916,851	1,527,767	9,706,995	7,127,043	7,959,490	16,350,139	36
8,025,246	**16,309,990**	**18,438,812**	**16,135,812**	**83,814,696**	**65,805,190**	**81,058,658**	**120,333,447**	
391,569	661,439	590,557	944,441	1,580,009	1,543,144	1,631,517	2,716,670	37
4,886,952	5,626,308	7,597,515	9,943,480	7,729,720	8,037,352	10,088,994	13,604,895	38
218,511	28,382	101,496	51,660	4,234,480	3,384,357	4,529,891	4,230,022	39
1,451,110	179,620	900,353	508,053	31,966,880	27,388,749	41,087,107	40,504,706	
	6	84	1,117	24,270,863	21,648,811	21,475,128	24,610,248	40
–	45	420	7,501	79,720,026	74,863,560	78,366,540	97,926,371	
–	–	–	–	1,035,575	1,436,772	1,122,856	832,289	41
–	–	–	–	9,630,597	11,368,606	10,888,234	11,483,959	
11,508	13,017	22,818	318,857	283,516	1,379,029	1,805,714	2,927,879	42
1,462,618	192,682	923,591	834,411	121,601,019	114,999,944	132,147,595	152,842,915	

13.—Principal Imports into Canada for Consumption from All Countries.

No.	Item		All Countries			
			1944	1945	1946	1947
	VII. Non-Metallic Minerals—concluded					
1	Glass and manufactures of	$	13,960,132	16,097,986	23,258,143	28,625,643
2	Graphite and its products	$	438,038	459,367	601,677	591,099
3	Mica and manufactures of	$	185,986	236,597	280,142	571,638
	Petroleum, Asphalt and Products—					
4	Petroleum, crude	M gal.	1,996,757	1,988,361	2,219,365	24,932,698
		$	71,997,667	72,411,691	89,546,890	128,826,670
5	Fuel oil for ships' stores	gal.	23,215,553	35,395,731	12,922,344	11,170,800
		$	1,030,184	1,288,061	510,715	510,031
6	Coal oil and kerosene	gal.	8,890,511	13,039,459	35,557,549	147,427,903
		$	581,669	801,575	2,280,149	12,448,086
7	Gasoline	gal.	91,400,575	78,550,544	176,658,361	229,086,957
		$	13,187,455	9,571,414	14,911,781	25,521,588
8	Lubricating oils	gal.	13,692,987	10,515,900	10,913,011	13,649,862
		$	4,432,342	3,624,105	3,740,123	4,799,737
9	Other petroleum and asphalt products	$	6,707,692	7,359,169	12,753,267	35,087,685
	Totals, Petroleum, Asphalt and Products	$	97,937,009	95,056,015	123,742,925	207,193,797
10	Stone and its products	$	10,608,620	9,887,719	14,676,273	18,357,343
11	Other non-metallic minerals	$	10,205,628	12,578,762	16,914,103	15,430,280
	Totals, Non-Metallic Minerals	$	**271,014,110**	**265,405,010**	**332,611,081**	**452,197,951**
	VIII. Chemicals and Allied Products					
12	Acids	$	3,287,948	3,302,751	3,228,005	3,510,121
13	Alcohols, industrial	$	655,672	306,372	688,618	1,615,990
14	Cellulose products	$	4,925,687	5,330,489	6,554,324	5,456,594
15	Drugs, medicinal and pharmaceutical products	$	7,644,786	9,440,067	9,370,879	11,653,203
16	Dyeing and tanning materials	$	7,032,319	8,296,920	9,208,514	10,414,778
17	Explosives	$	5,572,351	923,101	848,186	901,654
18	Fertilizers	cwt.	4,548,346	3,869,118	5,094,973	6,612,184
		$	4,251,050	3,706,518	4,561,115	6,584,828
19	Paints, pigments and varnishes	$	7,465,070	8,660,314	9,436,521	13,441,471
20	Perfumery, cosmetics and toilet preparations	$	180,876	402,176	720,645	723,403
21	Soap, common laundry	lb.	2,910,351	2,884,502	6,065,092	8,514,627
		$	224,652	227,943	538,637	1,086,150
22	Soap, other	$	67,918	177,505	423,832	1,731,616
	Inorganic Chemicals, *n.o.p.*—					
23	Alum and compounds of aluminum and iron	cwt.	731,024	736,531	582,416	123,049
		$	1,033,822	1,017,291	768,859	204,451
24	Ammonia and its compounds	lb.	6,474,073	5,288,075	9,202,540	9,946,701
		$	209,105	196,760	326,877	280,160
25	Compounds of antimony, arsenic, copper, tin and zinc	lb.	9,520,420	7,721,703	2,679,816	2,752,973
		$	578,124	522,969	197,105	241,234
26	Potash and potassium compounds, *n.o.p.*	lb.	6,175,771	5,903,288	7,234,734	7,618,174
		$	640,024	679,219	634,782	623,282
27	Soda and sodium compounds, *n.o.p.*	lb.	179,685,314	121,594,197	195,958,260	209,675,662
		$	4,591,576	3,698,147	5,259,966	6,607,563
28	Other inorganic chemicals	$	4,899,155	5,156,052	5,376,377	5,830,359
	Totals, Inorganic Chemicals, *n.o.p.*	$	11,951,806	11,270,438	12,563,966	13,787,049
29	Other chemicals and allied products	$	27,582,538	27,714,061	34,730,871	42,177,847
	Totals, Chemicals and Allied Products	$	**80,842,673**	**79,758,655**	**92,874,113**	**113,084,704**
	IX. Miscellaneous Products					
30	Amusement and sporting goods, *n.o.p.*	$	2,219,235	3,043,184	7,057,712	10,001,156
31	Brushes	$	189,551	387,453	749,717	740,716
32	Containers, *n.o.p.*	$	1,613,062	1,622,918	2,283,147	3,091,257
33	Household and personal equipment	$	5,829,432	8,431,393	18,604,889	24,210,962
34	Mineral and aerated waters	$	15,121	7,239	42,798	36,628
35	Musical instruments	$	558,641	953,473	3,361,302	4,712,062
36	Scientific and educational equipment	$	8,450,669	9,215,794	13,819,553	18,358,863
37	Ships and vessels	$	655,711	3,319,764	937,814	3,153,508
38	Vehicles (except iron)	$	65,418,282	16,439,765	10,865,655	14,930,947
39	Works of art	$	1,014,422	1,163,742	1,693,428	1,691,458
40	Miscellaneous imports under special conditions	$	281,107,085	166,095,597	89,102,109	34,155,718
41	Other miscellaneous commodities	$	21,714,327	17,646,361	33,192,314	46,969,289
	Totals, Miscellaneous Products	$	**388,785,538**	**228,326,683**	**181,710,438**	**162,052,564**
	Grand Totals, Imports for Consumption	$	**1,758,898,197**	**1,585,775,142**	**1,927,279,402**	**2,573,944,125**

the United Kingdom and the United States, Calendar Years 1944-47—conc.

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
2,000,026	1,684,431	2,172,123	3,142,771	11,955,737	14,403,519	19,718,773	20,928,637	1
83,591	62,301	85,551	89,400	311,031	339,744	442,448	447,153	2
7,669	22,264	14,559	2,534	139,681	123,246	170,086	249,480	3
–	–	–	–	1,207,972	1,121,444	1,330,500	1,841,981	4
–	–	–	–	48,665,813	46,104,083	58,384,323	77,236,450	
–	–	–	–	15,924,912	13,414,933	10,434,179	10,908,085	5
–	–	–	–	697,055	509,916	387,599	497,004	
–	–	–	–	6,360,115	7,995,013	14,295,579	102,177,866	6
–	–	–	–	442,512	522,600	1,016,947	8,659,016	
–	–	–	–	89,328,542	70,924,444	159,738,922	207,060,519	7
–	–	–	–	13,086,686	9,329,009	13,685,293	23,207,312	
–	18	2,026	–	13,692,987	10,515,733	10,902,817	13,606,199	8
–	44	2,287	2,844	4,432,342	3,623,920	3,732,150	4,766,791	
9,086	929	11,605	12,904	6,629,316	7,309,461	11,336,978	30,927,055	9
9,086	973	13,892	15,748	73,953,724	67,398,989	88,543,290	145,293,628	
364,511	355,111	341,934	519,192	8,872,064	7,971,390	11,434,209	15,835,989	10
1,291,064	1,917,309	2,548,386	1,158,768	7,917,371	9,203,158	10,668,323	12,362,726	11
10,497,086	**10,522,818**	**14,288,108**	**16,650,745**	**234,060,356**	**224,020,486**	**274,845,235**	**364,282,093**	
21,901	102,078	225,187	240,186	2,560,419	2,657,070	2,855,687	3,159,186	12
6,437	11,023	25	36,272	635,216	273,352	668,627	923,234	13
35,239	101,685	422,350	588,874	4,889,289	5,228,456	6,111,988	4,828,369	14
891,965	948,121	1,112,191	1,420,679	6,532,292	7,945,899	7,880,907	9,776,581	15
707,454	584,542	755,724	811,782	5,264,512	5,730,398	6,578,387	6,947,380	16
3,311,109	64,217	10,571	5,920	2,261,242	858,884	835,449	847,393	17
124	–	521	652	4,326,531	3,683,760	4,832,850	5,770,330	18
448	–	2,066	1,661	4,007,239	3,351,764	4,053,646	4,714,663	
781,488	940,425	983,448	904,910	6,683,582	7,719,747	8,426,191	12,239,100	19
60,635	32,785	117,664	177,606	120,010	368,022	520,281	434,753	20
–	–	–	–	2,910,351	2,884,502	6,065,092	8,505,809	21
–	–	–	–	224,652	227,943	538,637	1,083,899	
1,930	2,003	8,130	5,882	56,227	161,827	402,258	1,723,009	22
53,085	100,825	41,248	15,326	677,939	635,706	541,168	107,723	23
72,727	111,061	59,657	28,694	961,095	906,230	709,202	175,757	
1,552,209	945,471	1,794,007	706,707	4,921,864	4,342,104	7,407,873	9,239,994	24
63,071	59,517	77,581	41,780	146,034	136,687	248,590	238,380	
5,287,534	3,936,792	1,399,977	1,122,012	4,232,886	3,784,911	1,279,839	1,428,520	25
302,959	229,604	71,812	73,213	275,165	293,365	125,293	148,505	
35,080	187,609	156,593	225,426	5,936,324	5,527,312	6,876,860	7,287,727	26
17,834	96,343	60,677	80,789	512,932	489,687	498,505	511,656	
64,356,378	22,147,703	32,539,351	13,136,011	115,328,936	99,446,494	162,701,639	195,645,258	27
1,308,581	537,980	725,445	790,531	3,282,995	3,160,167	4,483,685	5,768,974	
101,278	137,831	157,955	148,279	4,712,216	4,912,072	5,077,487	5,508,649	28
1,866,450	1,172,336	1,153,127	1,163,286	9,890,437	9,898,208	11,142,762	12,351,921	
674,255	788,383	949,116	1,002,749	26,844,474	26,887,835	33,603,368	40,557,731	29
8,359,311	**4,747,598**	**5,739,599**	**6,359,807**	**69,969,591**	**71,309,405**	**83,618,188**	**99,587,219**	
116,177	234,713	1,040,768	1,832,446	2,099,429	2,711,905	5,690,947	7,619,059	30
34,448	64,758	253,719	326,051	154,083	322,595	493,657	408,996	31
333,300	324,597	519,423	864,065	1,120,240	999,398	1,192,379	1,585,602	32
575,695	745,305	1,690,571	1,822,878	5,055,711	7,399,828	16,143,528	21,262,148	33
–	–	–	197	15,121	7,239	15,319	8,843	34
25,687	56,437	138,541	216,375	530,194	866,659	2,874,949	3,696,048	35
445,048	342,630	823,255	908,864	7,973,002	8,754,118	12,855,844	16,982,012	36
1,200	7,376	62,652	34,359	653,225	3,311,575	870,846	3,109,888	37
53,404	142,695	509,588	731,231	65,364,878	16,296,758	10,340,915	14,191,736	38
319,082	422,970	489,248	653,518	685,777	728,934	1,096,018	748,736	39
16,700,825	40,372,698	62,926,745	3,662,950	259,345,449	113,055,542	22,896,916	28,975,174	40
4,988,928	3,204,032	2,159,278	4,118,370	15,510,113	12,921,424	27,532,625	39,286,713	41
23,593,794	**45,918,211**	**70,613,788**	**15,171,304**	**358,507,222**	**167,375,975**	**102,003,943**	**137,874,955**	
110,598,584	**140,517,448**	**201,433,220**	**189,369,855**	**1,447,225,915**	**1,202,417,634**	**1,405,296,699**	**1,974,679,178**	

14.—Principal Exports of Canadian Produce from Canada to all Countries,

NOTE.—Dashes in this table indicate import figures not recorded.

No.	Item		All Countries			
			1944	1945	1946	1947
	I. Agricultural and Vegetable Products					
	A. MAINLY FOOD					
	Fruits—					
1	Fruits, fresh	$	8,457,474	10,060,070	12,706,670	10,645,040
2	Fruits, dried	lb.	4,178,846	6,409,808	208,084	1,275,894
		$	549,470	1,172,106	58,502	142,572
3	Fruits, canned or preserved	lb.	3,682,050	13,433,996	15,122,583	29,248,199
		$	427,197	1,566,404	1,909,644	3,349,413
4	Fruit juices and fruit syrups	gal.	520,978	585,528	200,132	444,572
		$	1,151,598	1,106,833	449,556	753,352
	Totals, Fruits	$	10,585,739	13,905,413	15,124,372	14,890,377
5	Nuts	$	105,062	228,516	45,948	53,605
	Vegetables—					
6	Vegetables, fresh	$	7,090,361	8,829,038	4,369,714	11,817,760
7	Vegetables, dried	lb.	11,919,771	13,038,933	8,283,844	94,448
		$	4,983,406	5,506,503	3,349,546	33,605
8	Vegetables, canned	lb.	10,266,427	28,231,276	51,964,691	53,937,977
		$	819,752	2,117,520	5,433,820	4,861,778
9	Pickles, sauces and catsups	$	709,637	1,142,697	601,282	844,186
	Totals, Vegetables	$	13,603,156	17,595,758	13,754,362	17,557,329
	Grains and Farinaceous Products—					
10	Wheat	bu.	291,679,709	329,672,842	157,529,350	160,426,359
		$	384,150,471	475,786,639	250,305,507	265,200,441
11	Flour of wheat	bbl.	13,938,631	13,730,584	14,984,287	18,081,882
		$	90,001,207	97,854,944	126,733,077	196,578,113
12	Prepared foods and bakery products	$	1,654,046	2,442,411	3,008,798	3,706,749
13	Other farinaceous products	$	130,994,973	95,029,309	60,686,856	64,146,269
	Totals, Grains and Farinaceous Products	$	606,800,697	671,113,303	440,734,238	529,631,572
14	Oils, vegetable, for food	cwt.	85,640	94,377	104,567	102,556
		$	1,364,654	1,518,983	1,871,570	2,750,402
	Sugar and its products—					
15	Confectionery, including candy	$	4,833,478	6,481,538	1,794,730	3,908,296
16	Maple sugar	lb.	4,648,105	3,961,943	3,435,125	4,392,404
		$	1,341,283	1,130,896	1,108,720	1,822,654
17	Other sugar and products	$	1,642,051	3,427,721	1,216,851	1,918,802
	Totals, Sugar and Products	$	7,816,812	11,040,155	4,120,301	7,649,752
18	Cocoa and chocolate	$	[1]	892,602	370,832	405,021
19	Coffee and chicory	$	69,385	31,291	44,272	108,242
20	Spices	$	[2]	[2]	86,684	85,588
21	Tea	$	[2]	[2]	1,501,045	1,762,826
22	Other vegetable products	$	1,689,369	1,574,015	1,619,797	1,391,362
	TOTALS, A. MAINLY FOOD	$	642,034,874	717,900,036	479,273,421	576,286,076
	B. OTHER THAN FOOD					
	Beverages, Alcoholic—					
23	Ale, beer and porter	gal.	6,070,301	5,339,479	4,252,182	4,372,665
		$	5,598,817	4,970,526	4,502,164	4,670,876
24	Whisky and other distilled beverages	pf. gal.	2,683,405	4,337,143	5,319,376	3,808,146
		$	15,398,006	24,317,193	31,744,870	23,746,329
25	Wines	gal.	58,894	65,944	25,064	32,956
		$	112,344	118,077	49,016	60,907
	Totals, Beverages, Alcoholic	$	21,109,167	29,405,796	36,296,050	28,478,112
26	Gums and resins	$	36,277	43,519	52,999	35,417
27	Oil cake and oil cake meal	cwt.	275	23,073	21,069	14,524
		$	715	55,494	58,087	43,635
28	Oils, vegetable, not food	$	2,793,635	2,835,974	3,474,591	3,746,393
29	Plants, shrubs, trees and vines	$	89,814	115,960	234,649	211,743
30	Rubber and manufactures of	$	25,666,793	31,328,264	22,477,014	33,124,748

[1] Included in confectionery. [2] Not given separately in 1944 and 1945.

the United Kingdom and the United States, Calendar Years 1944-47—con.

NOTE.—Dashes in this table indicate import figures not recorded.

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
1,907,750	1,393,797	6,498,924	2,743,206	5,989,232	8,244,150	5,149,706	5,779,645	1
3,365,000	5,353,256	–	793,813	353,130	348,298	11,870	141,324	2
429,920	955,937	–	42,775	24,011	28,118	1,024	14,512	
499,510	4,209,548	9,974,206	20,249,152	155,599	3,819,162	315,286	127,540	3
64,552	648,489	1,100,744	1,872,580	18,181	256,853	52,927	23,337	
16	49,456	–	168,165	464,106	418,336	110,763	183,897	4
101	33,883	–	342,149	1,092,178	911,967	266,845	298,792	
2,402,323	3,032,106	7,599,668	5,000,710	7,123,602	9,441,088	5,470,502	6,116,286	
61,495	206,585	9,268	–	–	–	–	36	5
–	–	–	2,516,228	5,941,351	7,462,649	2,335,575	5,930,451	6
9,874,806	1,960,582	347,824	6,000	8,000	4,100	–	73,360	7
4,097,472	793,463	151,456	5,076	2,375	1,459	–	17,977	
349,597	1,672,597	24,003,534	26,006,730	69,910	10,066,914	1,000,675	121,850	8
26,454	118,754	2,669,925	1,833,099	22,474	600,051	93,460	8,448	
2,783	5,922	287	3,768	497	2,219	1,244	190	9
4,126,709	918,139	2,821,668	4,358,171	5,966,697	8,066,378	2,430,279	5,957,066	
80,704,650	113,313,762	90,323,672	135,689,373	180,621,508	92,258,282	11,674,835	167,600	10
100,162,587	163,349,684	140,576,555	208,995,482	243,822,346	128,792,108	18,069,778	355,078	
5,629,659	6,040,988	6,671,936	8,630,151	124,777	136,896	82,252	932	11
36,127,410	42,266,839	53,256,821	72,448,130	593,118	666,957	461,917	12,471	
4,595	145,307	19,506	29,566	237,675	114,040	197,088	175,206	12
2,408,275	7,322,693	10,883,302	9,889,689	124,427,814	70,459,004	26,798,712	9,022,797	13
138,702,867	213,084,523	204,736,184	291,362,867	369,080,953	200,032,109	45,527,495	9,565,552	
69	243	109	–	–	–	–	1,213	14
1,262	5,775	2,522	–	–	–	–	28,589	
948,532	2,663,433	84,634	16,924	396,367	1,180	1,588	64,874	15
–	–	–	–	4,636,245	3,942,454	3,416,156	4,352,143	16
–	–	–	–	1,337,370	1,124,044	1,100,972	1,805,657	
21,401	15,380	972	–	569,357	1,037,544	876,838	1,525,557	17
969,933	2,678,813	85,606	16,924	2,303,094	2,162,768	1,979,398	3,396,088	
[1]	86,696	264	3,854	[1]	421,563	69,168	84,777	18
–	1,290	330	–	896	1,532	68	155	19
[2]	[2]	2,391	14,240	[2]	[2]	10,397	7,462	20
[2]	[2]	–	–	[2]	[2]	35,022	32,086	21
53,998	63,736	103,728	112,437	238,984	286,306	193,100	252,024	22
146,318,587	220,077,663	215,361,629	300,869,203	384,714,226	220,411,744	55,715,429	25,440,121	
–	–	–	95	3,456,496	2,354,797	2,482,883	1,465,559	23
–	–	–	87	2,942,211	2,059,809	2,360,396	1,321,812	
10,246	7,654	22,137	250,764	2,092,669	3,452,005	4,646,526	2,847,360	24
63,849	47,875	131,765	432,739	11,559,363	18,559,233	27,138,449	18,061,413	
–	–	–	–	3,334	5,309	22	17	25
–	–	–	–	8,005	12,038	118	90	
63,849	47,875	131,765	432,826	14,509,579	20,631,080	29,498,963	19,383,315	
13,966	26,095	18,668	13,171	20,899	12,487	32,173	18,586	26
–	–	–	–	–	19,400	20,904	–	27
–	–	–	–	–	45,504	57,692	–	
1,167,611	173,576	182,060	331,762	722,682	956,248	1,999,171	2,005,054	28
10	48	51,817	99,992	64,558	92,440	159,050	84,781	29
6,617,015	7,666,317	2,352,579	3,226,485	14,217,054	15,411,044	5,370,773	3,723,793	30

[1] Included in confectionery.

[2] Not given separately in 1944 and 1945.

14.—Principal Exports of Canadian Produce from Canada to all Countries,

No.	Item		All Countries			
			1944	1945	1946	1947
	I. Agricultural and Vegetable Products—concluded					
	B. Other Than Food—concluded					
1	Seed potatoes	bu.	2,537,884	3,163,016	3,243,637	4,257,161
		$	4,063,658	5,464,679	5,259,922	6,471,118
2	Seeds, *n.o.p.*	$	23,628,656	11,873,201	7,968,508	10,221,775
3	Tobacco, unmanufactured	lb.	12,370,292	15,567,874	12,590,715	24,493,210
		$	4,933,341	6,722,709	5,891,604	12,601,469
4	Tobacco, manufactured	$	890,034	1,361,984	554,567	1,555,725
5	Other vegetable products, not food	$	16,018,351	12,337,471	16,946,304	10,920,564
	Totals, B. Other Than Food	$	99,230,441	101,545,051	99,214,295	107,410,699
	Totals, Agricultural and Vegetable Products	$	**741,265,315**	**819,445,087**	**578,487,716**	**683,696,775**
	II. Animals and Animal Products					
	Animals Living—					
6	Cattle, swine, sheep and poultry, pure bred for improvement of stock	No.	56,235	55,043	36,004	41,303
		$	3,821,573	5,351,923	7,236,876	7,676,802
7	Cattle, *n.o.p.*	No.	41,884	55,436	77,082	53,326
		$	5,516,800	7,096,027	10,998,211	7,697,734
8	Horses	No.	22,196	19,059	40,120	15,662
		$	1,346,253	1,386,949	4,483,827	850,796
9	Other animals, living	$	2,172,858	2,010,470	479,235	3,788,439
	Totals, Animals, Living	$	12,857,484	15,845,369	23,198,149	20,013,771
10	Bones, horns, etc.	$	246,738	362,745	382,915	377,781
	Fishery Products, *n.o.p.*—					
11	Fish, fresh or frozen	cwt.	2,254,593	2,522,821	2,577,046	2,220,499
		$	31,477,878	44,232,442	41,462,649	38,033,180
12	Fish, salted, dried, pickled and smoked	cwt.	762,342	902,616	1,073,011	969,766
		$	10,458,571	11,791,019	13,807,545	12,309,390
13	Fish, canned or preserved, *n.o.p.*	cwt.	1,159,477	1,313,471	1,521,834	1,551,495
		$	21,232,683	23,864,759	30,427,560	31,510,497
14	Other fishery products, *n.o.p.*	$	684,718	337,403	788,344	506,136
	Totals, Fishery Products, *n.o.p.*	$	63,853,850	80,225,623	86,486,098	82,359,203
15	Furs and manufactures of	$	27,029,329	29,572,474	32,291,425	29,047,741
16	Hair and bristles and manufactures of	$	892,035	989,008	1,251,151	1,661,550
17	Hides and skins, raw (except fur skins)	cwt.	36,016	34,757	113,974	93,879
		$	541,073	557,877	1,647,016	1,642,920
18	Leather, unmanufactured	$	2,910,079	4,004,397	7,655,980	12,918,826
19	Leather, manufactured	$	3,552,692	3,748,363	9,282,127	7,400,755
20	Bacon and hams, shoulders and sides	cwt.	6,957,574	4,498,346	2,892,916	2,357,892
		$	148,300,639	96,493,111	66,388,591	62,081,160
21	Other meats and preparations of	$	43,700,173	70,481,283	62,546,930	40,775,522
	Milk and Its Products—					
22	Butter	cwt.	47,267	55,983	45,094	31,071
		$	1,881,278	2,235,749	2,003,302	1,597,095
23	Cheese	cwt.	1,314,292	1,354,093	1,064,954	555,311
		$	27,062,454	27,909,305	21,947,738	14,162,303
24	Milk, processed	cwt.	463,380	1,021,272	765,268	799,917
		$	5,418,581	12,092,924	9,624,596	11,669,097
25	Other milk products	$	451,964	1,018,535	1,347,172	2,271,655
	Totals, Milk and Its Products	$	34,814,277	43,256,513	34,922,808	29,700,150
26	Oils, fats, greases and waxes	$	9,237,047	5,201,096	2,401,925	1,729,197
27	Other animal products	$	24,990,146	47,325,621	30,017,679	41,736,107
	Totals, Animals and Animal Products	$	**372,925,562**	**398,063,480**	**358,472,794**	**331,444,683**

the United Kingdom and the United States, Calendar Years 1944-47—con.

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
–	–	–	–	1,995,560	2,163,477	2,057,984	2,216,497	1
–	–	–	–	2,918,454	3,353,412	2,941,274	2,650,529	
1,192,378	2,466,060	1,015,923	3,169,130	22,351,046	7,549,343	3,342,180	4,704,351	2
8,528,844	12,406,262	9,551,282	22,007,521	340	310	100	–	3
3,594,457	5,532,507	4,573,692	11,392,374	214	208	76	–	
253,138	720,125	2,241	73	51,412	56,823	15,116	10,213	4
281,676	261,498	562,607	318,758	14,735,099	10,443,057	14,644,361	7,786,763	5
13,184,100	16,894,101	8,891,352	18,984,571	69,590,997	58,551,646	58,060,829	40,367,385	
159,502,687	**236,971,764**	**224,252,981**	**319,853,774**	**454,305,223**	**278,963,390**	**113,776,258**	**65,807,506**	
1	4	359	320	27,659	27,833	34,441	39,095	6
5,000	4,500	462,630	212,437	3,580,482	4,724,204	6,337,198	7,004,860	
–	–	–	–	36,937	48,747	70,011	46,233	7
–	–	–	–	5,003,924	6,376,640	10,259,720	6,959,717	
–	–	–	–	20,922	15,084	14,683	13,334	8
–	–	–	–	1,172,800	772,614	699,736	618,320	
–	2,420	2,895	4,374	2,072,040	1,878,609	218,752	3,565,598	9
5,000	6,920	465,525	216,811	11,829,246	13,752,067	17,515,406	18,148,495	
32,228	29,849	–	5,799	212,933	332,138	382,833	355,409	10
233,585	217,372	73,502	14,112	2,020,676	2,304,008	2,422,560	2,198,604	11
3,720,482	3,891,893	1,248,559	295,917	27,754,239	40,316,678	38,774,536	37,516,559	
26,911	5,881	750	–	390,659	404,570	449,172	305,982	12
394,461	56,690	33,990	–	5,984,521	6,014,032	6,579,063	4,704,705	
759,551	400,850	445,662	251,568	53,769	46,726	58,696	29,423	13
13,524,653	9,190,560	11,753,336	6,191,437	3,641,062	3,239,099	4,407,054	1,539,346	
931	330	437	4,424	679,579	329,849	775,668	498,710	14
17,640,527	13,139,473	13,036,322	6,491,778	38,059,401	49,899,658	50,536,321	44,259,320	
28,321	1,363,727	10,842,086	7,378,628	25,748,651	26,755,604	19,679,471	20,342,001	15
41,810	590	203,527	378,639	850,139	977,563	982,181	967,504	16
–	134	38,993	1,417	36,001	16,584	20,184	76,361	17
–	15,939	537,929	89,456	540,327	300,023	397,485	1,326,952	
675,101	796,484	1,535,732	4,292,000	1,298,939	1,220,837	2,277,948	3,701,122	18
430,753	464,149	334,308	644,451	273,412	637,094	2,721,306	882,395	19
6,923,103	4,460,693	2,860,291	2,320,014	–	–	–	81	20
147,268,341	95,359,210	65,203,703	60,572,735	–	–	–	2,895	
32,829,979	43,508,585	29,490,235	14,542,815	4,000,197	3,573,973	222,480	508,949	21
2	–	–	389	–	–	9	22	22
66	–	–	15,546	–	–	369	1,146	
1,288,729	1,328,554	1,042,435	538,610	1,445	1,444	1,282	1,788	23
26,319,221	27,123,611	21,251,457	13,599,246	52,426	51,385	52,610	66,738	
2,676	25,460	356,426	375,634	–	52,449	11	15	24
25,803	377,780	3,541,606	4,633,523	–	453,065	270	176	
–	1,557	27,259	45,053	6,256	126,334	306,354	255,649	25
26,345,090	27,502,948	24,820,322	18,293,368	58,682	630,784	359,603	323,709	
1,757,662	825,901	285,164	268,529	3,791,089	3,245,531	1,614,957	985,850	26
22,517,436	43,888,338	26,637,579	37,687,825	1,597,077	2,385,914	2,261,360	2,325,044	27
249,572,248	**226,902,113**	**173,392,432**	**150,862,834**	**88,260,093**	**103,711,186**	**98,951,351**	**94,129,645**	

14.—Principal Exports of Canadian Produce from Canada to all Countries,

No.	Item		All Countries			
			1944	1945	1946	1947
	III. Fibres and Textiles					
1	Cotton and manufactures of	$	9,251,759	10,141,068	10,550,725	11,238,457
2	Flax, hemp, jute and manufactures of	$	2,242,742	1,682,124	2,449,433	1,153,235
3	Silk and manufactures of	$	53	12	–	15,425
4	Wool, raw (includes noils and tops)	lb.	13,098,454	10,174,121	5,209,346	4,072,854
		$	4,889,482	3,743,447	1,872,934	1,529,037
5	Other wool and manufactures of	$	19,702,751	15,815,277	15,066,297	7,333,979
6	Artificial silk (rayon) and manufactures of	$	6,551,940	8,961,459	8,292,957	11,760,787
7	Other textile products	$	17,103,474	16,537,718	15,527,481	16,316,399
	Totals, Fibres and Textiles	$	**59,742,201**	**56,881,105**	**53,759,827**	**49,347,319**
	IV. Wood, Wood Products and Paper					
8	Logs	M ft.	87,843	57,680	56,132	54,877
		$	3,425,241	2,213,181	2,479,568	3,042,996
9	Railroad ties	No.	2,049,785	1,053,671	1,128,858	2,216,644
		$	3,085,646	1,645,531	1,987,816	5,365,765
10	Planks and boards	M ft.	1,862,003	1,977,348	2,069,028	2,725,910
		$	90,119,300	98,934,569	125,390,834	208,375,356
11	Timber, square	M ft.	20,516	23,694	14,257	9,117
		$	830,224	1,060,012	801,712	839,894
12	Shingles	squares	1,474,549	1,651,061	1,775,216	2,050,889
		$	6,984,078	8,000,968	11,211,318	20,254,442
13	Pulpwood	cord	1,390,826	1,576,821	1,759,251	1,882,813
		$	20,012,285	23,881,928	28,731,150	34,528,884
14	Spoolwood	M ft.	22,121	33,685	39,370	35,855
		$	1,650,819	2,948,635	3,498,530	3,667,913
15	Wood-pulp	cwt.	28,161,615	28,690,537	28,371,158	33,974,242
		$	101,563,024	106,054,911	114,020,659	177,802,612
16	Pulp board, wall board and paper board	cwt.	2,087,343	2,243,631	2,034,041	2,285,776
		$	7,666,025	8,457,490	8,420,030	10,929,743
17	Book paper	cwt.	348,030	342,480	493,516	745,824
		$	3,012,611	3,062,502	3,580,946	6,068,943
18	Newsprint paper	cwt.	56,115,515	61,178,918	77,169,338	84,415,575
		$	157,190,834	179,450,771	265,864,969	342,293,158
19	Wrapping paper	cwt.	509,822	561,912	449,053	425,864
		$	3,257,014	3,770,572	3,089,396	3,395,346
20	Newsprint paper, mutilated, or beater stock, and waste paper	cwt.	993,454	1,147,121	519,380	654,866
		$	1,989,950	2,427,568	1,104,592	1,883,665
21	Other wood products and paper	$	40,113,960	46,131,904	55,409,635	67,743,317
	Totals, Wood, Wood Products and Paper	$	**440,901,011**	**488,040,542**	**625,591,155**	**886,192,034**
	V. Iron and Its Products					
22	Iron ore	ton	308,424	771,495	1,145,256	1,749,976
		$	1,153,166	2,552,691	4,352,971	6,023,448
23	Ferro-alloys	ton	104,850	137,122	95,301	173,989
		$	15,660,622	14,925,295	9,484,904	21,545,088
24	Pigs, ingots, blooms and billets	ton	29,539	66,737	80,255	86,505
		$	1,353,521	4,505,589	3,327,870	4,080,144
25	Scrap iron or steel	ton	68,304	28,459	12,154	3,060
		$	1,017,549	387,006	165,563	66,857
26	Castings and forgings	cwt.	445,477	874,547	203,310	178,508
		$	3,320,073	6,389,324	2,005,417	1,883,906
27	Rolling-mill products	ton	161,346	132,731	105,381	98,334
		$	10,129,635	10,188,798	7,527,911	10,934,895
28	Tubes, pipes and fittings	$	2,429,330	3,095,601	1,082,386	652,157
29	Wire	$	2,111,606	2,660,799	724,540	651,697
30	Chains	$	467,090	230,337	158,357	260,574
31	Engines, boilers and parts	$	12,780,896	22,654,017	28,764,009	20,197,921
32	Farm implements and machinery	$	13,433,857	20,196,085	28,661,562	42,237,917
33	Hardware and cutlery	$	3,575,329	4,076,988	4,175,734	5,692,560
34	Machinery (except agricultural)	$	24,947,313	19,868,680	15,534,622	41,021,630
35	Stamped and coated products	$	217,327	271,508	331,488	231,812
36	Tools	$	1,665,526	2,042,323	1,145,396	2,994,349
	Vehicles—					
37	Automobiles, freight	No.	144,151	122,768	44,660	42,215
		$	246,153,176	206,729,941	43,201,264	37,918,280
38	Automobiles, passenger	No.	62	44	23,451	41,550
		$	89,854	65,537	13,992,507	33,579,360
39	Automobile parts	$	139,344,916	93,852,013	21,110,039	20,141,614
40	Vehicles, *n.o.p.*	$	47,658,593	51,241,826	33,773,155	14,627,545
	Totals, Vehicles and Parts	$	433,246,539	351,889,317	112,076,965	106,266,799
41	Other iron and steel products	$	245,426,051	89,155,745	7,953,231	8,414,448
	Totals, Iron and Its Products	$	**772,935,430**	**555,090,103**	**227,472,926**	**273,156,202**

the United Kingdom and the United States, Calendar Years 1944-47—con.

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
727,964	1,467,112	527,361	472,027	541,756	766,880	486,371	641,179	1
1,928,897	1,178,550	961,185	299,388	245,287	441,382	1,340,427	667,604	2
–	–	–	–	–	–	–	154	3
–	–	14,195	1,298,163	13,081,815	10,136,510	5,193,568	2,739,879	4
–	–	5,323	418,626	4,880,664	3,718,555	1,867,135	1,097,768	
4,093,341	5,942,040	816,430	103,309	1,118,813	1,108,845	1,206,032	2,190,768	5
4,270,369	4,769,359	10,043	167,056	12,831	211,094	210,512	1,865,294	6
1,048,679	1,170,392	50,435	99,295	2,902,365	3,970,611	5,372,580	3,929,766	7
12,069,250	**14,527,453**	**2,370,777**	**1,559,701**	**9,701,716**	**10,217,367**	**10,483,057**	**10,392,533**	
16,485	9,943	11,788	9,652	71,269	47,334	43,077	42,588	8
1,343,434	749,294	820,850	722,630	2,074,039	1,423,522	1,508,606	2,077,890	
1,650,111	794,456	319,419	975,345	392,949	187,064	197,949	91,495	9
2,578,191	1,279,607	581,462	2,487,021	504,053	270,805	337,537	164,392	
839,567	865,836	704,842	1,119,066	878,141	929,111	963,565	1,065,152	10
38,105,685	38,647,395	36,236,624	77,621,099	44,545,191	50,201,375	60,384,220	79,769,360	
11,970	12,827	4,680	2,178	462	306	1,108	64	11
463,853	569,669	271,513	170,168	17,776	8,458	68,475	4,801	
–	–	92,465	20,750	1,443,624	1,605,800	1,572,858	1,977,295	12
–	–	741,936	168,110	6,777,646	7,692,553	9,624,717	19,594,925	
–	–	–	–	1,390,826	1,576,821	1,759,251	1,859,764	13
–	–	–	–	20,012,285	23,881,928	28,731,150	34,053,976	
9,201	14,007	15,338	14,986	12,920	19,678	23,427	20,113	14
676,780	1,194,399	1,527,474	1,685,634	974,039	1,754,236	1,908,259	1,866,671	
5,856,164	5,817,694	2,399,352	2,739,521	21,556,224	21,872,610	25,052,968	29,986,034	15
21,393,993	22,276,514	10,122,012	14,741,287	77,081,637	79,589,366	99,972,972	156,121,526	
805,459	903,412	818,128	797,902	1,002,214	958,176	727,250	890,934	16
3,316,721	3,697,574	3,661,506	4,155,026	2,955,772	2,883,996	2,326,089	3,310,927	
40	15,923	1,277	5,939	443	3,159	170,638	386,798	17
362	146,177	22,083	79,871	10,254	23,981	717,197	2,090,835	
838,164	2,112,966	1,657,759	1,110,409	48,179,202	50,671,287	66,464,766	73,506,975	18
2,557,791	6,564,645	5,954,814	4,623,491	133,398,723	146,507,805	224,782,463	291,892,729	
103,707	216,349	106,843	65,868	27,336	17,074	33,752	87,560	19
568,109	1,244,300	643,903	548,590	127,882	74,102	138,841	544,456	
12,334	104,066	–	–	979,502	1,027,716	518,396	654,349	20
31,519	258,072	–	–	1,955,321	2,128,325	1,101,312	1,882,383	
19,762,099	21,857,589	24,455,764	29,115,936	9,212,875	12,887,807	16,225,578	18,185,650	21
90,798,537	**98,485,235**	**85,039,941**	**136,118,863**	**299,647,493**	**329,328,259**	**447,827,416**	**611,560,521**	
–	–	–	–	308,422	771,495	1,145,256	1,749,976	22
–	–	–	–	1,153,116	2,552,691	4,352,971	6,023,448	
57,432	46,636	32,312	58,282	35,978	75,190	43,079	103,292	23
10,580,297	5,494,771	2,808,318	8,147,946	2,021,375	7,316,692	4,308,074	11,738,882	
11,700	20,906	78,123	83,891	5,427	30,591	968	882	24
613,298	854,953	3,242,125	3,910,072	115,772	1,177,531	27,890	31,244	
–	–	76	–	68,249	28,459	12,078	3,060	25
–	–	3,451	–	1,016,484	387,006	162,112	66,857	
2,228	–	–	63	440,332	866,274	202,032	175,267	26
74,978	–	–	719	3,205,307	6,264,549	1,988,353	1,835,471	
42,859	4,039	3,866	473	20,993	31,621	6,697	9,014	27
2,547,770	239,776	380,273	682,949	835,728	955,400	207,008	284,107	
246,335	–	112	6,437	26,151	74,629	13,419	21,663	28
233,532	234,851	6,934	27,369	1,290,968	971,355	53,152	47,545	29
152,608	126,592	4,175	704	17,926	11,254	67,969	41,105	30
509,343	122,103	305,479	1,042,685	142,059	184,241	305,278	492,681	31
4,401,863	4,479,719	2,584,984	3,354,874	5,873,641	8,993,712	14,460,331	23,478,709	32
1,039,489	667,509	519,819	752,627	541,923	499,743	529,829	476,931	33
6,974,546	1,854,444	765,763	2,357,263	8,121,274	4,533,884	2,281,523	3,402,675	34
–	2,514	–	–	4,502	19,792	90,427	9,650	35
322,525	309,178	107,384	178,674	293,646	623,550	148,858	147,492	36
30,962	20,276	2	–	65	1	11	1	37
61,341,532	53,856,041	46,168	–	89,400	1,975	5,384	1,515	
–	1	46	427	1	1	24	31	38
–	1,900	48,890	497,206	4,500	350	23,499	43,479	
41,626,373	21,390,699	258,299	574,552	551,209	622,427	1,588,080	2,003,566	39
16,483,571	13,120,880	5,748,381	3,958	5,284,702	3,728,295	673,289	6,798,480	40
119,451,476	88,369,520	6,101,738	1,075,716	5,929,811	4,353,047	2,290,252	8,847,040	
150,215,971	59,700,905	260,970	182,873	15,969,312	9,421,360	668,928	520,877	41
297,364,031	**162,456,835**	**17,091,525**	**21,720,908**	**46,558,995**	**48,340,436**	**31,956,374**	**57,466,377**	

14.—Principal Exports of Canadian Produce from Canada to all Countries,

No.	Item		All Countries			
			1944	1945	1946	1947
	VI. Non-Ferrous Metals					
1	Aluminum and manufactures of	$	105,520,383	133,566,994	56,030,039	63,955,574
2	Brass and manufactures of	$	7,066,662	4,362,717	3,372,923	3,874,746
3	Copper and manufactures of	$	40,543,943	40,859,624	37,004,791	59,298,039
4	Lead and manufactures of	$	7,044,983	9,176,739	16,845,519	30,944,830
5	Nickel	cwt.	2,651,971	2,164,433	2,238,772	2,341,140
		$	68,400,634	54,778,226	55,204,632	60,442,762
6	Precious metals and manufactures of (except gold)	$	10,826,535	17,200,414	21,468,727	22,580,917
7	Zinc and manufactures of	$	15,209,035	20,373,174	27,769,171	30,192,642
8	Clocks and watches and parts	$	832,786	911,763	1,260,559	1,128,915
9	Electrical apparatus, *n.o.p.*	$	71,700,494	60,956,632	20,939,342	19,135,446
10	Printing materials	$	13,009	23,872	41,253	114,245
11	Other non-ferrous metals, including "Alloys, *n.o.p.*"	$	12,749,815	10,335,490	7,873,109	12,269,124
	Totals, Non-Ferrous Metals	$	**339,908,279**	**352,545,645**	**247,810,065**	**303,937,240**
	VII. Non-Metallic Minerals					
12	Asbestos and manufactures of	$	19,829,883	22,183,890	24,480,620	32,969,263
13	Clay and manufactures of	$	525,852	627,248	1,051,590	1,182,900
	Coal and Its Products—					
14	Coal	ton	1,010,240	840,708	862,489	714,549
		$	5,984,827	5,303,543	5,946,224	5,440,788
15	Coke	ton	69,692	60,925	63,772	133,970
		$	960,630	808,025	782,992	1,377,692
16	Creosote and coal-tar oils, *n.o.p.*	gal.	4,546,347	4,005,006	2,935,091	2,149,985
		$	800,624	640,860	441,915	350,294
17	Other coal products	$	43,654	280,336	193,702	111,061
	Totals, Coal and Its Products	$	7,789,735	7,032,764	7,364,833	7,279,835
18	Glass and manufactures of	$	380,563	546,310	1,157,769	1,953,063
19	Graphite, crude or refined	cwt.	5,520	22,845	29,777	36,288
		$	62,739	124,295	142,974	156,748
20	Mica and manufactures of	$	817,307	304,723	207,068	129,539
21	Petroleum and products	$	9,056,674	11,252,448	4,622,338	6,884,433
22	Stone and its products	$	16,629,875	14,509,129	15,578,358	18,531,508
23	Other non-metallic minerals	$	3,305,585	2,974,228	2,754,975	5,526,899
	Totals, Non-Metallic Minerals	$	**58,398,213**	**59,555,035**	**57,360,525**	**74,614,188**
	VIII. Chemicals and Allied Products					
24	Acids	cwt.	671,927	569,539	338,944	1,011,078
		$	2,342,333	2,830,480	2,060,181	3,712,611
25	Alcohols, industrial	$	8,927,176	5,375,448	108,263	103,674
26	Cellulose products	$	130,718	132,851	253,364	514,797
27	Drugs, medicinal and pharmaceutical preparations	$	5,938,896	5,739,853	5,342,618	4,399,614
28	Explosives	$	19,071,701	29,247,315	263,934	758,854
29	Fertilizers	cwt.	12,357,615	15,075,182	15,609,518	15,821,964
		$	23,999,623	30,428,347	32,108,440	34,386,165
30	Paints, pigments and varnishes	$	2,534,351	3,973,155	4,406,735	7,346,198
31	Perfumery, cosmetics and toilet preparations	$	[1]	1,745,190	804,540	1,512,358
32	Soap	lb.	10,459,491	42,342,874	19,902,821	11,711,348
		$	1,467,721	3,973,921	2,103,382	1,640,368
33	Inorganic chemicals, *n.o.p.*	$	14,913,676	12,684,783	8,569,984	10,407,751
34	Other chemicals and allied products	$	21,361,331	15,186,767	11,567,278	19,021,519
	Totals, Chemicals and Allied Products	$	**100,687,526**	**111,318,110**	**67,588,719**	**83,803,909**
	IX. Miscellaneous Commodities					
35	Amusement and sporting goods, *n.o.p.*	$	447,860	1,085,918	1,802,393	1,889,429
36	Brushes	$	909,812	889,650	1,143,015	1,266,785
37	Containers, *n.o.p.*	$	915,767	1,533,869	2,620,193	5,372,558
38	Household and personal equipment, *n.o.p.*	$	2,264,027	4,189,250	7,485,032	9,195,250
39	Mineral and aerated waters	$	2,803	2,277	41,673	1,615
40	Musical instruments	$	81,744	140,875	285,955	454,859
41	Scientific and educational equipment	$	12,615,435	9,658,172	3,105,298	5,048,224
42	Ships and vessels and materials for ships	$	23,287,373	15,591,457	18,821,962	25,724,244
43	Vehicles (except iron)	$	107,132,799	108,171,065	9,885,159	6,537,998
44	Works of art	$	25,593	36,777	62,939	65,073
45	Other miscellaneous commodities	$	405,506,415	236,091,936	50,417,955	33,153,970
	Totals, Miscellaneous Commodities	$	**553,189,628**	**377,391,246**	**95,671,574**	**88,710,005**
	Grand Totals, Exports	$	**3,439,953,165**	**3,218,330,353**	**2,312,215,301**	**2,774,902,355**

[1] Not given in 1944.

the United Kingdom and the United States, Calendar Years 1944-47—concluded

United Kingdom				United States				No.
1944	1945	1946	1947	1944	1945	1946	1947	
59,151,141	11,393,977	23,134,954	25,432,946	36,135,902	108,308,599	10,930,641	5,904,189	1
378,565	265,302	251,433	371,263	5,596,189	2,953,977	1,938,712	1,405,467	2
19,263,834	6,768,305	19,637,602	25,809,525	15,107,366	23,129,159	6,824,656	9,739,376	3
5,152,127	3,953,320	7,673,810	10,612,596	670,630	2,911,073	3,886,188	13,416,310	4
383,424	333,661	277,750	536,904	2,077,369	1,729,751	1,644,062	1,481,256	5
6,977,468	6,044,581	5,625,406	12,954,143	54,283,896	45,436,591	41,458,782	38,808,145	
1,029,898	5,398,647	8,850,236	8,630,047	9,735,630	11,609,904	10,802,307	10,963,482	6
4,569,478	4,562,130	4,752,086	10,313,866	8,446,954	13,267,103	17,787,758	14,515,517	7
263,160	259,166	161,159	129,785	79,007	211,748	251,649	101,149	8
31,344,012	35,574,469	9,387,969	478,828	23,264,926	4,501,224	1,556,705	874,672	9
126	778	983	990	10,751	17,167	37,558	105,185	10
7,138,648	4,215,114	2,518,212	4,203,250	3,024,899	2,264,065	3,084,312	4,435,979	11
135,268,457	**78,435,789**	**81,993,850**	**98,937,239**	**156,356,150**	**214,610,610**	**98,559,268**	**100,269,471**	
1,455,924	2,145,303	1,925,350	2,297,053	16,518,978	15,392,422	17,820,683	25,407,351	12
1,320	–	–	1,552	173,460	156,371	293,322	280,792	13
–	–	–	–	630,456	493,120	459,621	303,772	14
–	–	–	–	3,254,335	2,642,849	2,520,677	1,626,408	
4,055	3,550	4,020	4,053	65,293	56,920	55,761	126,686	15
123,387	107,817	122,402	132,065	831,506	693,042	559,391	1,150,990	
–	–	8,334	–	4,494,634	3,964,882	2,885,236	2,121,729	16
–	–	1,981	–	789,811	633,456	433,172	343,743	
–	–	–	–	10,545	7,128	3,283	909	17
123,387	107,817	124,383	132,065	4,886,197	3,976,475	3,516,523	3,122,050	
549	12,434	6,781	7,974	138,537	142,585	56,702	39,061	18
–	227	36	–	5,321	22,159	29,657	36,182	19
–	3,200	823	–	60,400	115,784	140,833	155,435	
48,310	19,053	19,096	2,265	735,452	280,921	185,779	105,767	20
4,582	5,073,482	5,521	224,861	292,576	882,760	769,807	691,243	21
1,992,324	1,162,151	2,137,902	2,778,028	13,799,769	12,329,701	12,429,959	13,814,899	22
1,139,926	24,354	261,501	1,344,332	1,361,315	1,557,997	1,044,399	1,495,127	23
4,766,322	**8,547,794**	**4,481,357**	**6,788,130**	**37,966,684**	**34,835,016**	**36,258,007**	**45,111,725**	
133,485	81,604	119,306	229,808	482,259	435,407	157,896	701,380	24
921,915	590,990	907,334	1,898,615	974,319	1,761,885	582,332	1,126,312	
116,594	23,088	6,408	33,757	8,789,458	5,242,262	57,263	30,163	25
2,175	1,797	30	162,236	19,376	16,347	19,507	20,751	26
850,823	1,895,563	246,095	336,121	106,660	178,315	166,049	117,795	27
9,503,389	8,084,133	27,089	377,922	3,491,344	11,810,394	33,257	15,280	28
526,618	708,180	309,088	205,700	7,671,858	8,915,780	9,003,864	8,932,392	29
1,351,919	1,835,109	830,273	649,512	14,402,984	17,083,821	17,668,074	18,138,704	
314,402	231,046	302,102	478,491	1,167,216	1,143,270	643,636	1,065,664	30
[1]	26,920	4,227	26,440	[1]	22,775	5,075	7,391	31
266,300	370,729	2,100	97	6,483	3,020	3,634	2,077	32
66,738	48,403	286	36	1,058	412	673	442	
2,741,030	1,350,761	808,092	892,259	8,431,222	5,942,903	3,816,443	4,279,936	33
8,188,495	2,348,917	839,526	3,229,290	9,832,385	8,688,954	7,005,969	7,103,386	34
24,057,480	**16,436,727**	**3,971,462**	**8,084,679**	**47,216,022**	**51,891,338**	**29,998,278**	**31,905,824**	
23,067	9,949	53,511	87,683	147,213	625,607	460,455	202,927	35
29,964	142,014	1,290	1,982	11,532	89,040	29,590	10,815	36
519,253	216,709	31,755	99,932	129,660	99,857	242,239	334,227	37
265,372	64,037	184,037	405,075	192,883	287,524	440,743	320,552	38
–	–	–	–	161	12	51	165	39
150	493	2,112	549	38,850	52,030	101,341	124,153	40
6,834,281	4,515,889	518,002	357,253	3,051,498	2,974,574	213,563	187,393	41
7,508,380	798,226	18,927	25,760	2,290,994	241,918	1,514,181	1,124,745	42
14,021,703	23,270,728	654,552	411,781	89,959,483	82,568,929	1,847,344	852,720	43
–	4,630	10,700	225	24,275	31,709	48,597	54,979	44
232,429,024	91,451,302	3,436,964	5,882,027	65,463,477	38,107,924	15,232,563	14,370,116	45
261,631,194	**120,473,977**	**4,911,850**	**7,272,267**	**161,310,026**	**125,079,124**	**20,130,667**	**17,582,792**	
1,235,030,206	**963,237,687**	**597,506,175**	**751,198,395**	**1,301,322,402**	**1,196,976,726**	**887,940,676**	**1,034,226,394**	

[1] Not given in 1944.

Subsection 3.—Imports and Exports by Degree of Manufacture, Origin and Purpose

Analyses of Canada's trade, from the angle of degree of manufacture of imports and exports with leading countries, are of value to the student of economic relationships because they present, in summary, a picture with significant meaning in the complementary relationship of manufacturing and commerce between continents and countries.

The data of Tables **15** and **16** have been specially tabulated to show at a glance this information for all countries of any importance that trade with Canada. Table **17**, on the other hand, gives historical statistics that clearly indicate the fluctuations in imports for home consumption of important raw materials used in Canadian manufacture, irrespective of their source. In a broad way, the data reflect the development of Canadian manufactures, although the industrial expansion for the purposes of War must be borne in mind in using the figures for the past six years.

15.—Imports and Exports, by Continents and Leading Countries, According to Degree of Manufacture, 1946

Country	Imports			Domestic Exports		
	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured
	$	$	$	$	$	$
British Countries						
United Kingdom	2,922,578	19,692,420	178,818,222	233,172,465	139,446,920	224,886,790
Eire	41,082	Nil	12,364	3,534,526	1,688,737	2,732,494
Africa—						
British East	3,579,124	"	24,342	6,494	166,448	2,046,944
British South[1]	5,011,640	1,128,475	1,751,510	10,315,083	14,474,428	43,843,354
Southern Rhodesia	91,648	Nil	1,396	6,125	572,820	2,705,292
British West—						
Gold Coast	5,298,955	82,134	Nil	4,350	195	866,436
Nigeria	3,872,913	897,293	1,338	37	174	1,020,400
Bermuda	28,357	34,066	59,235	874,319	47,513	2,883,250
British East Indies—						
British India	3,401,133	1,471,667	23,004,576	21,959,097	3,938,127	23,148,571
Ceylon	75,021	19,725	3,650,591	17,105	332,355	1,790,310
Straits Settlements	4,230,077	1,637,835	3,419	18,831	34,919	3,170,212
British Guiana	6,414,443	5,276,066	496,387	760,096	76,355	6,272,167
British Honduras	678,401	227,364	315,276	15,195	18,591	1,076,640
British West Indies—						
Barbados	Nil	2,904,549	2,643,553	612,294	750,117	4,842,956
Jamaica	3,042,208	4,268,195	3,173,459	885,305	606,775	14,007,516
Trinidad and Tobago	293,428	2,822,966	1,020,501	1,493,379	473,238	17,173,577
Other	398,539	58,595	330,788	515,218	529,041	7,297,154
Malta	11,255	43,956	977	4,063,177	217,392	390,308
Newfoundland	5,334,322	30,051	3,903,778	7,630,482	811,095	29,787,260
Oceania—						
Australia	11,594,766	3,315,170	4,844,003	202,566	6,752,624	31,238,473
Fiji	152	3,121,344	1,073	364	132,662	241,840
New Zealand	9,512,234	1,644,503	798,799	509,583	1,081,233	14,519,307
Palestine	927	Nil	498,630	922,614	2,146,773	492,876
Totals, British Countries[2]	**65,893,157**	**49,149,835**	**225,457,720**	**287,898,210**	**174,989,668**	**441,812,995**

[1] Includes Northern Rhodesia, Union of South Africa and other British Africa. [2] Includes other countries not specified.

15.—Imports and Exports, by Continents and Leading Countries, According to Degree of Manufacture, 1946—concluded

Country	Imports			Domestic Exports		
	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured
Foreign Countries	$	$	$	$	$	$
Afghanistan	1,533,060	49,515	4,168	Nil	Nil	1,421
Argentina	4,545,734	2,593,133	7,233,346	1,466,318	1,697,540	10,874,670
Belgium	154,146	911,192	3,363,526	12,292,025	4,055,600	47,278,471
Belgian Congo	22	663,457	256	4,422	15,138	1,181,831
Brazil	8,523,331	433,800	5,061,164	2,329,678	4,722,466	17,549,818
Chile	122,621	91,977	209,667	320,809	233,164	3,010,831
China	1,431,779	122,505	766,955	2,762,191	3,219,674	36,933,278
Colombia	9,547,863	5,748	154,805	1,862,594	807,993	6,259,418
Costa Rica	1,297,444	29,897	219,111	61,548	117,006	694,161
Cuba	3,233,194	8,035,969	1,958,557	801,217	892,020	3,576,654
Czechoslovakia	14,542	Nil	949,573	1,143,352	2,714,969	6,012,609
Dominican Republic	244,717	6,830,976	50,989	47,111	95,049	1,399,011
Ecuador	70,949	5,178	81,372	2,690	7,403	790,896
Egypt	171,061	36,818	43,699	8,719,919	749,447	5,616,547
France	226,478	460,531	3,922,840	7,344,512	18,172,862	48,863,020
French Africa	242,179	108,139	2,913	6,982,484	3,453	1,959,432
St. Pierre and Miquelon	3,082	Nil	4,334	223,996	16,788	543,207
Germany	Nil	"	11,264	416,765	291	6,450,102
Greece	21,175	27,996	14,742	771,177	133,764	8,833,539
Greenland	270,641	Nil	500	1,625	39,162	193,018
Guatemala	2,795,078	79,558	52,952	370	110,564	817,374
Haiti	681,282	5,360	91,308	328	5,626	1,114,593
Honduras	15,519,325	53,198	Nil	16,037	25,155	582,379
Iceland	Nil	345	8,339	96,315	255,753	2,771,199
Iraq (Mesopotamia)	1,698	643	1,486,865	2,559,874	614,238	57,345
Italy	1,003,674	566,098	1,134,452	5,460,292	1,335,393	13,591,384
Mexico	11,226,284	616,966	2,766,688	794,752	1,787,351	7,954,139
Morocco	5,906	Nil	12,311	478,655	62,864	627,620
Netherlands	1,223,987	162,955	1,110,046	9,910,326	4,082,603	19,890,444
Netherlands East Indies	57,292	Nil	Nil	782	Nil	6,832,169
Netherlands West Indies	77,074	38,420	3,070,102	28,477	17,781	1,352,771
Norway	19,773	7,202	808,620	9,033,403	126,320	10,106,846
Panama	37,348	Nil	700	849	37,972	1,463,034
Persia (Iran)	68,913	19,621	185,912	786	17,835	412,359
Peru	98,921	9,807	738,580	201,905	231,812	2,646,617
Poland	Nil	Nil	523	4,598,204	828,773	17,073,710
Portugal	89,017	59	2,098,967	62,157	244,884	2,355,353
Portuguese Africa	481,393	Nil	28,799	519	257,132	1,870,338
Salvador	2,427,782	"	Nil	52,996	27,816	373,610
Spain	236,939	1,394,061	2,853,445	241,520	381,345	72,180
Sweden	710,429	924	2,969,924	1,582,837	2,776,995	4,772,821
Switzerland	94,638	8,548	11,045,794	2,907,531	3,041,495	2,686,955
Syria	19,335	Nil	51,231	26,549	54,564	146,394
Turkey	200,388	"	1,680,111	71,324	85,894	1,460,845
United States	354,420,391	46,928,314	1,003,947,994	221,203,452	281,025,522	385,711,702
Hawaii	Nil	5,136	340,744	6,249	49,714	2,702,336
Philippine Islands	86,800	1,971,351	Nil	131,183	49,264	8,720,645
Puerto Rico	127,586	56,923	13,226	49,218	125,724	2,751,023
Union of Soviet Socialist Republics	921,306	25,224	572,891	4,250,346	484,999	12,969,480
Uruguay	295,768	257,352	64,432	551,806	285,580	1,833,188
Venezuela	26,754,195	20,494	111,185	564,662	168,540	10,352,656
Yugoslavia	Nil	Nil	1,819	1,771,698	64,673	10,193,632
Totals, Foreign Countries[1]	**451,746,801**	**72,711,614**	**1,062,320,275**	**315,570,249**	**336,761,958**	**755,182,221**
Grand Totals	**517,639,958**	**121,861,449**	**1,287,777,995**	**603,468,459**	**511,751,626**	**1,196,995,216**
Continents						
Europe	**7,716,242**	**23,301,631**	**210,094,348**	**303,752,741**	**180,365,662**	**447,832,544**
North America	**402,232,869**	**73,037,968**	**1,023,962,726**	**235,565,860**	**287,602,596**	**487,324,225**
South America	**56,464,450**	**8,693,555**	**14,414,861**	**8,062,855**	**8,249,212**	**60,841,083**
Asia	**11,166,377**	**5,302,834**	**31,441,950**	**28,849,430**	**10,765,325**	**89,182,371**
Oceania	**21,128,884**	**8,556,225**	**5,984,723**	**718,762**	**8,035,671**	**48,828,728**
Africa	**18,931,136**	**2,969,236**	**1,879,387**	**26,518,811**	**16,733,160**	**62,986,265**

[1] Includes other countries not specified.

16.—Imports and Exports, by Continents and Leading Countries, According to Degree of Manufacture, 1947

Country	Imports			Domestic Exports		
	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured
	$	$	$	$	$	$
British Countries						
United Kingdom	2,870,367	19,092,650	167,406,838	303,125,634	215,985,075	232,087,686
Eire	13,728	Nil	62,126	957,806	3,941,838	12,698,113
Aden	Nil	"	Nil	688,020	263,911	650,398
Africa—						
British East	6,908,060	1,338	773,382	30,733	165,580	4,485,201
Southern Rhodesia	159,510	11,554	9,923	18,424	1,030,736	6,320,118
Northern Rhodesia	26,187	–	2,482	753	346,977	101,909
Union of South Africa	2,880,671	103,381	1,243,473	454,999	12,324,581	53,894,193
Other British South Africa	Nil	Nil	152	Nil	550	14,451
Gold Coast	6,412,610	80,337	180	101	666	1,651,563
Nigeria	1,653,807	494,322	868	377	–	2,284,549
Bermuda	15,626	7,436	33,726	963,192	132,698	4,011,950
British East Indies—						
India	3,330,590	2,537,094	36,382,121	213,617	3,608,776	39,124,564
Ceylon	916,450	–	10,736,130	14,419	264,071	3,800,108
British Malaya	12,180,598	4,536,091	191,705	200,510	48,366	7,214,653
British Guiana	5,391,906	6,385,779	579,890	789,989	201,875	9,281,325
British Honduras	362,132	220,911	1,100	21,600	6,359	1,346,547
British West Indies—						
Barbados	Nil	4,200,901	3,574,750	851,076	1,065,290	7,146,153
Jamaica	564,084	4,108,998	1,698,177	878,389	1,074,285	16,261,454
Trinidad and Tobago	2,091,057	2,789,784	773,503	1,993,466	756,647	23,603,938
Bahamas	238,050	Nil	377,149	371,314	93,193	3,223,485
Leeward and Windward Islands	144,996	35,423	18,802	244,209	390,529	6,957,626
Gibraltar	Nil	Nil	Nil	156	Nil	252,102
Hong Kong	290,324	5,093	686,618	525,489	479,104	5,392,909
Malta	10,193	–	2,265	3,635,252	1,853,705	1,215,956
Newfoundland	5,519,818	140,107	3,766,588	8,832,060	829,499	45,423,734
Oceania—						
Australia	8,231,702	1,470,966	4,519,804	375,767	12,371,279	47,547,155
Fiji	14,051	4,157,435	6,377	2,658	340,479	1,043,357
New Zealand	7,890,621	1,624,340	1,316,408	257,883	2,102,760	35,025,032
Palestine	Nil	Nil	31,381	1,710,710	6,098,276	664,237
Totals, British Countries[1]	**68,163,849**	**52,031,716**	**234,198,290**	**327,198,558**	**266,651,409**	**574,651,118**
Foreign Countries						
Argentina	1,752,528	2,625,145	13,583,426	2,817,296	2,869,446	26,010,384
Austria	Nil	Nil	89,153	153,963	205,172	2,710,513
Belgium	190,162	3,239,585	6,690,702	31,876,608	3,918,876	16,953,071
Belgian Congo	Nil	809,279	6,000	7,061	163	1,284,954
Brazil	10,134,708	594,233	3,158,778	1,088,749	5,380,576	25,190,624
Chile	85,951	48,638	204,202	7,295	389,466	3,995,036
China	855,923	200,277	1,247,581	562,616	2,520,887	31,900,861
Colombia	9,104,534	1,969	90,238	1,178,034	861,621	7,910,389
Costa Rica	709,775	12,426	5,000	82,806	200,016	1,496,773
Cuba	2,602,989	17,497,683	3,650,778	656,230	942,670	5,902,650
Czechoslovakia	226,222	3,741	3,414,880	725,628	4,281,609	8,771,790
Denmark	989,675	1,880	463,216	2,839,719	93,139	1,395,191
Dominican Republic	32,274	8,149,698	3,710	53,811	130,499	1,730,053
Ecuador	149,092	2,762	55,244	19,267	46,682	1,560,479
Egypt	139,175	196	65,378	6,053,943	1,470,839	3,397,154
Finland	15,327	Nil	14,534	2,541	42,637	1,166,482
France	498,828	239,231	8,017,335	15,364,456	26,135,706	39,557,873
French Africa	177	247,414	4,271	24,580	394,253	4,178,767
French West Indies	Nil	Nil	19,495	54,192	11,530	1,677,237
St. Pierre and Miquelon	2,699	1,185	11,169	305,765	42,175	809,895
Germany	Nil	Nil	498,035	3,435,299	736,444	2,518,664
Greece	49,254	35,993	10,062	274,203	228,075	4,938,187
Guatemala	9,416,151	35,154	36,695	705	134,551	1,494,908
Haiti	165,470	24,006	37,898	837	14,570	1,351,046
Honduras	6,983,110	15,377	500	24,050	22,816	594,348
Iceland	23,829	Nil	6,060	148,095	59,582	2,277,787
Iraq (Mesopotamia)	Nil	"	1,501,572	609,873	1,306,580	243,196
Italy	547,204	672,305	2,652,747	8,065,124	1,439,518	26,183,043
Mexico	15,225,396	72,222	1,681,906	229,699	1,777,933	9,693,219

[1] Includes other countries not specified.

16.—Imports and Exports, by Continents and Leading Countries, According to Degree of Manufacture, 1947—concluded

Country	Imports			Domestic Exports		
	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured	Raw Materials	Partially Manufactured	Fully or Chiefly Manufactured
	$	$	$	$	$	$
Morocco	832	Nil	34,800	1,116	377,694	1,068,240
Netherlands	1,031,210	50,381	2,447,917	18,554,220	14,948,994	22,436,613
Netherland East Indies	194,331	2,004	3,632	Nil	3,525	5,803,223
Netherlands West Indies	309,205	Nil	8,338,389	66,122	46,497	1,731,042
Norway	3,929	299	4,994,413	8,577,683	232,089	11,510,001
Panama	2,098,794	Nil	8,426	20,576	162,636	1,698,393
Peru	132,662	71,670	202,634	715,007	344,424	2,635,505
Philippine Islands	617,059	7,355,053	91,042	76,776	159,379	10,211,775
Poland	Nil	Nil	2,732	2,767,328	1,098,910	11,513,264
Portugal	156,583	2,417	1,250,252	672,633	450,192	2,379,448
Portuguese Africa	391,388	Nil	950	813	438,977	1,458,398
Salvador	1,341,049	"	824	39,871	40,337	585,124
Spain	217,606	888,380	1,896,850	Nil	645,306	295,288
Sweden	113,870	157,537	2,913,079	1,400,826	6,270,342	9,790,013
Switzerland	2,591	540	11,937,657	4,746,199	4,258,805	5,191,353
Syria	22,917	Nil	6,833	23,464	731,156	1,791,605
Turkey	78,686	"	2,593,085	20,582	124,282	2,083,956
United States	431,802,151	64,376,151	1,478,500,876	199,891,080	368,004,975	466,330,339
Hawaii	2,102	218,399	488,714	794	8,808	3,289,470
Puerto Rico	59,041	17,405	193,063	53,351	120,605	2,430,669
Union of Soviet Socialist Republics	145,819	412	34,889	Nil	Nil	4,866,356
Uruguay	207,208	47,257	66,555	508,958	123,784	2,737,825
Venezuela	46,437,384	226	250,361	897,106	501,987	11,589,532
Yugoslavia	22,248	Nil	300	730,190	Nil	5,998,639
Totals, Foreign Countries[1]	**546,034,420**	**107,812,922**	**1,565,702,928**	**317,352,649**	**455,115,909**	**833,932,712**
Grand Totals	**614,198,269**	**159,844,638**	**1,799,901,218**	**644,551,207**	**721,767,318**	**1,408,583,830**
Continents						
Europe	**7,129,857**	**24,385,351**	**215,510,367**	**408,436,803**	**286,951,386**	**428,158,656**
North America	**479,747,755**	**101,771,358**	**1,503,448,501**	**215,784,264**	**376,065,577**	**606,463,826**
South America	**73,924,202**	**9,777,679**	**18,421,511**	**8,060,225**	**10,759,657**	**92,681,239**
Asia	**18,607,690**	**14,662,225**	**54,035,733**	**5,038,196**	**15,638,066**	**112,283,371**
Oceania	**16,155,801**	**7,471,140**	**6,332,355**	**637,252**	**14,930,425**	**87,289,436**
Africa	**18,632,964**	**1,776,885**	**2,152,751**	**6,594,467**	**17,422,207**	**81,707,302**

[1] Includes other countries not specified.

17.—Imports of Certain Raw Materials Used in Canadian Manufactures, 1926-47

NOTE.—For figures for the years ended Mar. 31, 1902-10, see the Canada Year Book, 1926, p. 463, and for the years ended Mar. 31, 1911-39, the 1940 edition, p. 533. Calendar-year figures are available only for 1926 and subsequent years.

Year	Sugar for Refining	Vegetable Oil for Soap	Cotton-seed Oil, Crude	Rubber, Raw (including Balata)	Tobacco, Raw	Hides and Skins	Cotton, Raw (including Linters)	Hemp, Dressed or Undressed	Silk, etc., Raw
	ton	gal.	cwt.	cwt.	lb.	cwt.	cwt.	cwt.	lb.
1926	564,955	3,474,017	291,867	453,736	16,100,333	584,033	1,450,014	186,742	620,993
1927	476,983	3,410,624	530,972	592,596	18,678,745	654,967	1,513,532	87,795	880,313
1928	454,691	3,665,254	428,081	692,414	17,943,070	586,128	1,455,153	51,678	1,149,540
1929	454,689	4,924,598	370,043	795,175	17,717,610	449,628	1,487,414	42,559	1,572,485
1930	447,300	3,862,344	249,601	645,167	17,435,153	412,940	1,083,163	29,099	1,822,870
1931	465,410	4,387,341	161,533	566,111	14,323,108	271,491	1,033,237	21,581	2,260,243
1932	432,283	3,337,048	539,017	468,720	7,690,154	296,823	1,049,067	19,797	2,866,080
1933	392,262	4,885,192	290,898	433,001	9,510,955	314,179	1,262,692	18,911	2,415,975
1934	427,538	4,603,534	169,337	637,393	8,602,232	299,377	1,484,748	22,473	2,647,050
1935	448,231	4,435,793	202,766	602,286	6,544,106	401,995	1,266,007	17,435	3,274,721

17.—Imports of Certain Raw Materials Used in Canadian Manufactures, 1926-47—concluded

Year	Sugar for Refining	Vegetable Oil for Soap	Cotton-seed Oil, Crude	Rubber, Raw (including Balata)	Tobacco, Raw	Hides and Skins	Cotton, Raw (including Linters)	Hemp, Dressed or Undressed	Silk, etc., Raw
	ton	gal.	cwt.	cwt.	lb.	cwt.	cwt.	cwt.	lb.
1936....	518,028	7,967,082	190,702	624,629	3,289,994	360,574	1,554,454	44,002	2,145,790
1937....	461,084	11,533,292	190,167	810,348	2,569,177	404,673	1,663,339	14,288	2,445,871
1938....	478,772	10,492,071	140,419	575,987	4,458,578	252,089	1,449,431	17,125	2,507,683
1939....	517,181	10,644,601	103,715	728,504	4,414,955	490,708	1,705,877	10,445	2,304,618
1940....	527,511	11,665,678	177,638	1,177,854	3,857,310	440,215	2,271,449	874	2,392,833
1941....	535,920	10,613,994	224,313	1,493,046	2,006,423	453,238	2,685,221	Nil	807,371
1942....	304,786	3,420,531	101,244	738,235	1,452,330	356,540	2,802,545	"	106,015
1943....	412,699	3,089,133	187,036	459,085	1,323,847	347,652	1,509,916	"	Nil
1944....	445,829	1,902,400	306,224	164,536	1,380,157	230,597	1,816,530	"	"
1945....	418,838	3,293,622	244,814	186,609	1,581,290	121,689	2,023,135	"	"
1946....	430,849	2,661,722	82,555	300,523	1,745,604	95,687	1,916,390	448	22,893
1947....	498,118	1,862,044	49,321	774,154	1,589,359	350,083	2,039,139	Nil	342,850

Year	Wool, Raw[1]	Noils and Worsted Tops	Artificial Silk Rovings, Yarns, etc.	Manila, Sisal, Istle, Tampico	Rags, Waste Paper, and Other Waste	Iron Ore	Alumina, Bauxite, Cryolite	Tin in Blocks, Ingots, etc.	Petroleum, Crude for Refining
	cwt.	cwt.	lb.	cwt.	cwt.	ton	cwt.	cwt.	'000 gal.
1926....	153,626	74,985	1,801,825	481,165	1,369,957	1,465,715	1,515,464	51,079	570,444
1927....	143,538	83,967	1,978,376	606,937	1,402,259	1,487,366	2,556,836	48,338	684,713
1928....	142,712	81,823	2,043,830	654,766	1,304,091	2,222,897	3,344,419	53,587	854,411
1929....	120,861	71,406	2,221,609	602,046	1,575,321	2,447,807	2,901,893	57,145	1,065,909
1930....	94,590	57,912	2,373,781	461,899	1,356,564	1,485,429	2,185,006	52,737	1,021,035
1931....	108,486	68,272	1,780,989	458,774	1,342,878	808,420	1,963,271	41,258	1,020,762
1932....	87,171	88,335	1,088,393	746,029	909,984	67,567	1,035,373	31,484	910,207
1933....	137,611	110,028	1,757,017	698,593	815,928	205,703	1,098,721	28,341	98,090
1934....	149,322	97,022	1,210,600	482,830	1,123,697	977,341	1,643,467	39,999	1,074,291
1935....	148,722	127,744	1,214,656	524,572	1,125,868	1,509,933	2,551,217	46,770	1,156,818
1936....	227,816	130,665	1,167,936	627,885	1,120,323	1,317,033	3,489,358	48,468	1,251,504
1937....	244,267	119,677	2,022,144	449,401	1,384,137	2,124,972	6,219,124	58,798	1,361,348
1938....	155,244	105,245	1,756,813	444,613	895,206	1,302,430	7,494,629	52,752	1,228,091
1939....	190,777	123,051	3,128,339	556,842	1,330,024	1,764,844	10,210,575	58,257	1,297,660
1940....	355,618	180,170	3,482,255	877,626	1,845,171	2,418,237	13,963,054	118,378	1,491,072
1941....	486,223	153,664	4,690,108	931,427	1,299,646	3,254,655	23,232,943	174,381	1,637,465
1942....	739,494	126,369	3,541,497	788,081	1,036,298	2,701,968	26,679,928	72,051	1,542,597
1943....	795,033	80,884	3,317,187	740,955	944,393	3,906,425	60,661,690	26,311	1,739,505
1944....	281,475	62,492	10,161,758	810,906	1,098,846	3,126,649	26,613,324	26,823	1,996,445
1945....	304,923	72,849	13,954,822	730,086	1,125,341	3,739,867	18,880,295	71,950	1,987,943
1946....	532,407	118,787	7,874,871	967,970	1,767,857	2,281,677	25,723,852	84,020	2,218,963
1947....	395,439	121,067	21,975,689	937,017	2,042,162	3,944,550	28,002,714	88,723	2,395,283

[1] Includes hair of the camel, alpaca, goat, etc.

18.—Imports and Exports, by Main Groups and Degree of Manufacture, According to Origin, 1947

Origin	Imports			Domestic Exports		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
Farm Origin	$	$	$	$	$	$
CANADIAN FARM PRODUCTS[1]						
Field Crops—						
Raw materials	122,447	61,287,680	68,294,648	236,795,528	31,869,503	378,771,136
Partly manufactured	7,054	4,272,122	4,998,172	296,415	479,963	1,949,292
Fully or chiefly manufactured	11,002,902	28,197,449	44,269,347	80,586,742	27,076,269	265,880,348
Totals, Field Crops	11,132,403	93,757,251	117,562,167	317,678,685	59,425,735	646,600,776
Animal Husbandry—						
Raw materials	1,295,707	17,090,294	38,824,699	39,125,665	23,649,024	70,824,448
Partly manufactured	9,568,596	11,836,196	26,394,201	4,396,392	5,220,848	15,190,239
Fully or chiefly manufactured	39,819,308	26,745,450	76,152,066	93,806,714	2,940,185	142,699,738
Totals, Animal Husbandry	50,683,611	55,671,940	141,370,966	137,328,771	31,810,057	228,714,425
All Canadian Farm Products—						
Raw materials	1,418,154	78,377,974	107,119,347	275,921,193	55,518,527	449,595,584
Partly manufactured	9,575,650	16,108,318	31,392,373	4,692,807	5,700,811	17,139,531
Fully or chiefly manufactured	50,822,210	54,942,899	120,421,413	174,393,456	30,016,454	408,580,086
TOTALS, CANADIAN FARM PRODUCTS	61,816,014	149,429,191	258,933,133	455,007,456	91,235,792	875,315,201
FOREIGN FARM PRODUCTS[1]						
Field Crops—						
Raw materials	128,368	86,594,379	167,255,905	3,371	3,387,021	10,616,191
Partly manufactured	27,381	4,558,428	65,784,859	11,630	839,099	942,809
Fully or chiefly manufactured	26,947,440	154,020,810	260,313,643	3,699,844	6,894,777	44,277,368
Totals, Field Crops	27,103,189	245,173,617	493,354,407	3,714,845	11,120,897	55,836,368
Animal Husbandry—						
Raw materials	155,326	6,839,852	8,404,094	Nil	Nil	Nil
Partly manufactured	Nil	45,398	46,040	"	"	"
Fully or chiefly manufactured	711,582	6,058,468	7,703,728	"	154	15,425
Totals, Animal Husbandry	866,908	12,943,718	16,153,862	–	154	15,425
All Foreign Farm Products—						
Raw materials	283,694	93,434,231	175,659,999	3,371	3,387,021	10,616,191
Partly manufactured	27,381	4,603,826	65,830,899	11,630	839,099	942,809
Fully or chiefly manufactured	27,659,022	160,079,278	268,017,371	3,699,844	6,894,931	44,292,793
TOTALS, FOREIGN FARM PRODUCTS	27,970,097	258,117,335	509,508,269	3,714,845	11,121,051	55,851,793

[1] In this classification the expression "Canadian Farm Products" refers, in the case of exports, to commodities actually produced, in their original state, on Canadian farms. In the case of imports, it covers all commodities of which the basic raw materials are such as Canadian farms produce. "Foreign Farm Products" covers, in both imports and exports, materials or commodities such as Canada does not produce in their original forms, e.g., cane sugar, tea, rubber, cotton, silk, etc.

18.—Imports and Exports, by Main Groups and Degree of Manufacture, According to Origin, 1947—concluded

Origin	Imports			Domestic Exports		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	$	$	$	$	$	$
Farm Origin—concluded						
ALL FARM PRODUCTS—						
All Field Crops—						
Raw materials	250,815	147,882,059	235,550,553	236,798,899	35,256,524	389,387,327
Partly manufactured	34,435	8,830,550	70,783,031	308,045	1,319,062	2,892,101
Fully or chiefly manufactured	37,950,342	182,218,259	304,582,990	84,286,586	33,971,046	310,157,716
Totals, All Field Crops	38,235,592	338,930,868	610,916,574	321,393,530	70,546,632	702,437,144
All Animal Husbandry—						
Raw materials	1,451,033	23,930,146	47,228,793	39,125,665	23,649,024	70,824,448
Partly manufactured	9,568,596	11,881,594	26,440,241	4,396,392	5,220,848	15,190,239
Fully or chiefly manufactured	40,530,890	32,803,918	83,855,794	93,806,714	2,940,339	142,715,163
Totals, All Animal Husbandry	51,550,519	68,615,658	157,524,828	137,328,771	31,810,211	228,729,850
All Farm Products—						
Raw materials	**1,701,848**	**171,812,205**	**282,779,346**	**275,924,564**	**58,905,548**	**460,211,775**
Partly manufactured	**9,603,031**	**20,712,144**	**97,223,272**	**4,704,437**	**6,539,910**	**18,082,340**
Fully or chiefly manufactured	**78,481,232**	**215,022,177**	**388,438,784**	**178,093,300**	**36,911,385**	**452,872,879**
Totals, Farm Origin	**89,786,111**	**407,546,526**	**768,441,402**	**458,722,301**	**102,356,843**	**931,166,994**
Wild Life Origin						
Raw materials	92,728	6,452,387	6,919,794	7,361,701	19,948,195	28,112,197
Partly manufactured	272,570	1,354,372	1,650,345	10,906	200,249	598,856
Fully or chiefly manufactured	215,975	660,501	899,867	7,615	242,502	412,896
Totals, Wild Life Origin	**581,273**	**8,467,260**	**9,470,006**	**7,380,222**	**20,390,946**	**29,123,949**
Marine Origin						
Raw materials	3,236	1,192,390	3,060,582	300,341	38,191,158	38,729,159
Partly manufactured	Nil	Nil	Nil	Nil	95,316	95,316
Fully or chiefly manufactured	158,445	1,781,657	10,369,642	6,459,723	7,133,759	45,182,149
Totals, Marine Origin	**161,681**	**2,974,047**	**13,430,224**	**6,760,064**	**45,420,233**	**84,006,624**
Forest Origin						
Raw materials	Nil	2,333,584	2,524,352	8,939,007	41,676,705	51,547,530
Partly manufactured	28,723	20,160,990	21,137,859	111,123,674	244,785,448	423,533,113
Fully or chiefly manufactured	2,516,892	63,768,616	71,484,995	16,071,707	325,175,794	412,072,522
Totals, Forest Origin	**2,545,615**	**86,263,190**	**95,147,206**	**136,134,388**	**611,637,947**	**887,153,165**
Mineral Origin						
Raw materials	1,072,555	249,969,726	318,872,336	10,600,021	41,169,474	65,950,546
Partly manufactured	9,116,717	15,344,812	32,660,831	100,146,058	116,284,583	279,355,823
Fully or chiefly manufactured	52,692,541	973,185,391	1,057,554,228	18,562,665	57,424,283	335,352,720
Totals, Mineral Origin	**62,881,813**	**1,238,499,929**	**1,409,087,395**	**129,308,744**	**214,878,340**	**680,659,089**
Mixed Origin						
Raw materials	–	41,859	41,859	Nil	Nil	Nil
Partly manufactured	71,609	6,803,833	7,172,331	"	99,469	101,870
Fully or chiefly manufactured	33,341,753	224,082,534	271,153,702	12,892,676	39,442,616	162,690,664
Totals, Mixed Origin	**33,413,362**	**230,928,226**	**278,367,892**	**12,892,676**	**39,542,085**	**162,792,534**
Recapitulation						
Raw materials	**2,870,367**	**431,802,151**	**614,198,269**	**303,125,634**	**199,891,080**	**644,551,207**
Partly manufactured	**19,092,650**	**64,376,151**	**159,844,638**	**215,985,075**	**368,004,975**	**721,767,318**
Fully or chiefly manufactured	**167,406,838**	**1,478,500,876**	**1,799,901,218**	**232,087,686**	**466,330,339**	**1,408,583,830**
Grand Totals	**189,369,855**	**1,974,679,178**	**2,573,944,125**	**751,198,395**	**1,034,226,394**	**2,774,902,355**

19.—Imports and Exports, by Groups, According to Purpose, 1947

Group and Purpose	Imports			Domestic Exports		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
	$	$	$	$	$	$
Producers Materials						
FARM MATERIALS						
Fodders	889	25,805,896	26,041,707	6,161,757	12,982,493	58,549,218
Fertilizers	9,487	4,889,505	6,803,204	655,311	18,219,219	34,472,491
Seeds	37,748	1,360,840	1,671,255	3,169,130	7,339,423	16,677,147
Other	335,914	4,348,072	4,884,018	620	3,457,357	3,460,531
TOTALS, FARM MATERIALS	384,038	36,404,313	39,400,184	9,986,818	41,998,492	113,159,387
MANUFACTURERS MATERIALS						
Foodstuffs and beverages	147,819	8,323,782	10,752,468	208,995,482	362,482	265,444,104
Tobacco, smokers supplies	2,454	1,076,912	2,873,238	11,392,374	1,070	12,602,539
Textiles, clothing, cordage	63,030,098	176,081,172	313,846,610	951,599	4,089,623	21,084,748
Fur and leather goods	2,842,270	28,684,783	40,656,068	11,766,241	25,134,021	43,325,162
Sawmills	Nil	Nil	Nil	892,798	2,082,763	3,882,962
Rubber industries	276,917	8,046,563	21,375,270	9,898	1,012,555	8,275,075
Other manufacturers	18,262,589	354,132,497	480,329,965	159,547,469	654,735,760	982,294,864
TOTALS, MANUFACTURERS MATERIALS	84,562,147	576,345,709	869,833,619	393,555,861	687,418,274	1,336,909,454
BUILDING AND CONSTRUCTION MATERIALS	5,364,128	66,208,926	76,009,478	89,877,479	102,541,698	260,385,325
Totals, Producers Materials[1]	**90,398,344**	**680,514,078**	**986,890,193**	**493,488,292**	**832,295,635**	**1,713,250,980**
Producers Equipment						
Farm	721,801	108,113,955	110,388,023	3,671,998	44,740,894	64,859,193
Commerce and industry	17,766,546	288,989,836	309,934,418	7,301,540	17,651,085	88,693,816
Totals, Producers Equipment	**18,488,347**	**397,103,791**	**420,322,441**	**10,973,538**	**62,391,979**	**153,553,009**
Fuel, Electricity and Lubricants						
Fuel	515,554	173,978,876	180,543,626	1,479,826	5,326,807	15,926,105
Electricity	Nil	119,304	119,304	Nil	5,608,247	5,610,805
Lubricants	10,174	5,683,417	5,729,396	4,162	407,584	930,246
Totals, Fuel, etc.	**525,728**	**179,781,597**	**186,392,326**	**1,483,988**	**11,342,638**	**22,467,156**
Transport						
Road	4,132,392	192,438,022	196,683,715	1,080,823	5,667,595	110,016,237
Rail	19,203	2,805,405	2,827,593	1,617	49,979	19,040,426
Water	266,134	7,381,446	7,661,971	10,747	1,101,476	24,930,044
Aircraft	5,152,125	12,973,685	18,129,517	411,781	786,149	5,899,535
Totals, Transport	**9,569,854**	**215,598,558**	**225,302,796**	**1,504,968**	**7,605,199**	**159,886,242**
Auxiliary Materials for Commerce and Industry						
Advertising material	117,485	2,173,625	2,311,753	Nil	Nil	Nil
Containers	1,106,576	20,323,287	23,243,178	699,228	1,478,767	13,024,221
Other	72,871	4,137,897	4,223,572	Nil	Nil	Nil
Totals, Auxiliary Materials	**1,296,932**	**26,634,809**	**29,778,503**	**699,228**	**1,478,767**	**13,024,221**

[1] Totals include other items not stated.

19.—Imports and Exports, by Groups, According to Purpose, 1947—concluded

Group and Purpose	Imports			Domestic Exports		
	United Kingdom	United States	All Countries	United Kingdom	United States	All Countries
Consumer Goods	$	$	$	$	$	$
Foods	1,457,502	97,570,655	209,101,826	221,867,489	61,391,575	508,557,137
Beverages	5,942,662	9,989,781	54,512,775	774,975	19,714,513	31,104,147
Smokers supplies	280,125	998,120	1,640,495	73	9,143	1,554,655
Clothing	14,142,570	28,024,985	44,874,901	3,961,091	2,730,821	33,057,246
Household goods	25,455,063	84,891,631	118,058,191	1,044,966	3,136,185	31,860,285
Jewellery, timepieces, etc.	1,673,910	8,027,324	17,227,520	148,505	231,649	1,605,047
Books, educational supplies, etc.	1,853,127	27,013,188	29,907,511	2,055,432	2,300,580	13,636,166
Recreation equipment, etc.	2,416,845	17,638,613	21,620,614	402,344	2,693,964	8,302,361
Medical supplies, etc.	1,576,846	22,246,881	26,421,043	1,304,839	1,314,229	7,977,539
Other	1,316,210	4,525,102	6,416,684	19,052	19,747	2,167,632
Totals, Consumer Goods	**56,114,860**	**300,926,280**	**529,781,560**	**231,578,766**	**93,542,406**	**639,822,215**
Totals, Munitions and War Stores	**1,839,007**	**6,151,089**	**8,066,106**	**1,045,003**	**16,369**	**2,818,342**
Totals, Live Animals for Food	Nil	**7,153**	**7,153**	Nil	**3,813,428**	**4,623,715**
Totals, Unclassified	**11,136,783**	**167,961,823**	**187,403,047**	**10,424,612**	**21,739,973**	**65,456,475**
Grand Totals	**189,369,855**	**1,974,679,178**	**2,573,944,125**	**751,198,395**	**1,034,226,394**	**2,774,902,355**

PART III.—SUMMARY OF EXTERNAL TRANSACTIONS

Section 1.—Canadian Balance of International Payments*

Although Canada continued to have a small current surplus of exports of goods and services over imports in 1947, acute balance of payments problems developed during the year with the rapid decline in official reserves of gold and United States dollars. The principal factor contributing to the loss of reserves was the great expansion in the current trade deficit with the United States at a time when a large part of the current surplus of exports to other countries was financed by loans and export credits from the Federal Government and, consequently, did not yield convertible exchange.

The surplus of credits on current account with all countries was $47,000,000, excluding contributions for official relief of $38,000,000. No convertible exchange was received from exports to overseas countries which were financed by export credits of $563,000,000. In addition, there were net outflows of capital of $154,000,000, mainly for the redemption of Canadian securities owned abroad which also led to withdrawals from Canada's official reserves, as well as the gold subscription of $74,000,000, by Canada to the International Monetary Fund. These combined factors led to a loss of official reserves of $743,000,000 during 1947.

Wide gaps in Canada's current accounts with overseas countries and the United States are not a new feature of Canada's balance of payments. In pre-war years, current surpluses with overseas countries normally produced convertible exchange which was available for meeting current deficits in the United States. But the size of the deficit with the United States in 1947 was unprecedented and the current surpluses with the United Kingdom and other overseas countries were larger than

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in any previous peacetime year. The record size of these opposite types of disequilibrium together with the international financial difficulties of many of Canada's overseas customers produced a combination of conditions which led to heavy drains on Canada's official reserves even though there was still a surplus on current account with all countries.

The principal changes which took place in 1947, in comparison with 1946 when there was a much smaller loss of official reserves, were the reductions in the current account surplus to $47,000,000 from the surplus of $357,000,000 in 1946 and the widening of the gaps in both the accounts with the United States and with overseas countries. Canada's current deficit with the United States increased from $613,000,000 in 1946 to $1,138,000,000 in 1947. At the same time the current surplus with overseas countries increased from $970,000,000 to $1,185,000,000 of which export credits and loans by the Canadian Government financed $563,000,000. The corresponding financial aid from Canada, in 1946, was $750,000,000. Finally, other capital movements were outward in 1947 in contrast to inward movements in 1946.

Because of the loss of official reserves remedial measures referred to on p. 935 were introduced in November, 1947, by the Federal Government. These were to have far-reaching effects upon the Canadian balance of payments, being designed both to conserve the expenditure of United States dollars and to provide for increased receipts of dollars. At the same time, arrangements for a credit to the Federal Government of $300,000,000 from the Export-Import Bank of Washington, to be available during 1948, were announced as a source of United States dollars to supplement the remaining official reserves.

Transactions with the Sterling Area.—The current surplus from net exports of goods and services to the countries of the Sterling Area rose from $669,000,000 in 1946 to $872,000,000 in 1947, the highest point reached in any peacetime year. Transactions with the United Kingdom accounted for $632,000,000 and transactions with other Sterling Area countries amounted to $240,000,000. Record peacetime levels of exports to both the United Kingdom and other Sterling Area countries were the principal factors contributing to the increased current surplus. British purchases of food and raw materials, much of which was covered by official contracts, made up most of the exports of $750,000,000 to the United Kingdom. There was a general expansion in exports to other countries of the Sterling Area to a total of $366,000,000 as supplies of Canadian commodities increased. The expansion was also affected by the general removal of import restrictions in these countries in 1946. Although many of these restrictions abroad were reimposed late in 1947 their restrictive effects on Canadian exports were not notable during the year. Increases in exports to Australia, Eire, New Zealand, the British West Indies and other Colonial areas were particularly notable with resulting substantial export balances. Exports to British South Africa and India were slightly less than in 1946, although in the former case the export balance was higher and continued to be the largest single source of net credits with other Sterling Area countries.

Other factors contributing to the credit balance with the Sterling Area are freight and shipping transactions. Besides the earnings of Canadian transportation companies on inland freight there were substantial earnings of Canadian shipping companies from carrying exports to the United Kingdom and other Empire countries. In addition, the expenditures of British ships in Canadian ports are large. Miscellaneous current transactions including unilateral items like transfers of immigrant funds and inheritances also contributed to the credit balance with the Sterling Area.

Imports from the United Kingdom and from other countries of the Sterling Area were appreciably higher in 1947 than in 1946 due, notably, to important gains in imports of British textiles. Total current payments, however, to the United Kingdom by Canada were slightly less in 1947 because of the decline in overseas expenditures by the Federal Government, which amounted to $73,000,000 in 1946. Payments of interest and dividends by Canada to the United Kingdom declined as compared with 1946, due mainly to a decrease in interest payable arising from the continued repatriation of bonds. At the same time, Canadian travel expenditures in the United Kingdom increased sharply following the return of some passenger liner services and the expansion of transatlantic air travel.

The principal methods of financing the British current account deficiency in Canada were by drawings on the Canadian loan and sales of convertible exchange. Drawings of $423,000,000 on the $1,250,000,000 Canadian loan covered about one-half of the current account balance with the Sterling Area in comparison with $540,000,000 in 1946. Receipts of convertible exchange from the United Kingdom totalled $505,000,000 during 1947. These negotiated receipts of convertible exchange in 1947 should be related to the total British drawings on the Canadian loan of $963,000,000 to the end of 1947, as no convertible exchange had been received from the United Kingdom in 1946 following the receipt of gold in March of that year in connection with the settlement of war claims. While the United Kingdom at the beginning of 1947 introduced arrangements for the convertibility of sterling with respect to transactions with Canada and a number of other countries, it should be noted that these arrangements during the period up to August in which they were in effect, had only minor effects upon the way in which transactions were carried out between Canada and other countries. Other capital movements between Canada and the Sterling Area, in 1947, included outflows for the redemption of Canadian securities of approximately $41,000,000 and repurchases of about $9,000,000 of outstanding Canadian securities from the United Kingdom. In an opposite direction was the repayment by the United Kingdom of $104,000,000 on the 1942 loan from the Federal Government.

Current Deficit with the United States.—A very large increase occurred in current expenditures by Canada in the United States in 1947. This led to an expansion in the current deficit with the United States which rose from $613,000,000 in 1946 to $1,138,000,000 in 1947.

The great rise in expenditures in the United States was affected by unprecedented demands, improving supplies of commodities in the United States at a time when supplies elsewhere were subnormal, and by the increase in the level of prices in that country. At the same time Canadian exports of many staple commodities to the United States were prevented from rising by available productive capacity in Canada which was fully utilized. Contributing to the unprecedented Canadian demands for United States goods was the exceptional volume of investment in Canada. Demands from these expenditures were superimposed upon existing heavy Canadian demands arising from the high levels of Canadian consumption stimulated by continued high incomes from exports as well as by exceptional investment activity. The accumulation of savings and deferred demands of the wartime period contributed further to the level of Canadian imports.

Of paramount importance as a factor in increasing imports in 1947 was the volume of domestic investment. Gross domestic investment in plants, equipment and housing increased by more than one-half in 1947 compared with 1946. The

exceptional strength of these demands is also indicated by the ratio of gross home investment to gross national expenditure which was over 21 p.c. in 1947 compared with about 15 p.c. in 1946 and about 11 p.c. immediately before the Second World War. Investments in industrial plants and equipment have a particularly high United States dollar content giving rise to imports of machinery and industrial equipment and steel and other materials purchased in the United States. The general rise in Canadian inventories also had a substantial United States dollar content. The combined effect of these exceptionally heavy demands was to increase the ratio which Canadian imports of merchandise represent of the gross national product of Canada to a new high of 19·4 p.c. in 1947 compared with 15·6 p.c. in 1946.

Canadian imports from the United States rose from close to $1,400,000,000 in 1946 to just under $2,000,000,000 in 1947. The increase was distributed among all the principal groups of commodities. Approximately one-half of the increase in value occurred in imports of metal products which made up 43 p.c. of the total imports from the United States. Many of the direct demands arising from Canadian investment activities are reflected in this group of imports which includes machinery of all kinds and industrial materials such as steel. Other important gains in imports of fuels such as coal and petroleum also arose from the exceptional level of economic activity in Canada. The principal gain in imports of consumer goods was in textiles, particularly in cotton products. Other types of commodities imported from the United States also increased appreciably but gains were not as marked as in the case of the groups already noted.

Although the largest single contributor to the increased current deficit with the United States was the rise in the merchandise deficit there were also other important contributory factors. Larger outlays on both income and transportation account were outstanding among the changes in non-commodity transactions. The increase in payments on income account was due mainly to the great increase in dividends paid by Canadian subsidiaries to United States parent companies, reflecting larger earnings as well as some withdrawals of income accumulation in earlier years. Increases in dividend payments were only slightly offset by the decline in payments of interest on Canadian bonds and debentures held in the United States. The increased deficit on transportation account was a result of the greater volume of Canadian imports from the United States combined with higher freight rates in the United States. In addition to these increased payments there was a decline in non-recurring receipts of dollars through War Supplies Limited, although some substantial refunds by the United States of war expenditures, in 1947, tended to offset part of this decline in receipts. At the same time receipts from gold production remained relatively stable and the balance of receipts from the tourist trade was less than in 1946 because of the large rise in Canadian travel expenditures in the United States which was even greater than the appreciable increase in United States travel expenditures.

Capital Movements with the United States Dollar Area and Changes in Official Reserves.—The current deficit with the United States of $1,138,000,000 exceeded receipts of convertible exchange from other countries by $500,000,000.

Convertible exchange from the United Kingdom and from other overseas countries of $638,000,000 was received in the financing of part of the credit balance on current account with overseas countries of $1,185,000,000. In addition, there were net capital outflows of $163,000,000 to the United States dollar area and Canada's gold subscription to the International Monetary Fund of $74,000,000 which also contributed to the reduction in official liquid reserves during 1947 of $743,000,000. These reserves amounted to $502,000,000 at the end of 1947 compared with $1,245,000,000 at the end of 1946.

The general effect of these changes on capital account with the United States dollar area was to increase the balance of Canadian indebtedness to the United States dollar area by close to one-half billion dollars when account is taken of the decline in official reserves. Capital movements within the United States dollar area, apart from the reduction in the official reserves, had the effect of reducing Canadian indebtedness to the United States as there were predominant outflows of capital from the redemption of securities which were only partly offset by inflows for direct investment in Canada and other purposes.

Security transactions made up the largest part of the capital movements as in recent years but the principal group of transactions in 1947 was the redemption of issues held in the United States and other foreign countries which amounted to $223,000,000 during the year. Besides normal maturities there were some substantial issues called in advance of maturity. Other transactions in Canadian securities were largely offsetting in contrast to the predominant capital inflows from the sale of outstanding securities characteristic of early years. Capital movements which were not in connection with security transactions resulted in net inflows of capital to Canada both through liquidations of Canadian assets abroad and increases in Canadian liabilities to the United States, including inflows of capital for direct investment in Canada.

In addition to the gold subscription to the International Monetary Fund there was the subscription made in Canadian currency, $194,000,000 in the form of non-interest bearing demand notes and about $31,000,000 in the form of a cash balance. Canada's subscription made to the International Bank for Reconstruction and Development in 1947 was in the form of non-interest bearing demand notes totalling $32,500,000.

Transactions with Other Foreign Countries.—Net exports of goods and services to other foreign countries amounted to $351,000,000 in 1947 but a major part of this current surplus did not yield convertible exchange as a large volume of exports was financed by export credits or other Government assistance. Official contributions of relief made up $38,000,000 of the above current account balance leaving $313,000,000 to be financed by capital outflows or receipts of convertible exchange. Net export credits from the Federal Government financed $140,000,000, of this current balance compared with $209,700,000 in 1946 and $104,600,000 in 1945. Net receipts of convertible exchange from foreign countries overseas as a group are estimated at $133,000,000 in 1947. Most of these net receipts originated in trade with Europe.

1.—Current Account Between Canada and All Countries, 1926-47

(Net Credits + : Net Debits −)
(Millions of Canadian Dollars)

Year	Current Receipts	Current Expenditures	Mutual Aid and Other Official Contributions in Current Account	Net Balance on Current Account	Year	Current Receipts	Current Expenditures	Mutual Aid and Other Official Contributions in Current Account	Net Balance on Current Account
1926.....	1,665	1,538	-	+127	1937....	1,593	1,413	-	+180
1927.....	1,633	1,643	-	−10	1938....	1,361	1,261	-	+100
1928.....	1,788	1,820	-	−32	1939....	1,457	1,331	-	+126
1929.....	1,646	1,957	-	−311	1940....	1,776	1,627	-	+149
1930.....	1,297	1,634	-	−337	1941....	2,458	1,967	-	+491
1931.....	972	1,146	-	−174	1942....	3,376	2,275	+1,002	+99[1]
1932.....	808	904	-	−96	1943....	4,064	2,858	+518	+688[1]
1933.....	829	831	-	−2	1944....	4,557	3,539	+960	+58[1]
1934.....	1,020	952	-	+68	1945....	4,452	2,910	+858	+684[1]
1935.....	1,145	1,020	-	+125	1946....	3,359	2,905	+97	+357[1]
1936.....	1,430	1,186	-	+244	1947....	3,733	3,648	+38	+47[1]

[1] Excluding Mutual Aid and official contributions.

2.—Geographical Distribution of the Balance on Current Account Between Canada and Other Countries, 1926-47

(Net Credits +: Net Debits −)
(Millions of Canadian Dollars)

Year	United Kingdom[1]	Other Overseas Countries[2]	United States[3]	All Countries	Year	United Kingdom[1]	Other Overseas Countries[2]	United States[3]	All Countries
1926.....	+58	+300	−231	+127	1937....	+135	+122	−77	+180
1927.....	−19	+257	−248	−10	1938....	+127	+122	−149	+100
1928.....	−21	+338	−349	−32	1939....	+137	+105	−116	+126
1929.....	−99	+225	−437	−311	1940....	+343	+98	−292	+149
1930.....	−106	+113	−344	−337	1941....	+734	+75	−318	+491
1931.....	−54	+85	−205	−174	1942....	+1,223	+58	−180	+1,101
1932.....	−14	+86	−168	−96	1943....	+1,149	+76	−19	+1,206
1933.....	+26	+85	−113	−2	1944....	+746	+241	+31	+1,018
1934.....	+46	+102	−80	+68	1945....	+747	+763	+32	+1,542
1935.....	+62	+92	−29	+125	1946....	+500	+567	−613	+454
1936.....	+122	+123	−1	+244	1947[4]...	+632	+591	−1,138	+85

[1] Excluding wheat exports diverted to other overseas countries, and exports of gold. [2] Including estimated wheat sold in European countries. [3] Including all net exports of non-monetary gold. [4] Subject to revision.

3.—Balance of International Payments Between Canada and All Countries, 1940-47

(Millions of Canadian Dollars)

Item	1940	1941	1942	1943	1944	1945	1946	1947[1]
A. Current Credits—								
Merchandise exports (adjusted)	1,202	1,732	2,515	3,050	3,590	3,474	2,393	2,723
Net exports of non-monetary gold	203	204	184	142	110	96	96	99
Tourist and travel expenditures	104	111	81	88	119	165	221	245
Interest and dividends	52	60	67	59	71	76	64	62
Freight and shipping	138	185	221	288	322	340	311	321
All other current credits	77	166	308	437	345	301	274	283
Totals, Current Credits	1,776	2,458	3,376	4,064	4,557	4,452	3,359	3,733
B. Current Debits—								
Merchandise imports (adjusted)	1,006	1,264	1,406	1,579	1,398	1,442	1,822	2,535
Tourist and travel expenditures	43	21	26	36	58	83	135	167
Interest and dividends	313	286	270	261	264	251	312	335
Freight and shipping	132	167	228	294	252	222	219	275
Canadian overseas expenditures	29	97	191	499	1,085	721	104	-
All other current debits	104	132	154	189	482	191	313	336
Totals, Current Debits	1,627	1,967	2,275	2,858	3,539	2,910	2,905	3,648
C. Net Balance on Current Account	+149	+491	+1,101	+1,206	+1,018	+1,542	+454	+85
D. Capital Transactions—								
Net retirements of Canadian securities held abroad	−191	−229	−351	−176	−108	−120	−315	−272
Net sales of outstanding securities by Canada (+) or purchases (−)	+5	+38	+148	+272	+198	+355	+220	−5
Net loans and advances by Canadian Government to other countries[2]—								
Loan of 1942 to United Kingdom	-	-	−700	+18	+57	+64	+89	+104
Other loans and advances	-	-	-	-	-	−105	−750	−563
Change in liquid reserves of gold and U.S. Dollars (increase (−))	+79	+160	−144	−364	−278	−667	+251	+743
Change in Sterling balances (increase (−))	−82	−728	+818	-	+4	−1	+15	−1
Other capital movements	+1	+262	+123	−427	+79	−215	+129	−54
Net movement of capital	−188	−497	−106	−677	−48	−689	−361	−48
Mutual Aid and 1942 contribution	-	-	−1,000	−512	−936	−748[3]	−15	-
Contributions to UNRRA, military and other relief	-	-	−2	−6	−24	−110	−82	−38
Balancing item[4]	+39	+6	+7	−11	−10	+5	+4	+1

[1] Subject to revision. [2] Excluding repayments of $5,000,000 on Wheat Loan to Russia (U.S.S.R.) in 1946 and 1947, and interim advances to Sterling Area in 1945 and 1946 which are included in Other Capital Movements $209,000,000 in 1945 and $112,000,000 in 1946. [3] Preliminary figures originally issued by the Mutual Aid Board have been revised. [4] This balancing item reflects possible errors and the omission of certain factors which cannot be measured statistically.

4.—Balance of International Payments Between Canada and the Sterling Area, 1940-47

(Millions of Canadian Dollars)

Item	1940	1941	1942	1943	1944	1945	1946	1947[1]
A. Credits—								
Merchandise exports — after adjustment	699	1,098	1,541	1,763	1,970	1,776	895	1,116
Tourist expenditures	6	3	2	1	2	2	4	8
Interest and dividends	3	5	7	5	9	8	9	12
Freight and shipping	76	119	127	148	169	183	141	153
War services	20	74	130	128	128	81	18	-
All other current credits	18	22	19	21	29	38	82	93
Totals, Current Credits	822	1,321	1,826	2,066	2,307	2,088	1,149	1,382

[1] Subject to revision.

4.—Balance of International Payments Between Canada and the Sterling Area, 1940-47—concluded

Item	1940	1941	1942	1943	1944	1945	1946	1947[1]
B. Debits—								
Merchandise imports — after adjustment	236	279	226	200	196	213	267	342
Tourist expenditures	3	3	2	2	2	2	4	12
Interest and dividends	76	68	51	52	56	54	55	52
Freight and shipping	36	36	49	47	33	34	38	41
Canadian overseas expenditures	29	97	191	499	1,085	696	73	-
All other current debits	23	33	38	50	56	47	43	63
Totals, Current Debits	403	516	557	850	1,428	1,046	480	510
C. Net Balance on Current Account	+419	+805	+1,269	+1,216	+879	+1,042	+669	+872
D. Capital Transactions—								
War Loan to United Kingdom	-	-	−700	+18	+57	+64	+89	+104
Post-war Loan to United Kingdom	-	-	-	-	-	-	−540	−423
Official repatriations	−137	−188	−296	−4	−2	−1	−1	-
Change in £ Balances (decrease (+))	−82	−728	+818	-	+4	−1	+15	−1
All other capital movements (net)	+5	+109	−67	−580	−57	−412	−78	−50
Net Movement of Capital	−214	−807	−245	−566	+2	−350	−515	−370
Mutual Aid and 1942 contribution	-	-	−1,000	−503	−834	−660	−5	-
Special Receipts of convertible exchange[2]	−248	-	−23	−143	−55	−33	−150	−505
Balancing item[3]	+43	+4	−1	−4	+8	+1	+1	+3

[1] Subject to revision. [2] This represents gold and United States dollars received from the United Kingdom in part settlement of her deficiency with Canada and used, in turn, to settle part of Canada's deficiency with the United States. [3] Balancing item reflects errors and omissions.

5.—Balance of International Payments Between Canada and Foreign Countries, 1940-47

(Millions of Canadian Dollars)

Item	1940	1941	1942	1943	1944	1945	1946	1947[1]
Current Account—								
Gross Credits	954	1,137	1,550	1,998	2,250	2,364	2,210	2,351
Gross Debits	1,224	1,451	1,718	2,008	2,111	1,864	2,425	3,138
Net Balance on Current Account	−270	−314	−168	−10	+139	+500	−215	−787
Capital Transactions—								
Net retirements of Canadian securities	−41	−31	−25	−162	−74	−88	−238	−231
Net sales of outstanding securities	+33	+74	+156	+298	+225	+396	+274	+4
Net change in liquid reserves of gold and United States dollars (decline (+) increase (−))	+79	+160	−144	−364	−278	−667	+251	+743
Export credits and interim advances (net)	-	-	-	-	-	−105	−210	−140
Other capital movements (net)	−45	+109	+152	+117	+77	+125	+77	−54[2]
Net Movement of Capital	+26	+312	+139	−111	−50	−339	+154	+322
Mutual Aid	-	-	-	−9	−102	−88	−10	-
Contributions to UNRRA, military and other relief	-	-	−2	−6	−24	−110	−82	−38
Special Receipts of convertible exchange[3]	+248	-	+23	+143	+55	+33	+150	+505
Balancing item[4]	−4	+2	+8	+7	−18	+4	+3	−2

[1] Subject to revision. [2] Includes the gold subscription of $74,000,000 to the International Monetary Fund as it reduced official reserves. [3] This represents gold and United States dollars received from the United Kingdom in part settlement of her deficiency with Canada and used, in turn, to settle part of Canada's deficiency with the United States. [4] Balancing item reflects errors and omissions.

6.—Current Transactions Between Canada and the United States, 1940-47

(Millions of Canadian Dollars)

Item	1940	1941	1942	1943	1944	1945	1946	1947[1]
A. Current Receipts from United States—								
Merchandise exports (adjusted)	424	566	911	1,224	1,444	1,134	948	1,059
Net exports of non-monetary gold	203	204	184	142	110	96	96	99
Tourist and travel expenditures	98	107	79	87	117	163	216	235
Interest and dividends	29	39	43	34	42	44	41	36
Freight and shipping	49	64	92	137	146	134	101	102
All other current credits	31	65	152	274	176	169	159	165
Total Current Receipts	834	1,045	1,461	1,898	2,035	1,740	1,561	1,696
B. Current Payments to United States—								
Merchandise imports (adjusted)	702	910	1,116	1,311	1,113	1,119	1,378	1,951
Tourist and travel expenditures	40	18	24	34	56	81	130	152
Interest and dividends	233	214	215	205	203	192	250	274
Freight and shipping	78	131	179	247	219	188	169	217
All other current debits	73	90	107	120	413[2]	128	247	240
Total Current Payments	1,126	1,363	1,641	1,917	2,004	1,708	2,174	2,834
C. Net Balance on Current Account with United States	−292	−318	−180	−19	+31	+32	−613	−1,138

[1] Subject to revision. [2] Includes $280,000,000 special payments to United States Treasury.

Section 2.—The Tourist Trade*

The tourist trade ranks among the important invisible items in Canada's balance of international payments. This is shown by the tables at pp. 943-944. Expenditures in Canada of travellers from other countries are comparable in their effect as a source of foreign exchange, to exports of commodities in the balance of payments and, similarly, the expenditures of Canadian travellers in other countries are comparable to imports of goods. Hence there is special significance in the balance of revenue remaining after total disbursements by Canadian travellers abroad have been deducted from total receipts left in Canada by departing non-residents.

Normally, disbursements or debits on account of tourists range between 45 and 55 p.c. of receipts or credits. Wartime restrictions on export of travel funds resulted in exceptionally low debits in the years 1941 to 1943, but modification of the restrictions since then brought back the debit position in 1945 and 1946. In fact Canadian travel abroad accompanied by retarded development of United States travel in Canada raised debits, in 1947, to the unprecedented level of 68 p.c. of credits. Actually, receipts from foreign travellers in that year were higher than in any other year since 1941, but due to abnormally high disbursements abroad, net credits were lower than in 1946.

The flow of travel across the International Boundary is unmatched at any other frontier, and the Canadian participation in this flow when considered in relation to the population of Canada is much greater than the United States participation

* Prepared under the direction of C. D. Blyth, Chief, Balance of Payments Section, International Trade Division, Dominion Bureau of Statistics, Ottawa.

in proportion to the population of the United States. In 1947, Canadian travel expenditures in the United States were about $12 per capita of the population of Canada, whereas American expenditures in Canada were not much more than $1·50 per capita of the population of the United States. On the other hand, average expenditures per traveller do not vary much as between Canadians and United States citizens when considered in the aggregate.

To conserve the supply of United States dollars, acute shortage of which was experienced by Canada, along with many other countries, in 1947, remedial measures were introduced by the Canadian Government in November of that year. Among other things restrictions were placed upon pleasure travel involving the expenditure of United States dollars. The new regulations limited the amount of United States dollars a Canadian resident was permitted to use for pleasure travel to $150 during the period of 12 months ended Nov. 15, 1948. Expenditures of reasonable amounts of United States dollars for business and other necessary reasons were, however, still permitted along with reasonable amounts to cover travel to countries of the Sterling Area. Purchases of foreign merchandise declared to the Canadian Customs by returning Canadians were drastically reduced by import prohibitions.

In spite of these restrictive measures, Canadians remain the most persistent border-crossing nationals in the world.

As a Canadian source of United States dollars the tourist industry ranks second after the export of newsprint. The employment created by the primary and secondary effects of the inflow of tourist funds is widely distributed throughout Canada. Although the whole Canadian economy benefits as a result, the benefit is of particular significance to otherwise unproductive parts of the country which are favoured with tourist attractions. The tourist trade has raised the standard of living in such areas. Good roads, better shops, improved quality and variety of merchandise, better hotels, better steamship and railway services and many other improvements have resulted.

The current trend towards increased social benefits in Canada and the United States has had considerable influence on the international tourist trade. Holidays with pay are now a common experience with a large number of industrial workers and, together with the almost universal advances in standard wage rates, have added considerably to the ability of workers in both the United States and Canada to enjoy extended vacations.

United States Travel Expenditures in Canada.—Expenditures in Canada in the year 1947 by tourists and other travellers from the United States totalled $235,000,000 an increase of 9 p.c. over the previous high mark established in 1946. The most encouraging feature of the 1947 season was the strong showing made by the automobile traffic which before the War formed the backbone of the tourist industry in Canada. United States dollars brought into Canada by motorists in 1947 almost equalled the aggregate amount brought in by persons crossing the International Boundary by all other means, and were more than six and one-half times more than in 1943 when automobile travel was severely curtailed by gasoline rationing, tire rationing, and other wartime restrictions.

Receipts from travellers arriving by train reached a peak of $67,000,000 in 1944, a condition resulting directly from restricted automobile traffic. The high level achieved in that year was reduced in successive years until by 1947 it was $56,000,000; however, even this amount is well above pre-war levels. Travel from the United States by water has made a continuous recovery from the low mark of 1942 when vessels of all kinds were either directly or indirectly involved in the war effort. In 1942, receipts from arrivals by boat were only $4,000,000. Five years later, in 1947, receipts were $22,000,000. On the eastern seaboard the resumption in the summer of 1947 of the popular steamship service between Boston and Yarmouth was an important contributing factor.

The growth in tourist traffic by air during the past decade has been spectacular. In 1939, receipts from aeroplane passengers amounted to approximately $1,000,000 annually; by 1947 they had reached $13,000,000 annually and showed a more rapid rate of increase than any other means of travel.

Receipts from passengers entering Canada by bus increased in 1947 but at a slower rate of increase than was shown by most other means of travel.

Canadian Travel Expenditures in the United States.—Expenditures of Canadian travellers in the United States during 1947 are estimated at $152,000,000, or $22,000,000 more than the previous record established in 1946. (For purposes of comparison it may be pointed out that, for the period of ten years immediately preceding the war, such expenditures were $52,000,000, and the pre-war high in 1929, was $81,000,000.) The increase in Canadian expenditures in the United States can be attributed not only to increased volume of traffic but to a rise in the average expenditure per person for almost all types of travel. Higher prices for practically all goods and services paid for by the travellers have contributed to the rise in expenditures.

As a means of conveying Canadian travellers across the International Boundary the automobile has always played a less important role than it has in bringing United States travellers to Canada. In 1947, automobile travel ranked third, after train and bus, when considered in relation to expenditures of Canadian travellers in the United States. However, automobile traffic is increasing more rapidly than bus traffic and as production is increased may bring a reversal of the relative positions of these two means of conveyance.

Expenditures of Canadians returning from the United States by rail in 1947 showed an increase of 5 p.c. over those of 1946. This increase was due entirely to higher average spending per passenger, as the number of travellers by rail showed a slight decline. Expenditures of Canadians returning by boat, plane and other miscellaneous means of conveyance in 1947, were only 22 p.c. of the total, a slight increase over 1946.

Travel Between Canada and Overseas Countries.—Tourist travel involving ocean voyages virtually ceased under wartime conditions, and expenditures of travellers from overseas countries were mainly by persons travelling on official or

other business. Canada's overseas travel account, which has shown a credit of $17,000,000 and debit of $22,000,000 in a year such as 1937, shrank to a credit of $3,000,000 and a debit of $2,000,000 in 1945. In the following year credits and debits had both recovered to $6,000,000 and in 1947 they stood at $10,000,000 and $15,000,000 respectively.

Shipping losses incurred during the War and priority for returning Service personnel and their families held overseas travel to a minimum until 1947. In that year many reconverted transports were back in passenger service carrying travellers to and from Canada directly and by way of New York and other United States seaports. A rapidly growing transatlantic air service also helped to bring the overseas tourist trade close to pre-war levels in spite of restrictions on export of Sterling and other currencies for pleasure travel.

7.—Expenditures of Foreign Travellers in Canada and Canadian Travellers Abroad, 1946 and 1947

Class of Traveller	1946			1947[1]		
	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada	Foreign Expenditures in Canada	Canadian Expenditures Abroad	Excess of Foreign Expenditures in Canada
	$'000	$'000	$'000	$'000	$'000	$'000
Travellers from and to overseas countries[2]	6,400	6,000	400	10,000	15,000	−5,000
Travellers from and to the United States—						
Automobile	98,000	21,700	76,300	112,200	32,600	79,600
Rail	61,400	49,600	11,800	55,900	52,200	3,700
Boat	17,300	3,200	14,100	21,800	4,100	17,700
Bus (exclusive of local bus)	15,800	28,500	−12,700	16,900	34,600	−17,700
Aeroplane	10,300	8,800	1,500	13,100	9,000	4,100
Other (pedestrians, local bus, etc.)	13,300	18,100	−4,800	14,800	19,800	−5,000
Totals, United States	216,100	129,900	86,200	234,700	152,300	82,400
Totals, All Countries	**222,500**	**135,900**	**86,600**	**244,700**	**167,300**	**77,400**

[1] Subject to revision. [2] Includes travel between Canada and Newfoundland.

8.—Summary of Highway Traffic at Canadian Border Points, by Provinces, 1946 and 1947

Province or Territory	FOREIGN VEHICLES INWARD					
	Non-Permit Class Local Traffic		Traveller's Vehicle Permits		Commercial Vehicles	
	1946	1947	1946	1947	1946	1947
Prince Edward Island	Nil	Nil	Nil	Nil	Nil	Nil
Nova Scotia	4	"	82	2,119	"	"
New Brunswick	752,407	806,821	83,065	91,298	65,294	62,295
Quebec	173,148	199,670	277,641	300,914	21,631	25,339
Ontario	2,624,849	2,967,148	903,096	1,005,194	81,441	87,982
Manitoba	53,310	55,360	22,797	24,407	1,736	3,778
Saskatchewan	20,221	19,205	9,723	9,702	3,907	3,745
Alberta	12,243	18,024	16,522	23,476	3,237	4,401
British Columbia	59,776	77,356	178,595	205,216	5,836	6,175
Yukon	Nil	16	585	1,527	54	84
Totals	**3,695,958**	**4,143,600**	**1,492,106**	**1,663,853**	**183,136**	**193,799**
Percentage increase, 1947 over 1946	12·1		11·5		5·8	

8.—Summary of Highway Traffic at Canadian Border Points, by Provinces, 1946 and 1947—concluded

Province or Territory	CANADIAN VEHICLES INWARD					
	Stay of 24 Hours or Less		Stay of Over 24 Hours		Commercial Vehicles	
	1946	1947	1946	1947	1946	1947
Prince Edward Island	Nil	Nil	Nil	Nil	Nil	Nil
Nova Scotia	"	3	"	66	"	"
New Brunswick	499,048	575,923	6,140	10,177	57,215	59,569
Quebec	198,296	241,669	37,641	51,977	26,552	28,026
Ontario	552,813	601,807	66,272	71,999	35,908	56,273
Manitoba	45,771	54,493	11,614	17,729	4,206	7,319
Saskatchewan	35,072	36,231	7,271	9,782	5,497	7,325
Alberta	17,208	19,226	3,518	8,503	6,402	6,994
British Columbia	202,486	271,816	34,741	39,555	13,890	15,942
Yukon	Nil	Nil	Nil	Nil	Nil	4
Totals	**1,550,694**	**1,801,168**	**167,197**	**209,788**	**149,670**	**181,452**
Percentage increase, 1947 over 1946	16·2		25·5		21·2	

Tourist Information.—Tourist information is supplied generally by the Canadian Travel Bureau, Ottawa, while detailed information on the National Parks and historic sites may be obtained from the National Parks Bureau, Department of Mines and Resources, Ottawa. For advice regarding specific provinces or particular cities or resorts, the tourist may apply to the provincial or municipal bureau of information concerned. See Chapter XXXI.

CHAPTER XXII.—PRICES*

CONSPECTUS

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ACTIVITIES OF THE WARTIME PRICES AND TRADE BOARD, 1947-48†

The activities of the Wartime Prices and Trade Board up to the end of 1946 in controlling prices and promoting an adequate supply and orderly distribution of essential goods and services, and later in the program of readjustment and decontrol, are described in previous issues of the Canada Year Book. This article deals with developments in 1947 and the first six months of 1948. Developments in controls over the distribution of goods in short supply are described in the Chapter on Domestic Trade (pp. 837-841).

Price Decontrol.—Though substantial progress had been made in the program of orderly decontrol and readjustment, ceiling prices still applied to practically all essential items or staple articles of food, fuel, clothing and shelter at the beginning of 1947. A considerable variety of such articles were being subsidized and certain important supply and distribution controls remained in effect.

Beginning in January, 1947, there were five major decontrol steps taken during the year, of which the most important was that of September, and by the end of October the greater part of the structure of the wartime stabilization program had been dismantled.

Decontrol was undertaken with the realization that it involved difficult adjustments. The general policy was to withdraw each control at the period of the year when supplies were at their seasonal peak in order to minimize immediate price adjustments and in order to allow the primary producer to share in such benefits as might accrue from a free market. It was not possible because of the complex nature of price relationships to adopt this approach with respect to each individual commodity but it was applied to broad groups of commodities. Thus, eggs and poultry were decontrolled in the early spring, butter and other dairy products in the early summer, canned goods in the middle and late summer, cotton textiles, meat, feed grains and farm machinery in the early autumn.

The first decontrol step of the year became effective on Jan. 13, 1947, at which time the list of items under the price ceiling was substantially reduced, one of the more important deletions being fresh fruits and vegetables with the exception of apples. A further major measure of decontrol followed on Apr. 2, 1947. In announcing this step in the House of Commons, the Minister of Finance stated

* Except as otherwise credited, this Chapter has been revised under the direction of H. F. Greenway, Director, Labour and Prices Division, Dominion Bureau of Statistics, by F. H. Leacy, Acting Chief, Prices Section.

† Prepared by the Wartime Prices and Trade Board.

with reference to the general principles underlying decontrol ". . . our plan is to remove end products or fabricated commodities from the ceiling as their production reaches the point where a major shortage does not exist. But to ensure stability until markets find their level after some five and a half years control, we think it wise to continue for a further period many of the basic materials". A few of the important items decontrolled at this time were wool and wool products, footwear, fuels, motor-vehicles, certain durable goods, and plumbing and sanitary ware.

Two months later on June 9, 1947, ceiling prices were lifted on additional items including dairy products, copper, lead, zinc, and hardwood lumber. A few items were released from price control at the beginning of July and others followed later in the summer. Finally a very extensive measure of decontrol became effective Sept. 15, 1947, with the lifting of price ceilings on the majority of goods and services still remaining under control. Some of the important items released from the price ceiling at this time were flour and bread, cotton, jute and sisal fibres and yarns, and all remaining articles of clothing (mostly cotton), cotton household furnishings, hides, skins and leather, softwood lumber, farm machinery and equipment. The decontrol of meats was delayed until Oct. 22, because of industrial disputes in packing plants and on that date feed grains were also decontrolled. By the end of October, 1947, the list of articles still under the price ceiling had been reduced to a very small number of items. The principal commodities included sugar, molasses, dried raisins, currants and prunes (these dried fruits were decontrolled on Dec. 31, 1947), wheat, the principal oil-bearing materials, (flaxseed, sunflower seed and rapeseed), the more important oils and fats, soaps, primary iron and steel products, tin and alloys containing more than 95 p.c. tin.

Reimposed and Continuing Controls.—Events in late 1947 and early 1948 led to a return to price control on some items. The prohibition of, or the imposition of quota restrictions on, the importation of fruits and vegetables on Nov. 18, 1947, was followed by a sharp price fluctuation and led to the imposition of ceilings on the more important canned fruits and vegetables as well as on fresh cabbages and carrots and to mark-up control on canned citrus fruit juices, citrus fruits and grapes. Butter was brought back under the ceiling on Jan. 19, 1948, while action was taken to reduce certain fertilizer prices in February.

In March, 1948, Parliament, by an amendment to the Continuation of Transitional Measures Act, extended authority to continue price control until Mar. 31, 1949. As of Apr. 1, 1948, the following goods were subject either to price ceilings or to mark-up controls under the Wartime Prices and Trade Board: sugar, molasses, the more important canned fruits and vegetables, canned citrus juices, citrus fruits, grapes, cabbage, carrots, butter, wheat, the principal oil-bearing materials (flaxseed, sunflower seed and rapeseed), the more important oils and fats, soaps, primary iron and steel, and tin and alloys containing more than 95 p.c. tin.

Changes in price controls since Apr. 1, 1948, include the decontrol of tin in May, the decontrol of all oils and fats, soaps and oil-bearing materials in August, and the reintroduction of bread and flour ceilings in August.

Subsidies.—The withdrawal of subsidies was a necessary part of the decontrol policy. In line with this policy,* a considerable reduction in the scope of subsidy payments had already been accomplished and by the beginning of 1947 only a few

* See Canada Year Book 1947, p. 920.

major subsidies were still in effect. During 1947 the removal of subsidies was accelerated to keep pace with decontrol and at the end of the year the only remaining items eligible for subsidy were oils and fats. In addition, there were in effect certain subsidies on steel paid by the Department of Reconstruction and Supply and the feed-grain freight assistance policy of the Department of Agriculture.

In January, 1947, the last of the petroleum subsidies was cancelled with the withdrawal of that on crude oil imported into the Prairie Provinces. All remaining subsidies on wool and woollens were withdrawn in January and rayon subsidies were eliminated in February. Subsidies on coal were terminated in April and at the end of that month payments on butterfat for creamery butter and on milk for cheddar cheese were discontinued. Hides and leather subsidies and those on cottons were reduced in several steps—in February, in June and finally eliminated in September. Several other important subsidies were removed in the decontrol step of Sept. 15, 1947. In October the subsidy payments on feed grains were withdrawn concurrently with the lifting of ceiling prices. Trading losses on commodities which were bulk-purchased such as cocoa, dried fruits, pepper, tin and antimony were also eliminated in 1947 by raising prices to the trade to approximate cost levels and all bulk-purchasing operations (excepting oils and fats) had ceased by the end of the year. The withdrawal of subsidy was normally accompanied by compensatory price increases either in the form of authorized increases in ceiling prices or through adjustments by the trade in cases where subsidy removal and decontrol coincided.

The combined effect on the cost of living of the removal of subsidies was necessarily substantial. A major subsidy withdrawn on Sept. 15 was the drawback payment on wheat for milling which since 1942 had been paid to millers on the basis of the difference between the current domestic price of wheat and the basic period price of $77\frac{3}{8}$ cents per bu. (basis, No. 1 Northern in store at Fort William). At the time of decontrol the current domestic price was $\$1 \cdot 58\frac{1}{2}$ per bu. On Aug. 1, 1948, the United Kingdom contract price for wheat advanced to $\$2 \cdot 05$ per bu. In order to give the producer this price on domestically produced wheat and at the same time avoid further increases in flour and bread prices, the Government undertook to refund to flour millers the difference between the new and the former price on all wheat moving into domestic human consumption.

The subsidies on textiles were also discontinued. Those remaining on imported wool tops, yarns and fabrics were withdrawn in January, 1947. In the following month all subsidies were terminated on domestic rayon yarns and on imported rayon fibres, yarns and fabrics. The removal of cotton subsidies was a more difficult problem and a more important one from the point of view of its effect upon the textile price structure. At the beginning of 1947, the cost of raw cotton to the primary mills was being subsidized down to a level of 15·4 cents per lb. as compared with a New York market price of about double this amount. It appeared quite certain that United States cotton prices would remain considerably above the domestic subsidy base price for some time to come and consequently the Canadian cotton price structure had to face substantial readjustment.

During 1947 several steps were taken to reduce subsidy payments and bring Canadian cotton textile prices into more realistic relationships with actual costs. On Feb. 1, the subsidy base price of raw cotton was raised 9 cents per lb. In

adjusting mill prices, an additional allowance of 3·4 cents per lb. was granted the primary and knitting mills on the grounds of financial need occasioned by cost increases other than in raw material. Price adjustments on finished goods were delayed to allow for disposal of inventories subsidized on the previous basis. On June 2, the base price of raw cotton for subsidy purposes was again raised by 2·8 cents per lb., with compensatory adjustments on yarns and fabrics. At the same time the opportunity was taken to revise the domestic price structure to correct anomalies that had developed in the course of the controlled years. Other textile subsidy commitments were cut during the year by raising ceiling prices on imported cotton fabrics and by removing some types from the list of items eligible for subsidy. Finally on Sept. 15, 1947, all cotton items were removed from the list of goods eligible for import subsidy. Though ceiling prices on all remaining textile items were removed at the same time, arrangements were made to forgo the recovery of subsidy on inventories in return for an undertaking from the trade that prices would not be increased until the subsidized inventories were exhausted.

The basic imported fats and oils used in soap and shortening industries continued under subsidy though several steps toward reduction had been taken. A program was initiated early in 1947 whereby domestic subsidies on oils and fats were partially eliminated, and subsidies on imported oils and fats reduced. The first step occurred in February, 1947, and further reduction in subsidies was effected in June, 1947. Finally on Aug. 1, 1948, all subsidies and price ceilings on oils and fats were withdrawn.

Rentals and Shelter.—Rent and eviction controls underwent important changes. In the field of commercial accommodation the area of control was substantially whittled down in the early part of 1947 and all remaining regulations were removed on Mar. 8, 1948. In the case of housing accommodation, a number of important steps were made in the direction of modifying or removing controls but the process of decontrol is still in an early stage. In 1947 for the first time since rent control was imposed, general increases were authorized in the maximum rentals of both housing accommodation and commercial accommodation in return for a concession from the landlord in the form of an extension of the lease.

Housing Accommodation.—There were a number of important changes in the regulations affecting rentals of housing accommodation. In April, 1947, a measure of relief was extended to landlords of housing accommodation by authorizing a 10 p.c. increase in rentals provided the landlord was willing to give the tenant a two-year extension of the lease. The new higher rental could not become effective until the expiration of the existing lease and if a two-year extension of the lease was arranged, the landlord remained bound for the full term but the tenant could terminate the lease upon thirty days' notice. In the event that the tenant did not accept the proffered lease, the existing lease could be terminated under provincial law. In such circumstances, the accommodation still remained under rent control and the maximum rental to the succeeding tenant would be the previous maximum rental plus 10 p.c.

A further rental adjustment was allowed on special grounds. A landlord was given leave to apply to the Rentals Appraiser for a 10 p.c. increase if the tenant was sub-letting three or more rooms under more than one sub-lease, provided that the maximum rental of the accommodation had not previously been adjusted for increased wear and tear on the part of the tenant or under the previous and more circumscribed provisions for rent adjustments on sub-letting by the tenant.

The basis for the adjustment of anomalously low rentals was broadened and liberalized in April, 1947. A landlord was now permitted to apply for an increased rental on the grounds that the existing rental was lower than that generally prevailing on Oct. 11, 1941, for similar accommodation in the vicinity or in a similar residential district of the same municipality. Previously such an application would only be entertained on the grounds that the rental was lower than that prevailing for similar units of housing in the same building.

The 10 p.c. rental increase authorized in April, 1947, was not applicable to housing accommodation newly built or reconverted since Jan. 1, 1944, since maximum rentals on new buildings have been fixed on a basis which takes into account the increase in construction costs. Moreover, specific provision was made in the relevant order at this time that rentals of such accommodation completed by original construction or by structural alteration on or after Jan. 1, 1944, should be fixed at an amount which would yield a fair return based on prevailing costs of land, labour and materials. At the same time provision was made to permit a landlord who had obtained a rent fixation before Mar. 31, 1947, on such accommodation to apply to the Court of Rental Appeals for an increased rental if he felt that the established rental was not adequate on this basis.

There was a limited amount of decontrol in the rentals of housing accommodation. On June 19, 1947, both rental and eviction controls were lifted on all new houses, apartments, duplexes and other self-contained buildings completed on or after Jan. 1, 1947. Then, on Oct. 24, price control was lifted on the supplying, for a combined charge, of room and board except when less than two meals daily are served. Accommodation in holiday-resort boarding houses and hotels had been decontrolled on Mar. 1, 1947.* On Feb. 23, 1948, all rent and eviction controls were lifted on summer cottages, tourist cabins, winter chalets, ski or hunting lodges which were untenanted on that date or later became untenanted.

Provisions were made for the relief of certain landlords of housing accommodation who had incurred hardship as a result of the freezing of leases on such accommodation in July, 1945. The regulations in question had suspended the right which a landlord of housing accommodation had previously had to give the tenant notice to vacate on the grounds that he, the landlord, required the accommodation as a residence for himself or for certain members of his immediate family. In March, 1947, provision had been made to permit landlords of housing accommodation purchased between Nov. 1, 1944, and July 25, 1945, to apply for permission to recover such accommodation.† An extension of this step occurred in August, 1947. At that time provision was made for petitions from certain landlords who had purchased housing accommodation after the freezing of leases. Because of the unknown magnitude of the task and the undesirability of a sudden and disturbing flood of evictions, applications were at this time limited to persons who became owners of housing before Jan. 1, 1947. Under local commissioners, appointed at numerous centres throughout the country, many cases were heard under this procedure. In making decisions it was borne in mind that nothing would be gained by relieving the hardship of the landlord at the expense of resultant greater hardship to the tenant. In cases where the landlord's application was granted, a special order was issued by the Board requiring the landlord to refrain from selling or renting the accommodation for a period of one year.

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* See Canada Year Book 1947, p. 924.
† See Canada Year Book 1947, p. 923.

Commercial Accommodation.—The decontrol of commercial accommodation was completed on Mar. 8, 1948, when all remaining regulations in this field were withdrawn.

In the early months of 1947 a number of important changes were made in the rental and eviction regulations affecting commercial accommodation including the authorization of a 25 p.c. rental increase in return for a two-year extension of the lease.* Further decontrol became effective June 19, 1947, when rent and eviction controls were lifted on several types of commercial accommodation including gasoline service stations let by refiners or distributors, automobile parking or sales lots, meeting halls and motion picture theatres. At the same time the Minister of Finance announced the eventual complete decontrol of commercial accommodation which became effective on Mar. 8, 1948. By this time freedom of bargaining already prevailed with respect to a substantial proportion of commercial accommodation, while much more was held under leases which would not expire until 1949 or even later. Rent control on all hotel accommodation was terminated on Apr. 7, 1947.

Section 1.—Wholesale and Retail Prices

For purposes of statistical analysis, commodity prices are usually divided into two principal groups, wholesale prices and retail prices. The term 'wholesale' is not used literally, and primary producers, factory and jobbers quotations, as well as actual wholesale prices, are often included in this group. Markets in which this type of price is quoted are usually well organized, and are frequently very sensitive and responsive to changing business and monetary conditions. Wholesale quotations are preferred, therefore, for sensitive index numbers of prices designed to reflect price reactions to economic factors.

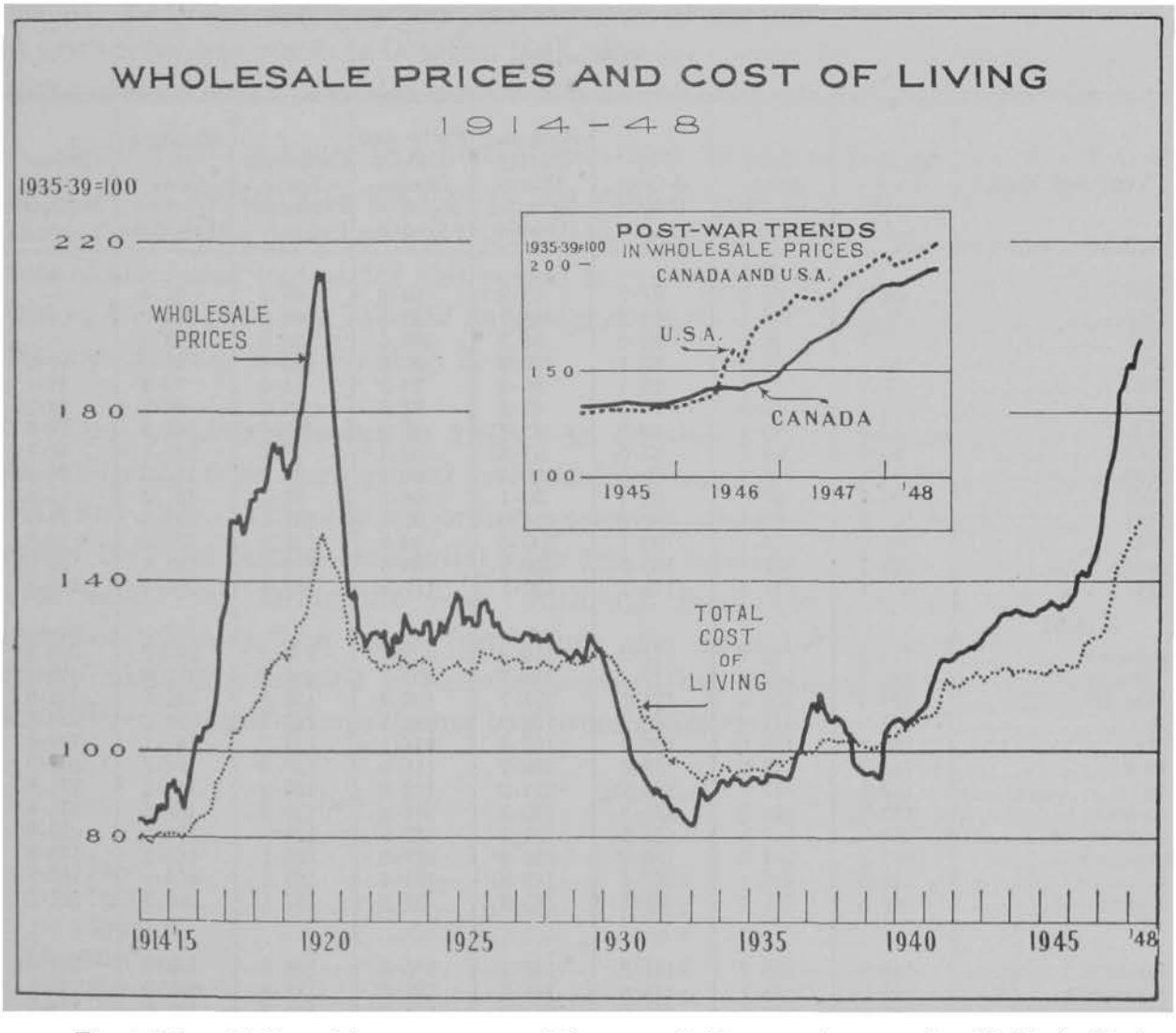
Retail prices may be strongly influenced by local conditions and are less sensitive. There is ordinarily a lag of several months between this type of quotation and its wholesale counterpart. Retail prices are important from a statistical point of view, however, because they indicate changes in living costs and, along with measurements of income, show fluctuations in the economic well-being of the community.

Subsection 1.—Wholesale Prices

Historical Record of Prices.—Wholesale price index numbers in Canada cover the period dating from Confederation in 1867. An intermittent decline characterized the first 30 years of this interval, followed by a gradual advance for a period of 16 years prior to the outbreak of war in 1914; from an average of 43·6 in 1897, the general wholesale index (1926=100) advanced without appreciable interruption to 64·4 in July, 1914. By the end of the War in November, 1918, this index had reached 132·8, and it continued upward to a post-war inflationary peak of 164·3 in May, 1920. The subsequent deflationary period lasted about two years, and between 1922 and 1929 price levels remained in comparative stability. Annual averages in this interval held between a high of 102·6 for 1925 and 95·6 for 1929. For the four years following 1929, depressionary influences were so severe that prices fell to the level of those of 1913. In February, 1933, the wholesale index touched an extreme low of 63·5 before turning upward again. Irregular recovery then continued until 1937, but the highest point reached, 87·6 in July, 1937, was substantially below the 1926 average. The collapse of the wheat market

* See Canada Year Book 1947, p. 923.

in 1938, along with fairly general depression in other markets, carried wholesale price levels just prior to the outbreak of war in 1939 down to about 11 points above the 1913 level. The August, 1939, index of 72·3 marked the extreme low of a two-year decline. The movement of prices prior to the outbreak of the Second World War was quite different, therefore, from that which preceded the First World War. The relatively low level of prices in August, 1939, probably influenced the sharper initial advance at the outbreak of war. However, during 1940, price levels steadied and showed no sign of a steep increase until 1941. By that time, great expansion in wartime production had made serious inroads into stocks of nearly all basic commodities and, at the end of 1941, wheat remained the only important commodity for which stocks exceeded predictable requirements. The introduction of general price control in December, 1941, followed a year in which wholesale prices had advanced 11·0 p.c. as compared with 3·1 p.c. in 1940. The effectiveness of control is indicated by the fact that percentage increases in wholesale prices amounted to only 3·7 and 5·7 for the years 1942 and 1943, respectively, while the December, 1944, index remained the same as the December, 1943, figure. The December, 1945, index of 103·9 was 11·1 p.c. above that for December, 1941, when price control became generally effective.



Post-War Price Movements.—The precipitous advance in United States general wholesale prices was of great concern to Canadian price-control authorities. This advance had been anticipated in July, 1946, when the Canadian dollar was returned to par with the United States dollar, thus reducing the Canadian dollar cost of imports from the United States. But this provided a buffer of 10 p.c. only

and the rise in United States prices was greater than that on a large majority of imported articles so that continuous pressure was felt, especially among individual items. The general wholesale price index rose from 103·6 to 112·0, an increase of 8·4 p.c. in the nineteen months between V-E Day in May, 1945, and December, 1946.

The Canadian rise accelerated in 1947 as internal controls continued to be relaxed. Towards the close of the year, however, it was necessary to tighten up import controls because of the rapidly increasing import balance requiring settlement in United States dollars. The monthly general wholesale price index advanced without interruption from 112·0 for December, 1946, to 147·3 for February, 1948. The sharp February, 1948, break in United States basic commodity markets was followed in Canada by a minor decline in the March, 1948, general wholesale index to 146·9 but following this setback prices again moved up to reach a level of 157·8 by August. The exceptionally sharp increase in the wholesale index between July and August reflected mainly the increase in the price of wheat from $1.585 to $2.05 per bu. (No. 1 Manitoba Northern, basis in store, Fort William/Port Arthur or Vancouver).

1.—Annual Index Numbers of Wholesale Price Groups, Significant Years, 1913-47, and Monthly Index Numbers, 1947 and 1948

(1926=100)

Year and Month	General Wholesale	Consumer Goods	Producers Goods	Raw and Partly Manufactured Goods	Fully and Chiefly Manufactured Goods	Canadian Farm Products[1]	Building and Construction Materials	Industrial Materials
1913	64·0	62·0	67·7	63·8	64·8	64·1	67·0	–
1920	155·9	136·1	164·3	154·1	156·5	160·6	144·0	–
1922	97·3	96·9	98·8	94·7	100·4	88·0	108·7	–
1929	95·6	94·7	96·1	97·5	93·0	100·8	99·0	91·8
1933	67·1	71·1	63·1	56·6	70·2	51·0	78·3	54·1
1939	75·4	75·9	70·4	67·5	75·3	64·3	89·7	69·0
1940	82·9	83·4	78·7	75·3	81·5	67·6	95·6	79·0
1941	90·0	91·1	83·6	81·8	88·8	72·8	107·3	87·3
1942	95·6	95·6	88·3	90·1	91·9	85·0	115·2	94·2
1943	100·0	97·0	95·1	99·1	93·1	97·9	121·2	97·6
1944	102·5	97·4	99·9	104·0	93·6	107·1	127·3	99·8
1945	103·6	98·1	100·7	105·6	94·0	112·3	127·3	99·8
1946	108·7	101·1	105·7	109·5	98·8	118·1	134·8	103·6
1947	129·1	117·3	129·3	130·7	117·4	126·4	166·4	130·4
1947								
January	114·2	104·1	111·2	115·0	103·7	120·6	148·2	108·2
February	118·3	107·6	117·7	119·5	107·1	121·8	152·5	120·1
March	120·8	108·8	121·7	124·7	108·2	122·7	152·5	122·6
April	123·3	111·6	123·9	126·0	112·2	123·2	152·4	126·7
May	125·7	113·9	126·1	128·4	114·1	124·7	161·1	128·0
June	128·0	116·7	128·9	129·7	115·8	125·4	164·6	131·6
July	129·1	117·7	129·7	131·2	116·2	126·4	165·5	131·6
August	130·8	119·0	131·6	133·2	117·2	126·2	167·6	131·4
September	134·0	121·8	135·3	133·6	123·3	126·6	171·1	135·3
October	139·3	124·8	139·8	138·9	127·6	129·1	185·3	141·0
November	142·5	130·1	142·4	142·5	131·4	132·7	186·9	143·2
December	143·5	131·2	143·4	145·2	132·0	137·1	189·2	144·7
1948[2]								
January	146·9	135·2	145·8	148·3	136·5	140·8	187·8	148·4
February	147·3	136·7	145·4	147·2	137·2	138·8	187·9	146·3
March	146·9	137·3	144·9	147·3	136·7	138·2	186·2	144·9
April	148·5	137·9	146·8	150·0	137·4	141·2	187·4	149·5
May	150·0	138·4	148·6	152·5	137·4	144·2	192·5	151·6
June	151·9	140·7	150·4	155·9	137·6	148·3	194·7	155·2
July	152·0	141·0	151·1	154·7	138·5	147·3	195·4	155·3
August	157·8	143·1	160·9	162·6	143·2	144·9	199·3	162·6

[1] Includes wheat participation payments authorized up to April, 1948, and retroactive to August, 1945.
[2] Subject to revision.

Subsection 2.—Cost-of-Living Index

Purpose and Interpretation.—The Dominion Bureau of Statistics cost-of-living index measures the influence of changes in retail prices of goods and services upon the cost of a representative urban wage-earner family budget.

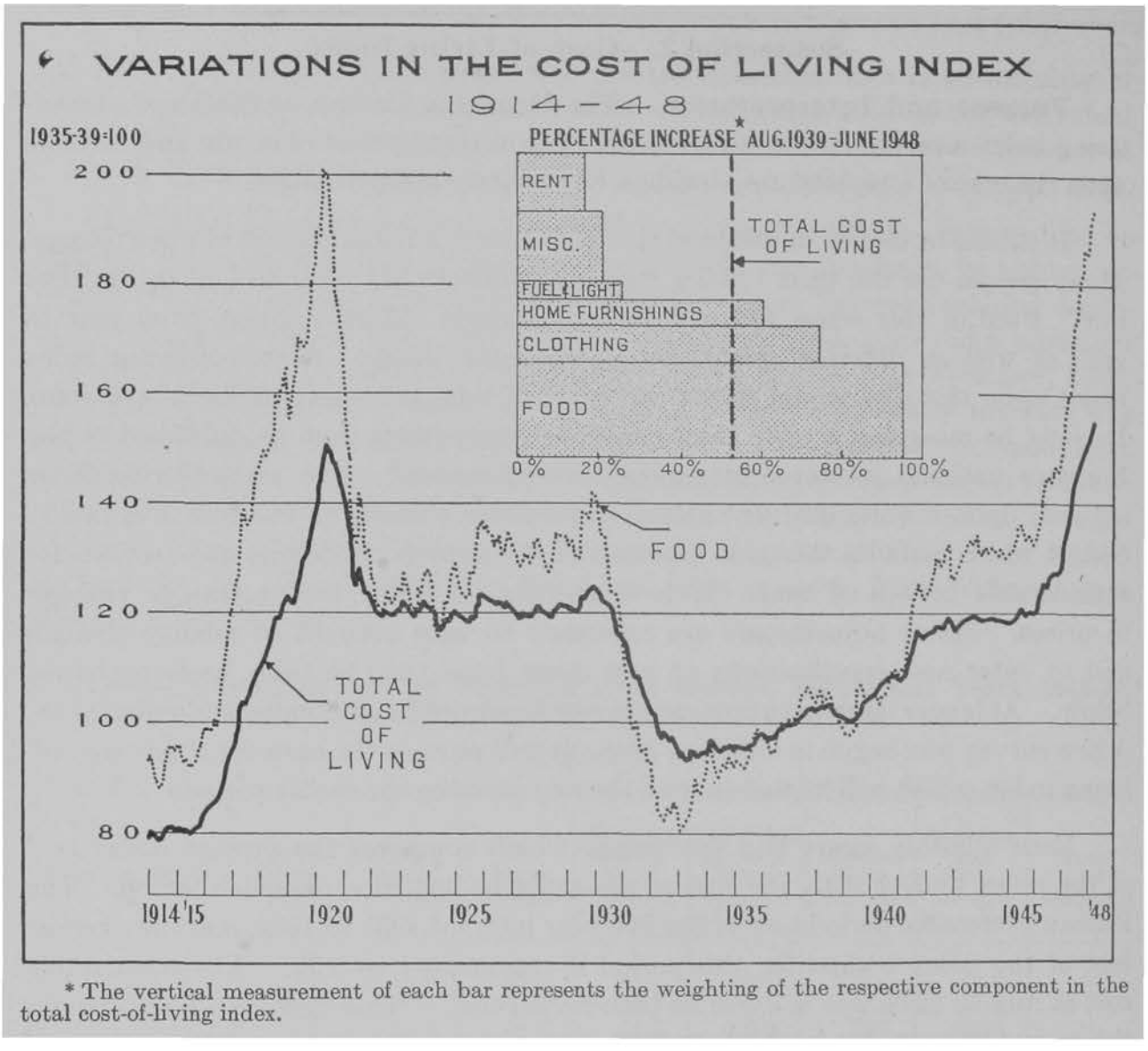
It should be clearly understood that the index is a measurement of price change. Many people use the term "living costs" to indicate the total cost of things they buy. Used in this sense, living costs may include different things from year to year as well as different quantities of the same things. A cost-of-living index based upon this idea would reflect the value of total purchases made by everyone. It could be measured by the total consumer expenditure item as published in the Bureau's national income and expenditure estimates.* The cost-of-living index is based upon a quite different idea. It measures changes in the cost of a family budget which includes the same amounts of the same commodities and services for considerable periods of time. It is essentially an index that measures changes in prices. Minor adjustments are necessary to take account of quality changes and to enter new specifications or new items from time to time, as is explained below. At longer intervals a completely new survey of family budgets is undertaken. A new survey was begun in October, 1948. It will provide the basis for a new cost-of-living index, which will be tied-in with the one covering the earlier period.

Each monthly figure is a percentage which compares the present dollar cost of the index budget with the cost of the same budget in a reference period. The Bureau's reference period now is the five-year interval 1935 to 1939, and the average cost of the index budget for this period is represented by 100. The comparable cost at Aug. 2, 1948, was 157·5 of its base-period cost. This figure of 157·5 becomes the cost-of-living index for Aug. 2, 1948.

Cost-of-Living Index in 1947.—An advance of 18·9 points in the official cost-of-living index during 1947 was reminiscent of price behaviour in the years 1919 and 1920. The only important wartime consumer control remaining at the end of 1947 was that on residential rents and an increase of 10 p.c. in this field had been authorized during the year. Although food prices showed the sharpest increases, clothing and home furnishings also advanced substantially, and all group indexes contributed in some measure to the change recorded. Changes in the different budget groups during 1947 were as follows:—

Item	*December, 1946*	*December, 1947*	*Point Change*
Food	146·4	178·7	+32·3
Fuel	109·2	120·3	+11·1
Rent	113·4	119·9	+ 6·5
Clothing	131·2	159·3	+28·1
Home furnishings	129·4	154·9	+25·5
Miscellaneous	114·1	119·8	+ 5·7
TOTAL INDEX	127·1	146·0	+18·9

* See National Accounts and Related Economic Statistics, Chapter XXVI.



* The vertical measurement of each bar represents the weighting of the respective component in the total cost-of-living index.

2.—Annual Index Numbers of Living Costs, 1935-47, and Monthly Index Numbers, 1947 and 1948

(1935-39=100)

NOTE.—Figures for the years 1913-34 will be found at p. 863 of the 1946 Year Book.

Year	Food Index	Rent Index	Fuel and Light Index	Clothing Index	Home Furnishings and Services Index	Miscellaneous Index	Total Index
1935	94·6	94·0	100·9	97·6	95·4	98·7	96·2
1936	97·8	96·1	101·5	99·3	97·2	99·1	98·1
1937	103·2	99·7	98·9	101·4	101·5	100·1	101·2
1938	103·8	103·1	97·7	100·9	102·4	101·2	102·2
1939	100·6	103·8	101·2	100·7	101·4	101·4	101·5
1940	105·6	106·3	107·1	109·2	107·2	102·3	105·6
1941	116·1	109·4	110·3	116·1	113·8	105·1	111·7
1942	127·2	111·3	112·8	120·0	117·9	107·1	117·0
1943	130·7	111·5	112·9	120·5	118·0	108·0	118·4
1944	131·3	111·9	110·6	121·5	118·4	108·9	118·9
1945	133·0	112·1	107·0	122·1	119·0	109·4	119·5
1946	140·4	112·7	107·4	126·3	124·5	112·6	123·6
1947	159·5	116·7	115·9	143·9	141·6	117·0	135·5

2.—Annual Index Numbers of Living Costs, 1935-47, and Monthly Index Numbers, 1947 and 1948—concluded

Year and Month	Food Index	Rent Index	Fuel and Light Index	Clothing Index	Home Furnishings and Services Index	Miscellaneous Index	Total Index
1947							
January	145·5	113·4	109·0	131·5	129·8	114·7	127·0
February	147·0	113·4	109·1	131·9	130·9	115·5	127·8
March	148·7	113·4	109·1	133·1	133·6	116·0	128·9
April	151·6	113·4	109·1	136·9	137·2	116·3	130·6
May	154·9	115·4	116·2	140·0	138·6	116·8	133·1
June	157·7	117·8	116·7	142·4	139·8	117·1	134·9
July	159·8	117·8	117·3	143·2	142·5	117·2	135·9
August	160·6	117·8	118·6	145·5	143·7	117·2	136·6
September	165·3	117·8	121·1	152·0	147·4	117·5	139·4
October	171·3	119·9	121·9	154·2	149·9	117·6	142·2
November	173·6	119·9	122·6	157·0	151·4	118·2	143·6
December	178·7	119·9	120·3	159·3	154·9	119·8	146·0
1948							
January	182·2	119·9	120·4	161·2	158·4	122·6	148·3
February	186·1	119·9	120·1	165·1	159·9	122·8	150·1
March	185·9	119·9	121·0	169·9	161·2	122·8	150·8
April	186·8	119·9	121·3	172·7	161·9	122·9	151·6
May	191·2	120·9	122·7	173·6	161·9	122·9	153·3
June	193·9	120·9	124·3	174·8	162·0	122·7	154·3
July	201·3	120·9	124·5	175·4	162·8	123·1	156·9
August	202·6	120·9	127·7	175·9	161·4	123·4	157·5

Regional Changes in Living Costs.—In 1941, the Bureau established cost-of-living indexes for eight regional cities covering the period since August, 1939. These indexes, for the cities shown in Table 3, are patterned after the official cost-of-living series for Canada and include group indexes for food, fuel, rent, clothing, home furnishings and services, and miscellaneous items. The budget quantities employed for these calculations have been computed ior each city from expenditure records of wage-earner families in the year ended Sept. 30, 1938. For the city records, August, 1939 = 100 is the base used instead of the five-year period 1935-39.

Regional movements in living costs since the outbreak of the Second World War have been closely comparable to movements in the Dominion index, which advanced 44·8 p.c. between August, 1939, and December, 1947. During this period increases in the eight city indexes ranged from 39·9 to 48·6 p.c.

3.—Index Numbers of Living Costs in Eight Cities, Alternate Months, 1940, 1942 and 1944-48

(August, 1939=100)

Year and Month	Halifax	Saint John	Montreal	Toronto	Winnipeg	Saskatoon	Edmonton	Vancouver
1940								
February	103·4	103·0	104·4	102·5	102·6	104·6	103·1	103·0
April	104·9	104·2	105·4	103·2	103·3	105·1	103·7	103·5
June	105·5	104·1	106·2	103·4	103·2	104·7	103·8	103·1
August	107·5	105·4	107·0	104·2	104·6	105·3	103·7	103·8
October	107·0	107·0	108·3	105·1	105·2	106·9	104·2	104·1
December	108·0	108·7	109·4	105·8	106·3	108·6	105·6	105·4
1942								
February	113·5	115·2	117·1	114·5	112·4	115·7	110·9	112·2
April	113·5	115·1	117·4	114·7	112·6	116·1	111·1	112·3
June	114·0	115·4	118·2	115·5	113·1	116·2	112·1	113·3
August	115·8	117·2	118·7	116·2	115·0	117·5	114·2	115·3
October	115·5	116·6	119·4	116·3	114·5	117·0	113·8	115·8
December	116·2	117·3	120·3	116·8	115·6	118·5	115·2	117·2
1944								
February	117·9	118·6	121·0	117·0	115·4	119·3	116·1	117·4
April	118·2	118·7	121·2	117·2	115·7	119·4	116·1	117·8
June	118·3	118·8	120·7	117·1	115·5	119·3	116·2	118·1
August	119·0	119·6	120·2	117·1	115·7	119·6	116·5	117·7
October	118·4	118·7	120·1	117·0	115·8	119·2	116·3	118·1
December	118·4	118·4	120·2	116·5	115·8	119·2	116·2	117·9
1945								
February	118·8	118·6	120·9	116·7	116·0	119·4	116·6	118·4
April	118·7	118·8	121·0	116·9	116·2	119·6	116·8	118·6
June	119·1	119·4	121·9	118·3	117·2	119·9	117·3	120·0
August	121·1	120·9	123·6	118·6	118·0	121·2	118·4	120·4
October	119·4	119·5	122·2	117·9	116·8	120·3	117·9	119·0
December	119·6	119·7	122·6	118·3	117·0	120·7	118·4	119·7
1946								
February	119·3	119·7	122·2	118·2	117·1	120·6	117·8	119·2
April	120·3	120·6	123·1	119·3	118·4	121·7	119·1	120·4
June	122·4	122·5	125·8	121·9	120·9	125·3	121·2	123·7
August	125·0	124·6	128·3	123·5	122·1	126·1	123·2	124·7
October	125·0	124·9	129·5	124·9	122·7	127·2	123·9	125·9
December	125·1	125·1	129·1	125·0	123·2	128·2	124·8	126·6
1947								
February	125·6	125·9	129·6	126·0	124·0	129·0	124·9	127·7
April	127·9	128·5	132·7	128·8	126·1	131·7	127·5	130·1
June	131·0	132·1	137·7	133·3	129·7	136·2	131·3	134·3
August	135·1	134·9	138·9	135·0	132·0	138·6	134·0	135·6
October	138·9	139·5	145·5	140·0	137·4	144·0	137·7	141·3
December	141·8	143·9	148·6	144·0	140·8	147·5	139·9	146·0
1948								
February	144·3	147·7	152·8	147·8	144·4	151·9	145·1	148·7
April	146·2	149·3	154·9	148·6	146·3	153·7	146·5	151·0
June	149·1	152·3	158·4	151·6	148·6	157·2	149·0	154·3
August	151·7	156·0	160·6	154·3	150·6	159·5	153·5	159·5

Prices of Services.—Service costs comprise approximately 19 p.c. of the family expenditure budget used in compiling the Dominion Bureau of Statistics cost-of-living index numbers. Trends in rates for some of the more important of these services since 1941 are shown in Table 4.

4.—Index Numbers of Domestic Service Rates, 1941-47

(1935-39=100)

Item	1941	1942	1943	1944	1945	1946	1947
Domestic rates of fuel gas....	104·1	105·1	105·1	105·1	105·1	105·1	103·6
Domestic electric-light rates.	103·0	102·8	97·7	94·3	90·9	91·6	89·5
Domestic telephone rates.....	103·3	103·3	103·3	103·3	103·3	103·3	103·3
Street-car fares.....	100·1	100·1	100·1	100·0	100·0	100·0	100·3
Hospital-room rates.....	104·3	106·0	111·0	116·0	124·1	133·2	146·7

Section 2.—Index Numbers of Security Prices

Security prices have long been utilized in statistical measurements related to economic phenomena. They are generally sensitive to changing business conditions, although this valuable characteristic is sometimes overshadowed by the fact that their movements may be influenced greatly by speculative interest very remotely associated with underlying economic conditions. Thus in 1928 and 1929, common-stock prices advanced far beyond levels indicated by business profits and prospects. Security-price trends have also been at variance with other business indexes during the First and Second World Wars.

Investors Price Index Numbers of Common Stocks, 1947.—After the sharp decline in common-stock prices during the second half of 1946, markets were comparatively steady throughout 1947. A secondary decline in the spring and early summer months failed to develop to serious proportions and market averages later regained positions occupied early in the year. The behaviour of different market groups during 1947 is outlined in Table 5.

5.—Investors Index Numbers of Common Stocks, by Months, 1947

(1935-39=100)

Month	Grand Total	Types of Stocks										
		Banks, Total	Industrials									
			Industrials, Total	Machinery and Equipment	Pulp and Paper	Milling	Oils	Textiles and Clothing	Food and Allied Products	Beverages	Building Materials	Industrial Mines
January....	106·2	133·1	99·2	179·9	253·7	124·9	63·0	182·9	124·0	303·5	142·0	93·3
February...	109·4	133·4	102·4	184·9	264·3	125·3	68·6	190·6	129·8	302·5	145·3	93·6
March.....	106·4	130·6	99·2	180·5	257·6	123·1	65·8	185·9	129·3	291·9	140·2	90·2
April.....	104·8	130·1	97·7	180·9	242·3	122·8	64·4	180·1	128·6	281·6	136·8	90·3
May.....	104·4	130·7	97·6	180·3	234·7	120·2	66·9	177·0	127·5	279·5	136·4	88·5
June.....	105·3	129·2	98·6	177·1	244·5	119·7	67·9	178·0	126·7	289·3	135·8	89·3
July.....	107·4	129·0	100·6	183·4	261·0	119·3	68·8	179·7	127·3	307·2	136·6	89·7
August.....	105·5	129·4	98·8	182·1	255·4	117·8	66·6	178·8	126·9	303·1	135·0	88·0
September.	104·1	128·6	97·2	178·7	258·6	117·2	64·2	176·2	124·4	304·0	132·9	86·8
October....	105·5	126·8	99·0	185·4	275·4	118·1	63·5	180·3	121·7	320·0	133·9	89·5
November..	107·3	135·0	101·0	188·0	281·9	119·0	65·1	191·1	121·1	324·0	138·2	91·4
December..	106·2	133·6	100·3	190·2	271·4	116·2	65·8	188·6	121·8	321·0	136·1	89·6

5.—Investors Index Numbers of Common Stocks, by Months, 1947—concluded

Month	Types of Stocks			
	Public Utilities			
	Public Utilities, Total	Transportation	Telephone and Telegraph	Power and Traction
January	117·7	149·6	121·0	108·1
February	121·8	162·6	121·9	110·4
March	120·1	149·5	120·1	112·6
April	117·7	146·2	118·3	110·3
May	115·6	136·1	120·5	109·2
June	116·7	136·9	121·1	110·5
July	120·2	152·3	121·0	110·6
August	117·1	145·8	117·9	108·8
September	116·9	148·4	112·8	109·8
October	117·0	152·2	111·9	108·9
November	114·7	147·5	110·5	107·0
December	112·1	148·2	108·4	102·6

Preferred Stocks, 1947.—Although preferred stock prices showed greater resistance to depressing influences in 1946 than did common stock prices, their performance in 1947 was less satisfactory. An irregular decline dating from February carried this series down about 10 points to 148·1 for December, 1947. This compared with a 21-year peak of 161·6 in June, 1946.

6.—Index Numbers of Preferred Stocks, by Months, 1927-47

(1935-39=100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1927	123·2	123·6	123·9	123·8	123·6	123·2	123·6	125·2	126·4	130·0	133·7	134·9
1928	134·5	133·8	132·6	134·4	134·7	134·1	133·1	129·7	129·8	128·1	125·5	130·2
1929	129·6	130·4	128·8	125·8	125·8	126·4	126·4	127·4	126·8	124·1	120·4	121·1
1930	118·1	119·2	120·6	124·7	123·8	120·0	117·5	117·1	116·0	103·0	98·8	99·5
1931	100·4	100·6	101·6	95·1	89·0	87·6	86·6	83·4	77·4	77·1	80·2	76·0
1932	69·0	70·9	70·0	66·8	58·4	54·5	59·7	63·8	64·4	63·8	63·0	60·6
1933	59·8	59·8	57·1	57·1	65·9	70·6	74·7	74·4	73·6	72·0	71·3	72·6
1934	77·3	80·2	81·2	82·6	82·9	82·5	82·1	81·2	81·3	83·8	85·2	86·1
1935	88·7	89·0	85·9	83·5	82·5	82·5	84·0	85·5	83·5	83·8	87·5	89·0
1936	90·3	93·1	92·0	91·7	90·0	91·9	95·9	97·2	101·1	104·7	109·9	113·3
1937	119·7	121·1	123·8	124·4	120·9	119·8	119·9	122·4	109·8	99·2	98·9	97·7
1938	100·6	99·0	93·5	94·3	96·6	98·7	105·2	104·7	98·1	106·2	105·5	104·8
1939	102·5	101·8	101·2	95·2	95·3	98·8	100·1	97·7	100·5	107·4	108·7	110·1
1940	110·7	109·7	108·8	108·9	96·7	86·9	89·0	93·9	99·1	100·7	103·0	101·7
1941	101·4	97·6	98·7	97·9	96·3	96·8	98·5	100·0	103·2	102·2	102·6	100·7
1942	99·6	96·8	95·6	94·5	95·4	96·5	95·7	95·8	95·6	96·2	97·5	100·4
1943	102·7	105·5	106·4	108·2	110·1	113·3	117·3	117·8	118·0	118·2	115·3	115·8
1944	118·3	118·6	119·2	118·7	118·5	122·2	124·7	125·9	126·3	126·7	128·8	129·8
1945	131·8	132·1	130·9	130·3	132·4	137·2	138·0	137·8	139·4	142·5	145·0	146·6
1946	152·1	154·1	154·5	157·8	159·7	161·6	157·5	157·9	151·4	153·6	154·7	153·5
1947	157·5	158·5	156·0	153·1	154·3	155·8	155·4	153·5	153·6	152·0	150·2	148·1

Mining Stocks, 1947.—There was little net change in mining stock prices in 1947, following the sharp decline in 1946. The composite index for 27 representative issues closed the year at 86·6 which compared with a monthly peak of 89·9 reached in November and a closing 1946 level of 83·7. The gold series which stood at 74·8 for December, 1947, compared with the year's high of 80·1 for September and 70·9 for December, 1946. A corresponding index for four base metal issues was 108·5 in December, 1947, against 113·3 in February and 107·6 for December, 1946.

7.—Weighted Index Numbers of Prices of Mining Stocks, by Months, 1945-47

(1935-39 = 100)

Year and Month	Gold	Base Metal	Total	Year and Month	Gold	Base Metal	Total
1945				**1946**—concluded			
January	80·5	93·9	85·6	July	81·7	114·9	93·4
February	87·3	98·2	91·7	August	77·6	112·1	89·7
March	84·7	97·9	89·8	September	71·1	101·0	81·6
April	85·3	98·6	90·5	October	70·1	98·9	80·3
May	90·6	99·1	94·3	November	73·1	101·9	83·3
June	92·2	102·7	96·5	December	70·9	107·6	83·7
July	88·0	101·1	93·1				
August	89·7	99·4	93·7	**1947**			
September	91·2	98·6	94·5	January	74·1	109·8	86·6
October	96·2	101·1	98·8	February	75·7	113·3	88·8
November	102·3	108·8	105·5	March	73·8	107·8	85·7
December	104·0	113·8	108·2	April	73·0	104·6	84·1
				May	72·3	102·7	83·0
1946				June	76·6	105·5	86·9
January	107·2	127·5	114·9	July	75·6	104·1	85·8
February	111·6	124·8	116·9	August	77·3	104·1	87·0
March	101·3	119·9	108·4	September	80·1	101·2	88·0
April	99·8	127·9	110·0	October	78·9	102·7	87·6
May	94·2	130·4	107·0	November	79·5	108·4	89·9
June	92·0	125·7	104·0	December	74·8	108·5	86·6

Section 3.—Index Numbers of Bond Yields

The exceptional requirements of the war years of 1914-18 turned the Dominion authorities to the domestic market, a field that had hitherto served mainly the needs of the provinces and municipalities. Historical records of long-term bond yields in the domestic market prior to 1914 are obtainable, therefore, from provincial and municipal sources only. A record of Ontario issues from 1900 to date is available and was utilized for the first long-term bond yield index constructed by the Bureau of Statistics. The relatively long period for which the record has been preserved makes this series of considerable value.

Since the First World War, however, the growing importance of Dominion financing in the domestic market has made it advisable to supplement the Ontario series with the Dominion index of long-term bond yields shown in Table 8. This series (1935-39 = 100) has been computed from January, 1937, on the basis of yields computed from a 15-year, 3 p.c. theoretical issue. Quotations for the theoretical yields are computed by the Bank of Canada.

8.—Index Numbers of Dominion of Canada Long-Term Bond Yields, by Months, 1940-47

(1935-39 = 100)

Month	1940	1941	1942	1943	1944	1945	1946	1947
January	109·3	100·6	99·4	98·8	97·3	96·7	90·0	84·9
February	107·2	100·8	99·3	98·5	97·3	96·6	85·9	84·7
March	107·9	100·5	99·6	97·6	97·3	96·3	83·8	84·6
April	105·5	100·6	99·6	97·3	97·3	96·0	84·3	84·8
May	104·5	101·1	99·5	97·3	97·2	96·0	85·1	84·6
June	107·8	101·9	98·8	97·3	97·0	95·6	84·9	84·3
July	107·0	101·5	98·7	97·3	97·0	94·6	85·1	83·8
August	104·3	101·2	99·0	97·3	97·0	94·4	85·0	83·9
September	103·1	100·3	99·4	97·3	97·0	94·6	84·9	84·0
October	102·6	100·2	99·6	97·3	97·0	94·4	85·0	84·2
November	101·9	99·1	99·6	97·3	97·0	93·9	85·0	84·4
December	101·0	99·3	99·4	97·3	96·9	92·2	85·0	84·8

CHAPTER XXIII.—PUBLIC FINANCE

CONSPECTUS

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PART I.—DOMINION, PROVINCIAL AND MUNICIPAL FINANCE

Section 1.—Combined Statistics of Public Finance for all Governments*

The purpose of this Section is to present combined statistics of public finance for all governments of Canada—Dominion, Provincial and Municipal.

Combined Debt.—The statistics of provincial and municipal debt appear in greater detail in Tables **31** and **40**, respectively. The rapid growth of the combined debt during the war period 1942-45 as shown in Table **2**, has been due to the fact that large increases in the Dominion debt have overshadowed considerable reductions in provincial and municipal debt. However, it should be noted that the Dominion was able to finance the War without recourse to the issue of foreign pay bonds, and that the large increase in bonds outstanding represents additions to internal rather than external debt.

* Revised under the direction of J. H. Lowther, Director, Public Finance Division, Dominion Bureau of Statistics.

1.—Composition of Total Debt of All Governments, 1945, with Totals for 1944

NOTE.—These figures are as at the governmental fiscal year ends nearest Dec. 31, 1945.

Item	Dominion	Provincial	Municipal	Total	Deduct Inter-governmental Debt	Combined Governmental Debt
	$'000	$'000	$'000	$'000	$'000	$'000
Direct Debt—						
Funded debt	14,823,088	1,641,663	965,450	17,430,201	9,423	17,420,778
Less: Sinking funds	–	195,062	168,365	363,427	2	363,425
Net funded debt	14,823,088	1,446,601	797,085	17,066,774	9,421	17,057,353
Treasury bills	1,446,000[1]	210,149	6,749	1,662,898	184,823	1,478,075
Savings deposits	35,537	48,448	–	83,985	–	83,985
Temporary loans	–	25,790	26,058	51,848	–	51,848
Other direct liabilities	1,784,734[2]	73,347	116,371	1,974,452	44,955	1,929,497
Totals, Direct Debt (less sinking funds)	**18,089,359**	**1,804,335**	**946,263**	**20,839,957**	**239,199**	**20,600,758**
Indirect Debt—						
Guaranteed bonds	588,472[3]	135,134	53,080	776,686	10,717	765,969
Less: Sinking funds	4,851[4]	4,627	8,748	18,226	2,113	16,113
Net guaranteed bonds	583,621	130,507	44,332	758,460	8,604	749,856
Loans under the Municipal Improvement Assistance Act, 1938	–	5,317	–	5,317	5,317	–
Guaranteed bank loans and other indirect liabilities	9,189[5]	39,725	1,533	50,447	8,735	41,712
Totals, Indirect Debt (less sinking funds)	**592,810**	**175,549**	**45,865**	**814,224**	**22,656**	**791,568**
Grand Totals, 1945	**18,682,169**	**1,979,884**	**992,128**	**21,654,181**	**261,855**	**21,392,326**
1944	**15,842,556**	**1,994,950**	**1,027,381**	**18,864,887**	**273,686**	**18,591,201**

[1] Includes $740,000 deposit certificates and $256,000 six-month notes. [2] Excludes provincial debt accounts. [3] Includes both guaranteed and unguaranteed issues of the Canadian National Railways and National Harbours Boards at Mar. 31 to correspond with fiscal year end of the Dominion. [4] Includes deposits in lieu of mortgaged property sold, held by the Canadian National Railways. [5] Excludes contingent liability in respect of the Dominion's guarantee of deposits maintained by chartered banks in the Bank of Canada, miscellaneous guarantees the amounts of which were not finally determined or were indeterminate at the close of the fiscal year, and contingent liabilities of the Canadian National Railways.

2.—Combined Debt of All Governments, 1942-45

Item	1942	1943	1944	1945
	$'000	$'000	$'000	$'000
Direct Debt—				
Funded debt	9,596,267	12,287,936	14,556,235	17,420,778
Less: Sinking funds	422,494	436,868	402,038	363,425
Net funded debt	9,173,773	11,851,068	14,154,197	17,057,353
Treasury bills	1,212,651	1,212,096	1,692,099	1,478,075
Savings deposits	64,079	69,847	79,240	83,985
Temporary loans	86,666	65,194	30,848	51,848
Other direct liabilities	914,753	1,228,080	1,686,283	1,929,497
Totals, Direct Debt (less sinking funds)	**11,451,922**	**14,426,285**	**17,642,667**	**20,600,758**
Indirect Debt—				
Guaranteed bonds	977,638	948,893	851,682	765,969
Less: Sinking funds	17,517	16,892	18,124	16,113
Net guaranteed bonds	960,121	932,001	833,558	749,856
Guaranteed bank loans and other indirect liabilities	105,337	75,169	114,976	41,712
Totals, Indirect Debt (less sinking funds)	**1,065,458**	**1,007,170**	**948,534**	**791,568**
Grand Totals	**12,517,380**	**15,433,455**	**18,591,201**	**21,392,326**

Combined Revenues and Expenditures.—Tables 3 and 4 present an overall picture of Dominion, provincial and municipal finance by combining ordinary and capital account revenues and expenditures for each level of government. Since all expenditure—ordinary or capital—is included, amounts provided for debt retirement have been excluded to avoid duplication. The revenues and expenditures presented in these tables are on a "net" basis since the following revenues have been treated as offsets to their corresponding expenditures: shared-cost contributions of other governments, institutional revenue and certain other sales of commodities and services, and interest revenue exclusive of sinking fund earnings. Certain inter-governmental transfers such as the payments of the Dominion to the provinces for the vacation of tax fields are neither conditional grants nor payments for services and cannot, therefore, be offset against any specific expenditure. These are set out separately in Tables 3 and 4 so as to show grand totals of revenue and expenditure for each level of government as well as totals excluding inter-governmental transfers.

Discrepancies between the amounts shown in Tables 3 and 4 as inter-governmental transfers are due to variations in the fiscal year ends and accounting practices of governments.

3.—Combined Revenues of All Governments, 1945

NOTE.—Figures as at governmental fiscal year ends nearest Dec. 31, 1945. See text above *re* inter-governmental transfers.

Item	Dominion	Provincial	Municipal	Total
	$'000	$'000	$'000	$'000
Taxes—				
Corporation	652,751	851	–	653,602
Customs duties and import taxes	171,613	–	–	171,613
Gasoline	29,836	58,076	–	87,912
General sales	212,248	20,827	9,044	242,119
Income—persons	686,586	349	–	686,935
Liquor[1]	90,980	99,660	–	190,640
Succession duties	21,447	25,216	–	46,663
Real and personal property	–	5,613	263,761	269,374
Tobacco	172,686	6,021	–	178,707
Withholding tax	28,310	–	–	28,310
Other taxes	135,901	11,854	25,968	173,723
Totals, Taxes	2,202,358	228,467	298,773	2,729,598
Licences, Permits and Fees—				
Motor-vehicle	–	31,804	–	31,804
Other	4,649	12,417	8,237	25,303
Totals, Licences, etc	4,649	44,221	8,237	57,107
Public domain	2,092	40,238	–	42,330
Canadian National Railway surplus	24,756	–	–	24,756
Municipal public utility contributions	–	–	17,530	17,530
Post Office (net)	10,574	–	–	10,574
Bank of Canada profits	22,542	–	–	22,542
Bullion and coinage	4,954	–	–	4,954
Miscellaneous revenue	448,589[2]	3,695	28,618	480,902
Totals, Revenue (excluding Inter-Governmental Transfers)	2,720,514	316,621	353,158	3,390,293

For footnotes, see end of table.

3.—Combined Revenues of All Governments, 1945—concluded

Item	Dominion	Provincial	Municipal	Total
	$'000	$'000	$'000	$'000
Inter-governmental Transfers—				
Dominion subsidies to provinces	–	14,386	–	14,386
Provincial subsidies to municipalities	–	–	3,168	3,168
Vacation of tax fields[3]	–	83,300[4]	3,928	87,228
Gasoline tax guarantee[3]	–	3,494	–	3,494
Nova Scotia highway tax	–	512	–	512
Municipal Commissioner's levy (Manitoba)	–	941	–	941
Interest on Common School Fund and School Lands Fund Debentures	–	1,569	–	1,569
Totals, Inter-Governmental Transfers	–	104,202	7,096	111,298
Grand Totals	**2,720,514**	**420,823**	**360,254**	**3,501,591**

[1] Includes provincial profits from liquor control. [2] Includes $434,406, being excess of refunds over expenditure *re* expansion of industry. [3] As per Dominion-Provincial Taxation Agreement Acts. [4] Includes $1,747, adjustment for Alberta under departmental option plan.

4.—Combined Expenditures of All Governments, 1945

NOTE.—Figures as at governmental fiscal year ends nearest Dec. 31, 1945. See text on p. 962 *re* inter-governmental transfers.

Item	Dominion	Provincial	Municipal	Total
	$'000	$'000	$'000	$'000
Public Welfare—				
Health and hospital care	3,100	41,784	18,503	63,387
Labour and unemployment insurance	32,987	2,197	–	35,184
Relief	51	3,809	2,726	6,586
Old age and blind pensions	41,336	18,710	272	60,318
Family allowances	174,353	–	–	174,353
Other	12,492	18,229	25,466	56,187
Totals, Public Welfare	264,319	84,729	46,967	396,015
Education	8,760	71,893	100,776	181,429
Transportation	10,055	78,312	48,916	137,283
Agriculture	70,931	13,931	–	84,862
Public domain	27,278	22,575	–	49,853
National defence	2,229,600	–	–	2,229,600
Veterans pensions and aftercare	395,377	–	–	395,377
Mutual aid	967,745	–	–	967,745
Expansion of industry	[1]	–	–	–
Price control and rationing	174,539	–	–	174,539
Debt charges, net (excluding retirements)[2]	403,079	53,195	33,839	490,113
Other expenditures	127,453	46,240	103,637	277,330
Totals, Expenditure (excluding Inter-Governmental Transfers)	4,679,136	370,875	334,135	5,384,146
Inter-Governmental Transfers—				
Dominion subsidies to provinces	14,447	–	–	14,447
Provincial subsidies to municipalities	–	3,272	–	3,272
Vacation of tax fields[3]	94,343	–	–	94,343
Gasoline tax guarantee[3]	3,709	–	–	3,709
Nova Scotia highway tax	–	–	436	436
Municipal Commissioner's Levy (Manitoba)	–	–	888	888
Interest on Common School Fund and School Lands Fund Debentures	1,569	–	–	1,569
Totals, Inter-Governmental Transfers	114,068	3,272	1,324	118,664
Grand Totals	**4,793,204**	**374,147**	**335,459**	**5,502,810**

[1] Refunds in 1945-46 exceeded expenditures. (See Table 3, footnote 2.) [2] Excludes interest on common school fund and school lands fund debentures shown below under inter-governmental transfers. [3] As per Dominion-Provincial Taxation Agreement Acts.

Section 2.—Dominion Public Finance*

A sketch of public finance, from the French regime to the outbreak of the War of 1914-18, appears at pp. 742-743 of the 1941 Year Book, while detailed sketches *re* tax changes from 1914 to 1938 will be found in issues of the Year Book beginning with the 1926 edition. An outline of the financing of Canada's war effort, including the more important changes in taxation during the war years from 1939 to 1945 is given at pp. 918-923 of the 1945 Year Book. Tax changes included in the 1945-46 and 1946-47 Budgets are given at pp. 883-884 of the 1946 edition and those included in the 1947-48 Budget at pp. 952-953 of the 1947 edition.

The 1948-49 Budget.—The Budget for the fiscal year ended Mar. 31, 1949† was presented to Parliament on May 18, 1948. The preliminary accounts for the fiscal year 1947-48 showed revenues of $2,869,409,000 and expenditures totalling $2,199,451,000, leaving a surplus for the year of $669,958,000.

After taking account of the effect of proposed tax changes, a surplus of $489,000,000 was forecast for the fiscal year 1948-49.

The principal features of the tax changes made were:—

Personal Income Tax.—An additional exemption of $500 was granted to taxpayers of 65 years of age or over.

Corporation Tax.—The allowances and tax credits granted mining, oil and gas companies in respect of exploration and off-property drilling expenses were continued for another year.

Subsection 1.—Balance Sheets of the Government of Canada

Table 5 gives the Balance Sheets of the Government of Canada for 1943-48. On the asset side, accounts classified as *active* assets are shown; these represent cash or investments that are interest-producing or have a readily realizable cash value. On the liability side, such liabilities as have been ascertained and brought into the accounts are given. No liability is shown for interest accrued but not due, nor for current obligations incurred for supplies or services but not paid for at the end of the fiscal year. Indirect liabilities under guarantees are not reflected in the Balance Sheets, but are set out in a special schedule. (See p. 990.)

The excess of liabilities over active assets, designated the *net debt*, is analysed in a statement appended to the Balance Sheet, and is apportioned to non-active assets, which include capital expenditures and non-productive investments, and to accumulated deficits in Consolidated Deficit Account.

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* Revised, except as otherwise indicated, under the direction of Dr. W. C. Clark, C.M.G., Deputy Minister, Department of Finance, Ottawa.

† Copies of the 1948-49 Budget may be obtained on application from the Department of Finance, Ottawa.

5.—Balance Sheets of the Government of Canada, as at Mar. 31, 1943-48

NOTE.—Dashes in this table indicate that the corresponding stub item is not applicable for those years.

Item	ASSETS					
	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
Active Assets—						
Cash	91,908,327	18,239,121	157,766,568	808,611,430	484,545,825	38,041,758
Departmental working capital advances	6,839,988	7,813,296	7,373,699	9,327,052	8,574,300	11,737,355
Loans and Advances—						
To railway and shipping companies	576,663,686	572,756,589	656,364,583	699,528,379	679,007,739	760,725,106
To Foreign Exchange Control Board	400,000,000	585,000,000	850,000,000	1,550,000,000	870,000,000	650,000,000
To sundry Government agencies	187,762,676	305,858,515	282,169,911	275,657,064	265,893,561	304,654,437
To Provincial and Municipal Governments	163,092,312	162,655,193	178,253,940	173,903,894	171,373,973	107,744,803
To United Kingdom and other governments	999,904,469	1,190,124,511	1,151,852,580	817,311,425	1,464,077,736	1,846,014,909
Miscellaneous	32,961,699	28,405,282	35,066,038	19,513,724	8,641,593	7,513,161
Investments—						
Bank of Canada capital stock	5,920,000	5,920,000	5,920,000	5,920,000	5,920,000	5,920,000
Central Mortgage and Housing capital	–	–	–	25,000,000	25,000,000	25,000,000
Central Mortgage Bank capital stock	250,000	250,000	250,000	–	–	–
Canadian Farm Loan Board	34,029,927	29,025,335	24,024,189	21,623,227	21,022,882	21,122,357
Canada's subscription to the capital of:						
The International Monetary Fund	–	–	–	33,150	300,003,150	300,003,150
The International Bank for Reconstruction and Development	–	–	–	35,913	48,785,750	65,035,750
Balances receivable under agreements of sale of Crown assets	–	–	–	–	13,502,694	11,530,959
Miscellaneous	34,228,796	190,160,114	343,712,367	162,100,295	334,110,898	746,577,597
Provincial debt accounts	2,296,152	2,296,152	2,296,152	2,296,152	2,296,152	2,296,152
Deferred charges—unamortized discounts and commissions on loans	74,958,535	81,660,678	86,739,038	92,551,071	81,984,024	72,654,440
Sundry suspense accounts	401,214,256	538,873,551	757,030,444	1,025,027,959	19,367,775	20,021,943
Totals, Active Assets	**3,012,030,823**	**3,719,038,337**	**4,538,819,509**	**5,688,440,734**	**4,804,108,052**	**4,996,593,877**
Less — Reserve for possible losses on ultimate realization of active assets	75,000,000	100,000,000	125,000,000	150,000,000	153,668,860	170,881,788
Net Totals	**2,937,030,823**	**3,619,038,337**	**4,413,819,509**	**5,538,440,734**	**4,650,439,192**	**4,825,712,089**
Balance of liabilities over active assets, being net debt Mar.31	6,182,849,101	8,740,084,893	11,298,362,018	13,421,405,449	13,047,756,548	12,371,636,892
Totals, Gross Debt	**9,119,879,924**	**12,359,123,230**	**15,712,181,527**	**18,959,846,183**	**17,698,195,740**	**17,197,348,981**

5.—Balance Sheets of the Government of Canada, as at Mar. 31, 1943-48—concluded

Item	NET DEBT					
	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
Non-Active Assets—						
Public works, canals.	240,261,818	240,257,732	240,237,152	240,214,718	240,128,057	240,093,102
Public works, railways	425,961,949	426,384,171	427,013,772	429,327,013	431,981,163	435,773,149
Public works, miscellaneous	311,112,485	313,178,675	315,005,210	316,847,001	325,369,981	337,049,654
Military property and stores	12,572,185	12,616,533	12,616,533	12,616,533	12,616,533	12,616,533
Territorial accounts	9,895,948	9,895,948	9,895,948	9,895,948	9,895,948	9,895,948
Railway accounts (old)	62,791,436	62,791,435	62,791,435	62,791,435	62,791,435	62,791,435
Canadian National Railways Securities Trust stock	298,842,882	336,680,463	359,080,515	381,711,556	380,403,604	378,518,135
Canadian National Railways stock	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000	18,000,000
Canadian National Steamships (loans non-active)	13,871,969	13,707,446	13,158,350	13,158,350	12,053,186	11,797,206
Miscellaneous investments and other accounts (non-active)	99,966,500	99,516,760	99,987,614	100,501,840	101,155,318	91,608,773
Totals, Non-Active Assets	**1,493,277,172**	**1,533,029,163**	**1,557,786,530**	**1,585,064,394**	**1,594,395,225**	**1,598,143,934**
Consolidated Deficit Account	4,689,571,929	7,207,055,730	9,740,575,488	11,836,341,055	11,453,361,323	10,773,492,959
Totals, Net Debt	**6,182,849,101**	**8,740,084,893**	**11,298,362,018**	**13,421,405,449**	**13,047,756,548**	**12,371,636,893**
	LIABILITIES[1]					
	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
Floating debt	121,800,080	106,450,236	165,067,379	182,394,475	410,287,361	458,604,421
Deposit and trust accounts	617,426,832	862,876,698	993,601,448	1,366,378,362	175,437,523	115,665,726
Insurance, pension and guaranty accounts	326,837,109	366,640,537	406,471,918	457,993,538	526,843,490	610,731,903
Deferred credits	7,179,721	16,935,035	26,378,546	25,348,721	9,297,212	3,979,755
Sundry suspense accounts	37,097,518	36,031,174	81,334,200	66,491,899	19,382,550	31,432,608
Provincial debt accounts	11,919,969	11,919,969	11,919,968	11,919,969	11,919,969	11,919,969
Reserve for certain contingent liabilities	11,786,980	21,438,040	43,644,493	41,677,278	–	–
Reserve for conditional benefits — Veterans' Land Act, 1942	–	–	–	464,175	3,127,454	7,632,006
Funded debt, unmatured	7,985,831,715	10,936,831,541	13,983,763,575	16,807,177,765	16,541,900,182	15,957,382,593
Totals, Liabilities or Gross Debt	**9,119,879,924**	**12,359,123,230**	**15,712,181,527**	**18,959,846,183**	**17,698,195,740**	**17,197,348,981**

[1] Direct liabilities only. Indirect liabilities or guarantees given by the Government of Canada are dealt with in Table 26, p. 990.

Subsection 2.—Revenues and Expenditures

In the fiscal year ended Mar. 31, 1948, revenues declined by $136,130,203 from the previous year, while expenditures fell by $438,600,958. The surplus of revenues over expenditures for the fiscal year 1947-48 amounted to $676,119,656.

Total revenues aggregated $2,871,746,110, compared with $3,007,876,313 in 1946-47. Tax revenues were $24,414,082 higher than in the previous year, and non-tax revenues increased by $16,901,008, but special receipts and other credits declined by $177,445,293, due largely to smaller receipts from sales of surplus war assets.

Total expenditures were $2,195,626,454, compared with $2,634,227,412 in the previous year. Demobilization and reconversion expenditures continued to fall, $634,421,026 being disbursed for this purpose in 1947-48, compared with $1,314,798,107 in 1946-47. Ordinary expenditures increased to $1,380,002,023 in 1947-48, and accounted for 62·9 p.c. of total expenditures during the year.

Capital expenditures and special expenditures were both higher in 1947-48 than in the previous year, with the former totalling $15,655,975, and the latter $63,140,746.

The increase in the Canadian National Railways deficit was chiefly responsible for the increase in expenditure on account of Government-owned enterprises, which totalled $18,695,247 in 1947-48 compared with $10,681,863 in 1946-47. Other charges also increased during the year largely due to a $50,000,000 increase in the provision for losses on realization of assets.

6.—Details of Revenues, Years Ended Mar. 31, 1943-48

NOTE.—Dashes in this table indicate that the corresponding stub item is not applicable for those years.

Item	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
Ordinary Revenues—						
Tax Revenues—						
Customs import duties...	118,962,839	167,882,089	115,091,376	128,876,811	237,355,397	293,012,027
Excise duties.....	138,720,723	142,124,331	151,922,140	186,726,318	196,043,816	196,794,208
Income tax.....	860,188,672[1]	1,036,757,035[1]	977,758,068[1]	932,729,273	939,458,244	1,059,848,357
Excess profits tax.....	434,580,677[1]	428,717,840[1]	341,305,357[1]	426,696,483	442,497,443	227,030,494
Sales tax.....	250,478,438	304,913,484	209,389,876	326,252,799	328,073,095	383,012,443
War exchange tax.....	94,553,380	118,912,840	98,164,427	41,198,213	338,409	–
Succession duties.....	13,273,483	15,019,830	17,250,798	21,447,573	23,576,071	30,828,040
Gasoline tax.....	24,897,924	24,930,255	29,670,693	29,836,191	36,220,057	2,207,816
Other taxes.....	131,063,825	197,553,780	214,073,913	108,594,726	224,098,781	259,342,010
Totals, Tax Revenues.....	2,066,719,961	2,436,811,484	2,154,626,648	2,202,358,387	2,427,661,313	2,452,075,395
Non-Tax Revenues—						
Post Office.....	48,868,762	61,070,919	66,055,520	68,613,113	72,978,339	77,758,408
Return on investments....	41,242,237[2]	48,281,313[2]	60,749,185[2]	70,914,626[2]	69,438,880[2]	75,799,912[2]
Bullion and coinage.....	5,883,515	8,731,930	4,586,427	4,954,034	2,097,867	1,731,286
Premium, discount and exchange.....	394,880	2,153,879	–	–	–	–
Other.....	19,689,403	13,044,899	14,079,593	16,321,694	16,354,496	22,480,984
Totals, Non-Tax Revenues	116,078,797	133,282,940	145,470,725	160,803,467	160,869,582	177,770,590
Totals, Ordinary Revenues	**2,182,798,758**	**2,570,094,424**	**2,300,097,373**	**2,363,161,854**	**2,588,530,895**	**2,629,845,985**
Special Receipts (sundry receipts and credits).....	**61,961,746**	**193,636,614**	**385,905,221**	**649,602,045**	**416,758,276**	**229,621,503**
Other Credits—						
Refunds on capital account.	102,616	93,305	728,195	375,643	109,777	219,272
Credits to non-active accounts.....	4,633,057	1,193,370	604,010	45,532	2,477,365	12,059,350
Totals, Other Credits...	**4,735,673**	**1,286,675**	**1,332,205**	**421,175**	**2,587,142**	**12,278,622**
Grand Totals, Revenues...	**2,249,496,177**	**2,765,017,713**	**2,687,334,799**	**3,013,185,074**	**3,007,876,313**	**2,871,746,110**

[1] Excludes refundable portion. [2] Includes interest on investments, profits of Bank of Canada, Central Mortgage Bank and other items.

7.—Details of Expenditures, Years Ended Mar. 31, 1943-48

NOTE.—Dashes in this table indicate that the corresponding stub item is not applicable for those years.

Item	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
Ordinary Expenditures—						
Agriculture	8,492,275	8,841,403	9,424,274	10,318,960	13,300,123	16,310,711
Auditor General's Office	441,506	347,589	360,851	379,238	389,934	395,485
Civil Service Commission	426,737	455,918	460,441	479,632	593,348	664,654
External Affairs	1,093,939	1,531,723	1,910,151	4,521,654	5,127,916	7,194,931
Finance—						
Interest on public debt	188,556,249	242,681,180	318,994,821	409,134,502	464,394,876	455,455,204
Cost of loan flotations	13,837,949	19,285,402	20,678,683	22,310,720	1,308,955	861,450
Subsidies to provinces	14,490,085	14,449,353	14,445,267	14,446,629	14,382,750	33,394,114
Payments to provinces under Dominion-Provincial taxation agreements	94,214,558	95,434,862	93,333,930	98,051,769	94,380,510	122,496,918
Other grants and contributions	525,860	528,458	530,505	617,505	95,005	
Superannuation	391,397	345,628	325,316	298,988	257,642	
Government contribution to Superannuation Fund	2,341,302	2,298,594	2,340,793	2,696,038	3,160,893	
Old age pensions[1]	29,976,014	30,377,468	32,187,185	[2]	[2]	25,225,305[2]
Premiums, discount and exchange	–	–	16,348,193	14,733,764	9,172,317	
Other departmental expenditure	4,187,983	4,481,128	4,724,155	13,404,607	20,695,146	
Fisheries	1,698,909	1,696,035	2,159,170	3,262,018	3,598,715	4,097,163
Governor General and Lieutenant-Governors	224,627	222,042	222,757	226,615	252,053	238,943
Insurance	182,000	183,132	185,305	198,964	212,232	237,242
Justice Department—						
Justice	2,667,164	2,672,667	2,696,188	2,847,964	3,194,265	8,481,301
Penitentiaries	2,771,615	2,799,368	2,935,727	3,258,067	3,805,385	
Labour Department—						
Labour (including technical education)	716,581	1,169,462	1,446,016	1,620,934	2,009,864	2,651,249
Unemployment Insurance Act, 1940—						
Administration	4,657,394	5,170,900	5,112,627	6,184,964	7,496,042	35,140,405
Government contribution	11,487,058	12,344,422	12,746,179	12,513,779	15,200,000	
Government annuities — payments to maintain reserve	497,790	32,180	257,288	293,798	977,070	[3]
Legislation—						
House of Commons	1,826,852	1,916,484	1,613,923	2,235,744	2,786,392	4,491,635
Library of Parliament	76,533	76,873	71,682	73,846	90,020	
Senate	554,814	562,023	484,349	726,817	880,777	
General	60,608	84,455	94,644	98,035	166,906	
Chief Electoral Office, including elections	1,447,357	88,128	178,766	3,091,391	143,904	
Mines and Resources—						
Administration and general expenditures	160,574	169,558	167,623	164,776	172,902	23,614,832
Immigration and Colonization	1,267,701	1,260,594	1,309,034	1,523,246	2,046,801	
Indian Affairs	4,977,854	5,177,044	6,161,994	4,466,983	5,948,335	
Lands, Parks and Forests	1,753,289	1,586,162	1,831,040	2,688,657	4,961,843	
Surveys and Engineering	1,129,149	1,270,934	1,610,166	1,322,694	3,444,230	
Mines and Geological Survey	1,139,594	1,124,281	1,215,674	1,302,733	1,846,984	
National Defence—						
General Services	415,128	68,173	67,294	126,543	253,127	615,055
National Health and Welfare—						
Administration and general expenditures	–	–	1,725,263	7,293,560	8,616,692	10,814,479
Family allowances	–	–	–	172,632,147	245,140,532	263,165,192
Old age pensions[1]	[4]	[4]	[4]	33,715,092	35,927,514	58,089,960

For footnotes, see p. 969.

7.—Details of Expenditures, Years Ended Mar. 31, 1943-48—continued

Item	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
Ordinary Expenditures—concluded						
National Revenue (including Income Tax)	15,190,523	17,720,659	20,114,268	22,630,175	28,551,183	37,312,033
National War Services	427,627	547,158	837,719	5,183	–	–
Pensions, war and military	39,699,351	38,997,920	[5]	[5]	[5]	[5]
Pensions and National Health	14,079,352	15,843,443	[6]	[6]	[6]	[6]
Post Office	44,741,987	48,485,009	54,629,281	57,729,646	64,213,050	67,943,476
Prime Minister's office	62,127	64,683	64,217	61,022[7]	88,733[7]	99,268[7]
Privy Council	62,126	79,800	81,030	418,621	808,462	1,287,077
Public Archives	122,656	123,735	123,558	126,877	148,906	157,164
Public Printing and Stationery	245,422	234,762	232,299	238,136	292,889	535,701
Public Works	12,013,845	12,280,674	13,168,726	16,283,531	26,359,878	35,544,648
Reconstruction and Supply—Dominion Fuel Board Administration, coal subsidies and subventions	4,965,434	2,165,110	2,737,031	2,339,285	1,775,757	13,485,046
Other departmental expenditure	12,000	14,150	988,476	2,103,032	1,931,859	
Royal Canadian Mounted Police	6,241,962	6,677,804	7,182,689	7,283,610	8,604,309	10,405,879
Secretary of State	819,518	831,371	863,541	954,418	1,156,771	1,344,866
Soldier Settlement	567,287	836,945	[5]	[5]	[5]	[5]
Trade and Commerce—						
Mail subsidies and steamship subventions	615,596	799,652	868,699	993,773	1,103,232	10,845,947
Canada Grain Act	1,918,036	2,089,136	2,333,381	2,302,566	2,415,204	
Other departmental expenditures	4,566,049	4,196,194	3,497,390	4,052,984	7,360,187	
Transport—						
Administration and miscellaneous expenditures	374,947	399,904	404,850	410,728	482,910	30,122,568
Air Service	3,334,146	3,594,187	3,939,341	4,195,664	5,652,651	
Marine	4,256,974	4,503,797	4,894,037	4,890,409	5,961,331	
Railways and Canals	3,339,580	4,086,574	4,259,690	4,392,423	4,682,858	
Maritime Freight Rates Act	4,894,281	5,057,857	4,733,209	4,345,513	4,870,716	
Railway Grade Crossing Fund	11,792	16,613	33,954	31,918	37,075	
Veterans Affairs	–	–	81,031,273	72,849,232	93,304,690	97,282,123
Totals, Ordinary Expenditures	**561,251,063**	**630,380,760**	**767,375,933**	**1,061,902,119**	**1,236,234,650**	**1,380,002,023**
Capital Expenditures—						
Railways	37,555	692,382	629,639	2,313,241	2,654,150	3,809,480
Public Works	3,238,130	1,929,596	2,534,113	2,194,999	8,546,097	11,846,495
Totals, Capital Expenditures	**3,275,685**	**2,621,978**	**3,163,752**	**4,508,240**	**11,200,247**	**15,655,975**
Special Expenditures—						
Western drought area relief	406,011	2,794,424	1,483,113	12,379,224	6,930,516	11,193,653
Wheat acreage reduction payments including administration	25,868,562	30,950,346	1,967,546	556,500	1,732	–
Subsidy payments on oats and barley used as feed for live stock	–	–	–	–	–	13,963,218
Canadian Wheat Board	–	–	186,445	–	20,562,264	31,450,497
Other	5,013,305	3,751,537	3,868,682	4,422,678	4,431,671	6,533,377
Totals, Special Expenditures	**31,287,878**	**37,496,307**	**7,505,786**	**17,358,402**	**31,926,183**	**63,140,746**

[1] Includes pensions to blind persons. [2] Old age pensions included under National Health and Welfare. [3] Included under Labour (including technical education). [4] Included under Department of Finance. [5] Included under Department of Veterans Affairs. [6] Included under Departments of Veterans Affairs and National Health and Welfare. [7] Includes Federal District Commission.

7.—Details of Expenditures, Years Ended Mar. 31, 1943-48—continued

Item	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
War, Demobilization and Reconversion Expenditures—						
War and Demobilization Appropriation Acts	2,724,248,890	3,674,419,874	3,615,100,612	2,668,180,597	1,314,798,107	634,421,026
War Appropriation (United Kingdom Financing) Act, 1942	1,000,000,000	–	–	–	–	–
War Appropriation (United Nations Mutual Aid) Act, 1943 and 1944	–	912,603,220	803,345,703	909,768,600[1]	–	–
Write-off of Air Training Plan Loans and Advances as per United Kingdom Financial Agreement Act, 1946	–	–	–	425,000,000	–	–
Totals, War, Demobilization and Reconversion Expenditures	**3,724,248,890**	**4,587,023,094**	**4,418,446,315**	**4,002,949,197**	**1,314,798,107**	**634,421,026**
Government-Owned Enterprises—						
Losses Charged to Consolidated Deficit Account—						
Canadian National Railways	–	–	–	–	8,961,570	15,885,194
Prince Edward Island Car Ferry	591,095	698,365	773,384	687,800	887,964	931,856
National Harbours Board	–	29,488	58,907	85,859	114,601	137,162
Loans and Advances (Non-Active)—						
National Harbours Board	657,526	579,108	525,767	559,758	717,727	371,356
Trans-Canada Air Lines	–	–	–	–	–	1,369,678
Totals, Government-Owned Enterprises	**1,248,621**	**1,306,961**	**1,358,058**	**1,333,417**	**10,681,863**	**18,695,247**
Other Charges—						
Write-down of Assets Chargeable to Consolidated Deficit Account—						
Reduction in soldier and general land settlement loans	50,707	553,385	324,875	35,517	231,629	2,522
Reduction of Veterans' Land Act loans	–	–	–	–	128,507	2,097,391
Yearly established losses in seed grain and relief accounts	42,058	28,847	36,006	45,436	54,649	62,572
Cancellation of Canadian Farm Loan Board capital stock	7,355	4,592	1,146	962	345	525
Transfer from Airways and Airports Capital—amount charged in 1946-47 for airways facilities. State of Michigan	–	–	–	–	–	158,407
Reduction in equity in Canadian National Railways due to capital loss on abandonment of rolling-stock	–	–	–	–	1,307,952	1,885,469
Provision for reserve for possible losses on ultimate realization of active assets	25,000,000	25,000,000	25,000,000	25,000,000	25,000,000	75,000,000
Provision for reserve for conditional benefits under Veterans' Land Act, 1942	–	–	–	464,175	2,663,279	4,504,552
Write-down of Active Assets to Non-Active Assets—						
Canadian National Railways securities trust stock —reduction due to line abandonments	4,575,999	*—232,115*[2]	*—626,872*[2]	*—2,125,089*[2]	–	–

[1] Authorized under War Appropriation Act.

[2] Not comparable with previous years due to a change in the method of dealing with the item.

7.—Details of Expenditures, Years Ended Mar. 31, 1943-48—concluded

Item	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$
Other Charges—concluded						
Non-Active Accounts—						
Capital gain on repatriation of Canadian National Railways securities	11,072,593	2,430,284	–	–	–	–
Increase in Dominion's equity in the Canadian National Railways due to surplus earnings of the Canadian National Railways System for the calendar years 1941, 1942, 1943, 1944 and 1945	25,063,268	35,639,412	23,026,925	24,756,130	–	–
Totals, Other Charges	**65,811,980**	**63,424,405**	**47,762,080**	**48,177,131**	**29,386,362**	**83,711,437**
Grand Totals, Expenditures	**4,387,124,117**	**5,322,253,505**	**5,245,611,924**	**5,136,228,506**	**2,634,227,412**	**2,195,626,454**

8.—Principal Items of Revenues, Years Ended Mar. 31, 1930-48

Year	Customs Duties	Excise Duties	Income Tax	Excess Profits Tax[1]	Banks, Insurance Companies, etc.
	$	$	$	$	$
1930	179,429,920	65,035,701	69,020,726	173,300	1,482,836
1931	131,208,955	57,746,808	71,048,022	34,430	1,503,520
1932	104,132,677	48,654,862	61,254,400	3,000	1,402,273
1933	70,072,932	37,833,858	62,066,697	54	2,153,685
1934	66,305,356	35,494,220	61,399,171	Nil	2,077,227
1935	76,561,975	43,189,655	66,808,066	"	2,118,580
1936	74,004,560	44,409,797	82,709,803	"	2,041,776
1937	83,771,091	45,956,857	102,365,242	"	1,984,257
1938	93,455,750	52,037,333	120,365,532	"	1,973,679
1939	78,751,111	51,313,658	142,026,138	"	1,965,315
1940	104,301,487	61,032,044	134,448,566	"	1,874,923
1941	130,757,012	88,607,559	248,143,022[2]	23,995,269	2,505,556
1942	142,392,232	110,090,941	510,243,017[2]	135,168,345	2,636,623
1943	118,962,839	138,720,723	860,188,672[3]	434,580,677[3]	12,281,142
1944	167,882,089	142,124,331	1,036,757,035[3]	428,717,840[3]	7,691,066
1945	115,091,376	151,922,140	977,758,068[3]	341,305,357[3]	8,233,638
1946	128,876,811	186,726,318	932,729,273	426,696,483	8,971,967
1947	237,355,397	196,043,816	939,458,244	442,497,443	9,706,739
1948	293,012,027	196,794,208	1,059,848,357	227,030,494	3,804,001

Year	Sales and Other Excise Taxes	Succession Duties	Post Office	Interest on Investments	Total Revenue[4]
	$	$	$	$	$
1930	63,409,143	Nil	33,345,385	13,518,205	453,007,129
1931	34,734,661	"	30,212,326	10,421,224	357,720,435
1932	59,606,391	"	32,234,946	9,330,125	334,508,081
1933	82,191,575	"	30,928,317	11,220,989	311,735,286
1934	106,575,575	"	30,893,157	11,148,231	324,660,590
1935	112,192,069	"	31,248,324	10,963,478	361,973,764
1936	112,733,048	"	32,507,889	10,614,125	372,595,996
1937	152,473,422	"	34,274,552	11,231,035	454,153,747
1938	180,818,767	"	35,546,161	13,120,523	516,692,749
1939	161,710,572	"	35,288,220	13,163,015	502,171,354

[1] Belated revenue from the business profits tax not charged on profits accruing after Dec. 31, 1920, but received until 1933. [2] Includes National Defence Tax. [3] Excludes refundable portion. [4] Includes other items not specified.

8.—Principal Items of Revenues, Years Ended Mar. 31, 1930-48—concluded

Year	Sales and Other Excise Taxes	Succession Duties	Post Office	Interest on Investments	Total Revenue[1]
	$	$	$	$	$
1940	166,027,944	Nil	36,729,105	13,393,432	562,093,459
1941	284,167,032	"	40,383,366	14,910,554	872,169,645
1942	453,425,105	6,956,574	45,993,872	21,748,701	1,488,536,342
1943	488,712,425	13,273,483	48,868,762	41,242,237[2]	2,249,496,177
1944	638,619,292	15,019,831	61,070,919	48,281,313[2]	2,765,017,713
1945	543,065,271	17,250,798	66,055,520	60,749,186[2]	2,687,334,799
1946	496,909,961	21,447,573	68,613,113	70,914,626[2]	3,013,185,074
1947	579,023,601	23,576,071	72,978,339	69,438,880	3,007,876,313
1948	640,758,269	30,828,040	77,758,408	75,799,912	2,871,746,110

[1] Includes other items not specified. [2] Includes interest on investments, profits of Bank of Canada, Central Mortgage Bank and other items.

9.—Principal Items of Expenditures, Years Ended Mar. 31, 1930-48

NOTE.—Figures for the years 1868-1913, inclusive, are given at pp. 845-847 of the 1938 Year Book; those for 1914-29 at p. 930 of the 1945 edition.

Year	Ordinary Expenditures							
	Interest on Debt	Old Age Pensions	Pensions, War, Military and Civil	Public Works	National Defence	Subsidies to Provinces	Post Office	Total Ordinary Expenditures[1]
	$	$	$	$	$	$	$	$
1930	121,566,213	1,537,174	40,406,565	19,819,032	21,986,537	12,496,958	36,557,012	363,237,478
1931	121,289,844	5,658,143	45,965,723	25,452,742	23,736,447	17,435,736	37,891,693	386,584,863
1932	121,151,106	10,032,410	48,686,389	17,647,854	18,221,632	13,694,970	36,052,208	372,101,318
1933	134,999,069	11,512,543	45,078,919	13,108,013	13,750,314	13,677,384	31,607,404	354,643,201
1934	139,725,417	12,313,595	43,883,132	10,827,171	13,476,862	13,727,565	30,553,768	351,771,161
1935	138,533,202	14,942,459	44,235,808	9,904,494	14,185,772	13,768,953	30,252,310	359,700,909
1936	134,549,169	16,764,484	43,337,096	12,945,277	17,177,074	13,768,953	31,437,719	372,539,149
1937	137,410,345	21,149,352	43,356,180	14,518,758	22,923,093	13,735,196	31,906,272	387,112,072
1938	132,117,422	28,653,005[2]	42,823,277	12,382,073	32,760,307	13,735,336	33,762,269	414,891,410
1939	127,995,617	29,043,639[2]	42,793,055	15,484,197	34,432,023	13,752,110	35,455,182	413,032,202
1940	129,315,442	29,976,554[2]	42,868,901	13,065,212	13,118,732	13,768,953	36,725,870	398,323,206
1941	139,178,670	29,911,700[2]	42,195,709	11,506,678	193,985	13,768,953	38,699,674	390,629,350
1942	155,017,901	29,611,796[2]	41,244,221	11,937,005	260,482	14,408,622	41,501,869	444,777,696
1943	188,556,249	29,976,014[2]	39,699,351[3]	12,013,845	415,128	14,490,085	44,741,987	561,251,063
1944	242,681,180	30,377,468[2]	38,997,920[3]	12,280,674	68,713	14,449,353	48,485,009	630,380,760
1945	318,994,821	32,227,718[2]	39,371,792[3]	13,168,726	67,293	14,445,267	54,629,281	767,375,932
1946	409,134,502	33,715,092[2]	39,996,360[3]	16,283,531	126,543	14,446,629	57,729,646	1,061,902,119
1947	464,394,876	35,927,514[2]	40,770,636[3]	26,359,878	253,127	14,382,750	64,213,050	1,236,234,650
1948	455,455,204	58,089,961[2]	41,227,033[3]	35,544,648	615,055	33,394,114	67,943,476	1,380,002,023

Year	Capital Expenditures				Other Expenditures			Total Expenditures
	Public Works	Railways	Canals	Total	War, Demobilization and Reconversion	Other Charges[4]	Total	
	$	$	$	$	$	$	$	$
1930	8,589,022	6,873,511	10,264,187	25,726,720	Nil	16,302,185	16,302,185	405,266,383
1931	12,145,264	6,702,854	9,862,574	28,710,692	"	26,272,857	26,272,857	441,568,413
1932	7,485,438	6,376,207	3,304,298	17,165,943	"	59,475,056	59,475,056	448,742,316
1933	4,233,789	1,658,812	3,156,328	9,048,929	"	168,677,810	168,677,810	532,369,940
1934	3,839,751	754,194	1,986,140	6,580,085	"	99,806,659	99,806,659	458,157,905

For footnotes, see end of table.

9.—Principal Items of Expenditures, Years Ended Mar. 31, 1930-48—concluded

Year	Capital Expenditures				Other Expenditures			Total Expenditures
	Public Works	Railways	Canals	Total	War, Demobilization and Reconversion	Other Charges[4]	Total	
	$	$	$	$	$	$	$	$
1935...	6,243,737	525,772	337,907	7,107,416	Nil	111,298,256	111,298,256	478,106,581
1936...	5,799,341	286,887	457,926	6,544,154	"	153,502,252	153,502,252	532,585,555
1937...	3,236,564	203,035	51,945	3,491,544	"	141,401,816	141,401,816	532,005,432
1938...	4,358,698	71,454	-	4,430,152	"	115,086,555	115,086,555	534,408,118
1939...	5,397,928	26,348	-	5,424,276	"	134,606,619	134,606,619	553,063,098
1940...	7,007,468	22,570	-	7,030,038	118,291,022	157,149,526	275,440,548	680,793,792
1941...	3,350,989	6,821	-	3,357,810	752,045,326	103,568,960	855,614,286	1,249,601,446
1942...	3,425,930	4,517	-	3,430,447	1,339,674,152	97,183,761	1,436,857,913	1,885,066,056
1943...	3,238,130	37,555	-	3,275,685	3,724,248,890	98,348,479	3,822,597,369	4,387,124,117
1944...	1,929,596	692,382	-	2,621,978	4,587,023,094	102,227,673	4,689,250,767	5,322,253,505
1945...	2,534,113	629,639	-	3,163,752	4,418,446,315	56,625,925	4,475,072,240	5,245,611,924
1946...	2,194,999	2,313,241	-	4,508,240	4,002,949,197	66,868,950	4,069,818,147	5,136,228,506
1947...	8,546,097	2,654,150	-	11,200,247	1,314,798,107	71,994,408	1,386,792,515	2,634,227,412
1948...	11,846,495	3,809,480	-	15,655,975	634,421,026	165,547,430	799,968,456	2,195,626,454

[1] Includes various non-enumerated items. [2] Includes pensions to blind persons. [3] Excludes civil pensions. [4] For details, see Table 10.

10.—Analysis of "Other Charges" (Shown in Table 9), Years Ended Mar. 31, 1930-48

Year	Special Expenditures		Government-Owned Enterprises		Other Charges		Total
	Direct Relief, Relief Projects and Other Works	Wheat Bonus and Losses on Grain Marketing Operations, etc.	Losses Charged to Consolidated Fund	Loans and Advances Non-Active	Write-Down of Assets Chargeable to Consolidated Fund	Non-Active Accounts	
	$	$	$	$	$	$	$
1930.....	Nil	Nil	4,308,357	8,244,950	3,731,536	17,342	16,302,185
1931.....	4,431,655	"	6,712,239	5,487,941	9,640,997	25	26,272,857
1932.....	38,295,515	10,908,429	6,631,856	3,112,285	526,971	Nil	59,475,056
1933.....	36,720,935	1,811,472	62,139,413	66,453,050[1]	105,717	1,447,223	168,677,810
1934.....	35,898,311	Nil	58,955,388	2,095,773	1,857,087	1,000,100	99,806,659
1935.....	60,659,856	"	48,407,901	1,728,900	490,191	11,408	111,298,256
1936.....	79,416,256	22,631,029	48,817,489	2,122,912	514,566	Nil	153,502,252
1937.....	78,003,702	Nil	43,553,112	665,414	692,473	18,487,115	141,401,816
1938.....	68,534,364	"	42,745,791	2,087,597	1,579,242	139,561	115,086,555
1939.....	46,895,407	25,000,000[2]	55,658,306	3,285,188	3,767,718	Nil	134,606,619
1940.....	54,612,951	34,500,000[3]	41,044,004	1,035,145	23,320,028	2,637,398	157,149,526
1941.....	27,646,853	15,222,245	17,465,731	715,948	29,878,632[4]	12,639,551	103,568,960
1942.....	8,500,359	55,475,414	456,166	758,089	27,878,132[4]	4,115,601	97,183,761
1943.....	5,013,305	26,274,573	591,095	657,526	29,676,119[4]	36,135,861	98,348,479
1944.....	3,751,537	33,744,770	727,853	579,108	25,586,824[4]	37,837,581	102,227,673
1945.....	3,868,682	3,637,104	832,291	525,767	25,362,027[4]	22,400,054	56,625,925
1946.....	4,422,678	12,935,724	773,659	559,758	25,546,090[4]	22,631,041	66,868,950
1947.....	4,431,671	27,494,512	9,964,136	717,727	29,386,361[4]	Nil	71,994,408
1948.....	6,533,377	56,607,369[5]	18,323,891	371,356	83,711,437[6]	"	165,547,430

[1] Includes a write-down of assets amounting to $62,938,239. [2] Reserve against estimated losses on wheat marketing guarantees applicable to the fiscal year 1938-39. [3] Reserve against estimated losses on wheat marketing guarantees applicable to the fiscal year 1939-40 to the extent of $27,000,000. [4] Includes $25,000,000 as reserve against possible losses on assets. [5] Includes $13,963,218 subsidy payments on oats and barley used as feed for live stock. [6] Includes $75,000,000 as reserve for possible losses on assets.

11.—Per Capita Revenues and Expenditures, Years Ended Mar. 31, 1930-48

NOTE.—The years marked with an asterisk (*) are Census years; per capita figures for intercensal years are based on estimated populations, see p. 139. See Tables **6-10** for the figures of revenues and expenditures on which this table is based. Figures for the years 1868–1912, inclusive, will be found at p. 849 of the 1938 Year Book; those for 1913–29 at p. 932 of the 1945 edition.

Year	Per Capita				Year	Per Capita			
	Revenue from Taxation	Total Revenue	Ordinary Expenditure	Total Expenditure		Revenue from Taxation	Total Revenue	Ordinary Expenditure	Total Expenditure
	$	$	$	$		$	$	$	$
1930	37·09	43·68	35·06	39·01	1940	41·14	49·39	35·00	59·82
1931*	28·55	34·33	37·54	42·41	1941*	67·63	75·80	33·95	108·61
1932	26·17	32·04	35·72	42·91	1942	116·78	127·73	38·17	161·75
1933	23·92	29·32	33·35	50·07	1943	174·97	190·44	47·52	371·41
1934	25·31	30·23	32·75	42·66	1944	203·49	230·90	52·64	444·45
1935	28·07	33·38	33·17	44·09	1945	177·79	221·74	63·32	432·84
1936	28·98	34·03	34·02	48·64	1946	178·95	244·84	86·28	417·34
1937	35·00	41·12	35·23	48·17	1947	192·95	239·06	98·25	209·36
1938	40·23	46·33	37·20	47·92	1948	190·33	222·91	107·12	170·43
1939	38·67	44·57	36·66	49·09					

12.—Per Capita Revenues and Expenditures, by Principal Items, Years Ended Mar. 31, 1943-48

NOTE.—See Table **6** for revenues and Table **7** for expenditures on which these per capita figures are based. Dashes in this table indicate that no revenues were collected or expenditures made under the corresponding headings because the items were not applicable in the years so indicated.

Item	1943	1944	1945	1946	1947	1948
	REVENUES					
	$	$	$	$	$	$
Ordinary Revenues—						
Tax Revenues—						
Customs import duties	10·07	14·02	9·50	10·47	18·87	22·74
Excise duties	11·74	11·87	12·54	15·17	15·58	15·27
Income tax	72·82	86·58	80·68	75·79	74·67	82·27
Excess profits tax	36·79	35·80	28·16	34·67	35·17	17·62
Sales tax	21·21	25·46	17·28	26·51	26·07	29·73
War exchange tax	8·01	9·93	8·10	3·35	0·03	–
Succession duties tax	1·12	1·25	1·42	1·74	1·87	2·39
Gasoline tax	2·11	2·08	2·45	2·43	2·88	0·18
Other taxes	11·10	16·50	17·66	8·82	17·81	20·13
Totals, Tax Revenues	174·97	203·49	177·79	178·95	192·95	190·33
Non-Tax Revenues—						
Post Office	4·14	5·10	5·45	5·58	5·80	6·04
Return on investments	3·49	4·03	5·01	5·76	5·52	5·88
Bullion and coinage	0·50	0·73	0·38	0·40	0·16	0·13
Premium, discount and exchange	0·03	0·18	–	–	–	–
Other	1·67	1·09	1·16	1·33	1·30	1·75
Totals, Non-Tax Revenues	9·83	11·13	12·00	13·07	12·78	13·80
Totals, Ordinary Revenues	**184·80**	**214·62**	**189·79**	**192·02**	**205·73**	**204·13**
Special Receipts and Other Credits	**5·65**	**16·28**	**31·95**	**52·82**	**33·33**	**18·78**
Grand Totals, Revenues	**190·45**	**230·90**	**221·74**	**244·84**	**239·06**	**222·91**
	EXPENDITURES					
	$	$	$	$	$	$
Ordinary Expenditures—						
Agriculture	0·72	0·74	0·78	0·84	1·06	1·27
Finance—						
Interest on public debt	15·96	20·27	26·32	33·24	36·91	35·35
Cost of loan flotations	1·17	1·61	1·71	1·81	0·10	0·07
Subsidies to provinces	1·23	1·21	1·19	1·17	1·14	2·59

12.—Per Capita Revenues and Expenditures, by Principal Items, Years Ended Mar. 31, 1943-48—concluded

Item	1943	1944	1945	1946	1947	1948
	EXPENDITURES—concluded					
	$	$	$	$	$	$
Ordinary Expenditures—concluded						
Finance—concluded						
Payments to provinces under Dominion-Provincial taxation agreements	7·98	7·97	7·70	7·97	7·50	9·51
Old age pensions[1]	2·54	2·54	2·66	[2]	[2]	[2]
Fisheries	0·14	0·14	0·18	0·27	0·29	0·32
Justice (including penitentiaries)	0·46	0·46	0·47	0·50	0·56	0·66
Labour (including technical education, unemployment insurance and Government annuities)	1·47	1·56	1·61	1·67	2·04	2·93
Mines and Resources—						
Immigration and Colonization	0·11	0·11	0·11	0·12	0·16	–
Indian Affairs	0·42	0·43	0·51	0·36	0·47	–
Mines and Geological Survey	0·10	0·09	0·10	0·11	0·15	–
National Health and Welfare—						
Administration and general expenditures	–	–	0·14	0·59	0·68	0·84
Family allowances	–	–	–	14·02	19·48	20·43
Old age pensions[1]	[3]	[3]	[3]	2·74	2·86	4·51
National Revenue (including income tax)	1·29	1·48	1·66	1·84	2·27	2·90
Pensions, war and military	3·36	3·26	[4]	[4]	[4]	[4]
Pensions and National Health	1·19	1·32	[5]	[5]	[5]	[5]
Post Office	3·79	4·05	4·51	4·69	5·10	5·27
Public Works	1·02	1·03	1·09	1·32	2·10	2·76
Reconstruction and Supply—						
Coal subsidies and subventions	0·42	0·18	0·23	0·19	0·14	–
Royal Canadian Mounted Police	0·53	0·56	0·59	0·59	0·68	0·81
Trade and Commerce	0·60	0·59	0·55	0·60	0·86	0·84
Transport—						
Air Service	0·28	0·30	0·33	0·34	0·45	–
Marine	0·36	0·38	0·40	0·40	0·47	–
Railways and Canals (including Maritime Freight Rates Act and Railway Grade Crossing Fund)	0·70	0·77	0·74	0·71	0·76	–
Veterans Affairs	–	–	6·69	5·92	7·42	7·55
Totals, Ordinary Expenditures[6]	**47·52**	**52·64**	**63·32**	**86·28**	**98·25**	**107·12**
Totals, Capital Expenditures	**0·28**	**0·22**	**0·26**	**0·37**	**0·89**	**1·22**
Totals, Special Expenditures	**2·65**	**3·13**	**0·62**	**1·41**	**2·54**	**4·90**
War, Demobilization and Reconversion Expenditures	**315·29**	**383·05**	**364·59**	**325·26**	**104·50**	**49·24**
Government-Owned Enterprises	**0·10**	**0·11**	**0·11**	**0·11**	**0·85**	**1·45**
Other Expenditures	**5·57**	**5·30**	**3·94**	**3·91**	**2·33**	**6·50**
Grand Totals, Expenditures	**371·41**	**444·45**	**432·84**	**417·34**	**209·36**	**170·43**

[1] Includes pensions to blind persons. [2] Included under National Health and Welfare. [3] Included under Department of Finance. [4] Included under Veterans Affairs. [5] Included under Veterans Affairs and National Health and Welfare. [6] Includes items not specified.

Subsection 3.—Analysis of Revenues from Taxation

Table **13** gives a picture of the proportions of total expenditures that have been met by taxation and from all sources of revenue for each of the fiscal years ended Mar. 31, since 1936. Prior to the Second World War, and as Canada was pulling away from the depression of the early 1930's, the record showed a substantial improvement and in 1938, 96·7 p.c. of all expenditures was being met from all revenue and almost 84 p.c. from taxation revenue. Subsequently, as was to be expected, the reverse was the case. For 1948, however, revenues from taxation alone exceeded total expenditures by a substantial amount due to the maintenance of high taxation levels. This accounts for the situation shown by the figures of Table **13**, where percentages of total expenditures provided from taxation and from all revenues are given as 111·68 and 130·79, respectively, for that year.

13.—Total Expenditures and the Percentages Thereof Raised by Taxation and All Revenue, Years Ended Mar. 31, 1936-48

Year	Total Expenditures	Taxation Revenue	Total Revenue	Percentages of Total Expenditures Provided from—	
				Taxation	All Revenue
	$	$	$	p.c.	p.c.
1936	532,585,555	317,311,809	372,595,996	59·58	69·96
1937	532,005,432	386,550,869	454,153,747	72·66	85·36
1938	534,408,118	448,651,061	516,692,749	83·95	96·68
1939	553,063,098	435,706,794	502,171,354	78·78	90·80
1940	680,793,792	467,684,963	562,093,459	68·70	82·56
1941	1,249,601,446	778,175,450	872,169,645	62·28	69·80
1942	1,885,066,056	1,360,912,837	1,488,536,342	72·19	78·96
1943	4,387,124,117	2,066,719,961	2,249,496,177	47·11	51·27
1944	5,322,253,505	2,436,811,484	2,765,017,713	45·78	51·95
1945	5,245,611,924	2,154,626,648	2,687,334,799	41·08	51·23
1946	5,136,228,506	2,202,358,387	3,013,185,074	42·88	58·67
1947	2,634,227,412	2,427,661,313	3,007,876,313	92·16	114·18[1]
1948	2,195,626,454	2,452,075,395	2,871,746,110	111·68[1]	130·79[1]

[1] See text at foot of p. 975 for explanation.

As shown in Table 8, the revenues from customs and excise duties, the two most important sources prior to the First World War, amounted in 1948 to only 20 p.c. of the revenue derived from taxation and revenue from income tax formed 43 p.c. of the tax revenue.

The following analyses of taxation revenues are confined to excise duties, excise taxes and income tax revenue; customs receipts constitute a single item in the "Public Accounts" and cannot be further analysed here.

Excise Duties*

Excise duties proper are presented here together with a summary of the excise tariff and statistics arising as a by-product of administration, such as the quantities of grain and other products used in distillation and the quantities of excisable goods taken out of bond.

Canadian Excise Tariff.—The following is a statement of the Canadian excise tariff, as existing at Oct. 1, 1948:—

1. Spirits distilled in Canada, per proof gal... $11·00
   Canadian brandy, per proof gal..... $ 9·00
   Except Spirits as follows:—
   - *(a)* Used in a bonded manufactory for medicines, extracts, etc., per proof gal..... $ 1·50
   - *(b)* Used in a bonded manufactory for perfumes, per proof gal..... $ 1·50
   - *(c)* Used for chemical compositions approved by Governor in Council, per proof gal..... $ 0·15
   - *(d)* Sold to licensed druggists for pharmaceutical preparations, per proof gal..... $ 1·50
   - *(e)* Distilled from native fruits and used by a licensed wine manufacturer for fortification of native wines, per proof gal..... $ 1·50

2. Spirits imported (in addition to any of the duties otherwise imposed), per proof gal..... $ 0·30

3. Beer or Malt Liquor:—
   Brewed in whole or part from any substance other than malt, per gal.... $ 0·45

4. Malt:—
   - *(a)* Produced in Canada and screened, per lb..... $ 0·16
   - *(b)* Imported, per lb..... $ 0·16

5. Tobacco, Cigars and Cigarettes:—
   - *(a)* Manufactured tobacco, per lb..... $ 0·35
   - *(b)* Cigarettes weighing not more than 2½ lb. per M, per M..... $ 6·00
   - *(c)* Cigarettes, weighing more than 2½ lb. per M, per M..... $ 11·00
   - *(d)* Canadian raw leaf tobacco, when sold for consumption, per lb..... $ 0·20

* Revised by Customs and Excise Division, Department of National Revenue.

A drawback of 99 p.c. of the duty may be granted when domestic spirits, testing not less than 50 p.c. over proof, are delivered in limited quantities to universities, scientific or research laboratories, or to any bona fide public hospital for medicinal purposes only.

Revenues from Excise Duties.—In the year ended Mar. 31, 1948, tobacco, including cigarettes, supplied about 48 p.c. of the revenue from excise duties.

14.—Gross Excise Duties Collected, Years Ended Mar. 31, 1942-48

(As shown in the Report of the Commissioner of Excise)

Item	1942	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$	$
Spirits	21,994,307	31,612,277	30,908,236	31,576,777	47,766,499	51,729,636	53,360,650
Validation fee	416,576	513,027	441,258	633,523	1,042,625	947,710	770,880
Beer or malt liquor	414,018	579,859	371,956	7,102,636	6,646,438	2,511,311	3,819,875
Malt syrup	102,730	72,762	222,250	244,266	177,152	91,700	67,878
Malt	25,241,291	33,952,236	35,080,381	35,121,290	41,382,052	49,208,816	53,625,293
Tobacco (incl. cigarettes)	64,452,468	75,757,280	79,315,378	82,538,590	97,595,346	100,867,668	101,900,638
Cigars	597,488	614,444	590,310	603,483	632,743	294,844	215,479
Licences	39,336	38,270	36,626	36,705	38,692	39,690	37,468
Totals[1]	**113,258,214**	**143,140,155**	**146,966,395**	**157,857,270**	**195,281,547**	**205,691,375**	**213,798,162**

[1] These totals do not agree with net excise duties as shown in Table **6**, due to refunds, drawbacks and, in the case of spirits, a transfer tax being included here.

Statistics of Licences and Distillation.—As a by-product of the collection of excise duties, statistics are compiled of excise licences issued and of distillation.

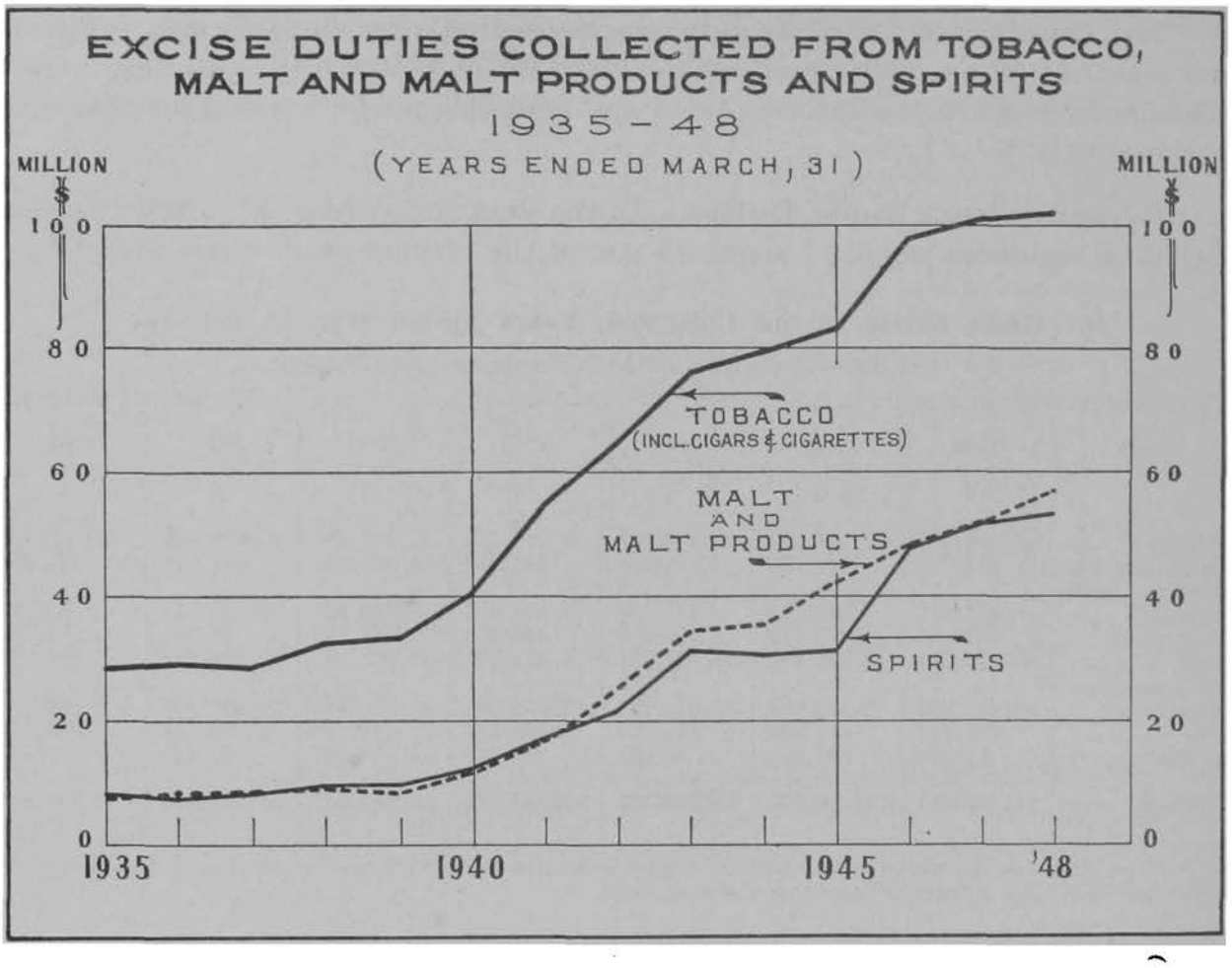
15.—Statistics of Licences and Distillation, Years Ended Mar. 31, 1942-48

Item	1942	1943	1944	1945	1946	1947	1948
Licences issued....No.	19	20	21	22	22	24	25
Licence fees..... $	4,500	5,125	5,250	6,375	5,500	6,625	6,250
Grain, etc., Used for Distillation—							
Malt..... lb.	17,808,827	30,488,625	45,876,662	65,174,752	62,436,322	38,118,151	49,997,856
Indian corn..... "	77,894,730	59,003,261	7,172,323	39,946,582	26,710,786	91,807,930	248,056,463
Rye..... "	30,103,297	18,227,483	6,555,429	31,737,221	30,605,412	24,545,992	25,694,278
Other grain[1]..... "	13,836,906	180,352,641	396,967,171	455,098,683	429,448,845	133,173,559	34,616,203
Totals, Grain Used..... "	139,643,760	288,072,010	456,571,585	591,957,238	549,201,365	287,645,632	358,364,800
Molasses used..... lb.	136,970,515	48,478,178	187,164	66,744	9,429,064	71,690,199	111,812,928
Wine and other materials..... "	366,290	13,015,476	1,301,748	4,358,519	3,924,329	4,305,252	5,467,095
Sulphide liquor...gal.	Nil	Nil	48,172,196	74,593,045	73,557,030	74,126,650	95,063,070
Proof spirits manufactured.....proof gal.	17,569,476	19,657,698	27,203,337	35,555,059	34,625,339	21,571,074	28,198,327

[1] Classification of this figure not available.

The quantity of spirits manufactured has fluctuated greatly since 1920, varying from the low of 2,356,329 proof gal. in that year to the high of 35,555,059 proof gal. recorded in 1945.

Alcohol and Tobacco Taken Out of Bond.—Record amounts of spirits, malt liquor, malt and cigarettes were taken out of bond for consumption in 1948. For details see Table **16**, p. 812, Chapter XX.



Excise Taxes

The statistics given in Table **17** represent gross collections by the Excise Division of the Department of National Revenue; they differ from the figures shown in Table **8** (in the column "Sales and Other Excise Taxes"), which represent net revenues received, by the amounts of the refunds shown in footnote 3 to Table **17**.

17.—Excise War Taxes Collected, by Commodities and Provinces, Years Ended Mar. 31, 1942-48

(Accrued Revenue)

NOTE.—Dashes in this table indicate that there was no tax imposed on the corresponding item in the years so indicated.

Commodity	1942	1943	1944	1945	1946	1947	1948
Commodities	$	$	$	$	$	$	$
Domestic—							
Amusements	8,792,169	12,065,716	13,701,496	14,188,083	15,575,309	17,061,849	17,887,217
Automobiles	16,045,994	2,924,340	5,921,754	6,294,009	6,296,296	12,147,218	26,203,014
Beverages	6,246,618	14,117,819	19,057,382	19,437,772	16,653,926	18,629,492	23,751,434
Candy and chewing gum	–	8,183,680	12,602,157	12,859,816	11,416,787	12,793,120	17,138,611
Carbonic acid gas	292,572	198,231	241,647	255,469	284,872	296,050	352,073
Cigarette papers and tubes	3,689,840	3,531,201	1,963,258	4,901,009	4,284,457	6,508,877	6,124,539
Cigars, cigarettes and tobacco	329,310	26,286,288	54,673,051	62,246,563	70,128,642	76,137,520	68,450,719
Electrical and gas apparatus	8,079,958	4,995,015	2,860,270	3,604,480	1,207,069	6,918	2,164,381
Embossed cheques (departmental)	339,881	364,869	346,042	324,670	341,590	370,072	372,698
Furs	–	3,129,701	4,146,248	4,902,513	4,509,286	2,732,627	2,860,355
Gasoline	23,803,222	24,336,052	24,760,040	29,523,926	29,482,040	35,013,531	2,193,131
Licences	72,185	64,986	66,172	71,398	79,841	91,227	90,139

17.—Excise War Taxes Collected, by Commodities and Provinces, Years Ended Mar. 31, 1942-48—concluded

Commodity or Province	1942	1943	1944	1945	1946	1947	1948
Commodities—conc.	$	$	$	$	$	$	$
Domestic—concluded							
Lighters	154,074	162,900	63,380	123,814	285,060	318,822	350,099
Matches	2,554,602	2,661,665	2,767,790	2,968,664	3,291,926	3,616,155	3,498,106
Other manufactures tax	171,462	3,059,897	9,188,358	10,797,247	13,107,424	15,759,737	14,855,135
Phonographs, radios and tubes	2,337,772	1,156,821	408,285	975,035	596,968	2,202,202	4,863,237
Playing cards	372,337	563,829	627,100	640,785	729,000	691,400	512,414
Sales, domestic	214,948,427	224,289,399	302,755,414	372,428,104	296,610,969	278,824,448	323,670,079
Stamps	4,552,989	12,209,804	12,652,793	12,642,984	14,472,033	15,901,819	15,514,256
Sugar	21,402,383	14,571,572	12,769,384	11,557,494	9,672,143	10,877,731	10,100,679
Toilet preparations	3,454,910	4,484,050	5,295,317	6,188,703	6,820,578	7,106,755	6,813,907
Transportation and transmission	8,131,330	16,083,059	22,379,096	24,205,479	26,893,391	27,930,562	27,530,884
Wines	1,444,916	2,006,816	1,710,217	1,772,375	2,066,109	2,393,718	2,341,585
Penalties and interest	129,187	189,727	264,524	297,323	221,904	222,078	286,070
Totals, Domestic	327,346,138	381,631,437	511,221,175	603,207,715	535,027,620	547,633,928	577,924,762
Imported	136,448,688	124,629,989	161,740,264	134,576,183	75,887,696	61,234,900	84,199,983
Grand Totals[1]	**463,794,826**	**506,261,426**	**672,961,439**	**737,783,898**	**610,915,316**	**608,868,828**	**662,124,745**
Provinces							
Prince Edward Island	212,425	339,638	513,280	432,082	450,411	537,640	498,170
Nova Scotia	9,086,603	10,701,947	14,057,972	13,546,842	9,498,914	8,816,771	10,409,922
New Brunswick	8,238,695	7,506,656	10,632,423	10,653,358	8,230,070	7,815,592	8,721,379
Quebec	133,929,154	179,651,152	259,893,903	293,206,071	240,290,038	242,967,151	249,820,294
Ontario	260,244,795	251,494,398	319,213,251	352,331,247	292,357,960	279,023,635	306,183,730
Manitoba	13,046,036	14,759,663	17,277,555	18,199,488	17,703,441	21,403,741	22,214,291
Saskatchewan	3,689,087	4,507,622	5,741,723	6,099,620	5,826,579	6,806,167	6,952,275
Alberta	10,015,676	10,919,172	11,965,263	12,548,696	11,712,080	13,878,365	14,071,770
British Columbia	24,685,120	25,698,955	32,962,343	30,036,809	24,210,187	26,897,614	31,746,420
Yukon	130,241	130,361	171,533	185,383	120,262	189,513	202,788
General for Canada—							
Departmental sales	343,890	366,036	346,513	324,732	344,925	488,296	616,845
Miscellaneous	–	470	4,377	4,833	3,815	1,925	3,060
British post office parcels	282	85	70	73	191	642	563
Departmental War Exchange Tax	172,822	185,271	181,233	214,664	166,443	41,776	–

[1] Includes refunds of $10,369,721 in 1942, $17,549,001 in 1943, $34,342,147 in 1944, $194,718,627 in 1945, $114,005,355 in 1946, $29,845,228 in 1947 and $10,683,238 in 1948.

Income Tax

The income tax revenue shown in Table **18** represents collections made by the Taxation Division of the Department of National Revenue under the authority of the Income War Tax Act (c. 97, R.S.C. 1927). The Act covers more than income tax proper, as corporation taxes are coming to be regarded in a different light from those on the income of individuals. Income tax on individuals and on corporations is treated separately in Part II of this Chapter, at pp. 1008-1014.

The tax on dividends and interest (Sect. 9B of the Act) is levied at the rate of 5 p.c. on interest paid by Canadian debtors (except provinces and municipal or public bodies) in a currency which is at a premium in excess of 5 p.c. over Canadian funds, and at the rate of 15 p.c. on dividends received by persons who are non-residents of Canada, and on interest received from or credited by Canadian debtors to non-residents, except in the case of Dominion or Dominion-guaranteed bonds,

and also on interest received by a non-resident parent company from a Canadian subsidiary, except where an agreement had been entered into prior to Apr. 1, 1933, for the payment of such interest in a currency other than Canadian. The tax also includes fees for copyrights and rights for the use of films, phonograph records and similar devices. The tax on rents and royalties (Sect. 27) is imposed at the rate of 15 p.c. on non-residents in respect of the gross amount of all rents, royalties, etc., for the use in Canada of real or personal property, patents or for anything used or sold in Canada. The gift tax (Sect. 88) is imposed at the rate of 10 p.c. on gifts up to $5,000 and at rates varying from 11 p.c. to 28 p.c. on gifts from $5,000 to $1,000,000 or over.

18.—Collections Under the Income War Tax Act, Years Ended Mar. 31, 1934-48

(Tax and Applicable Section of the Act)

NOTE.—Figures for the years 1919-33 will be found at p. 966 of the 1947 year Book.

Year	General Income Tax		Tax on Dividends and Interest Sect. 9B	Tax on Rents and Royalties Sect. 27	Gift Tax Sect. 88	Total[1]
	Individuals Sect. 9-1	Corporations Sect. 9-2				
	$	$	$	$	$	$
1934	29,183,715	27,385,822	4,829,635	–	–	61,399,172
1935	25,201,392	35,790,239	5,816,435	–	–	66,808,066
1936	32,788,746	42,518,971	7,207,601	–	194,485	82,709,803
1937	35,358,302	58,012,843	8,910,014	–	84,083	102,365,242
1938	40,070,942	69,768,605	10,152,088	–	373,897	120,365,532
1939	46,591,449	85,185,887	9,903,046	–	345,756	142,026,138
1940	45,008,858	77,920,002	11,121,632	–	398,074	134,448,566
1941	75,636,231	131,565,710	12,282,259	759,957	226,847	248,143,022[2]
1942	189,237,538	185,835,699	26,642,106	1,626,669	264,258	510,243,017[3]
1943	533,915,059	347,969,723	26,710,946	1,369,851	223,093	910,188,672
1944	809,570,762	311,378,714	25,670,804	1,272,389	1,546,633	1,151,757,035[4]
1945	763,896,322	276,403,849	27,052,692	1,546,445	532,599	1,072,758,068[5]
1946	689,506,763	217,833,540	26,823,894	1,485,725	770,369	937,729,273[6]
1947	691,989,231	196,819,253	28,428,143	1,708,003	1,538,888	963,458,245[7]
1948	656,873,403	351,535,006	33,928,935	1,960,093	2,268,845	1,059,848,357[8]

[1] These figures include the estimated refundable portion and therefore do not agree with the totals given in Table 8. [2] Includes national defence tax amounting to $27,672,018. [3] Includes national defence tax amounting to $106,636,747. [4] Includes 1942 deferred tax amounting to $2,317,733. [5] Includes 1942 deferred tax amounting to $3,326,161. [6] Includes 1942 deferred tax amounting to $1,308,982. [7] Includes 1942 deferred tax amounting to $1,002,027 and tax on private companies amounting to $41,972,700. [8] Includes 1942 deferred tax amounting to $685,967 and tax on private companies amounting to $12,596,108.

Subsection 4.—Subsidies and Loans to Provinces

Subsidies.—By the provisions of the British North America Act and subsequent arrangements entered into from time to time, the Federal Government makes certain annual payments to the provinces: these are summarized as follows.

Interest on Debt Allowances.—By the terms of the union of the provinces at Confederation in 1867, the Federal Government assumed all the outstanding debts and liabilities of the provinces and undertook to pay, except in the case of Ontario and Quebec, interest at 5 p.c. on the amounts by which the actual per capita indebtedness of the provinces fell short of a basic debt allowance calculated at approximately $25 per capita. On the subsequent entry of additional provinces into Confederation, similar arrangements were effected regarding the assumption of their pre-Confederation indebtedness. From time to time, adjustments have been made in the basis of calculating the debt allowances of provinces; moreover, the Federal Government pays interest at 5 p.c. per annum on the amounts by which the actual debts of the

provinces, on their entry into Confederation, fell short of the allowed debts as adjusted. The aggregate annual payment by the Federal Government to the provinces in respect of interest on debt allowances is $1,609,386.

Allowances for Governments and Legislatures.—Under the terms of the union, annual specific grants were made to the various provinces for the support of their governments and legislatures. These amounts vary with the population of the provinces, according to the following scale, approved in 1907:—

Where population is—	$
Under 150,000	100,000
150,000, but does not exceed 200,000	150,000
200,000, " " 400,000	180,000
400,000, " " 800,000	190,000
800,000, " " 1,500,000	220,000
Over 1,500,000	240,000

Aggregate annual allowances presently paid under this head amount to $1,750,000.

Allowances per Head of Population.—Under the British North America Act of 1867, a grant of 80 cents per head of population was allowed to each province. The British North America Act of 1907 provided that the grant would be paid to each province at the rate of 80 cents per head up to a population of 2,500,000, and at the rate of 60 cents per head for so much of the population as exceeded that number. Such allowances paid to the provinces in the year ended Mar. 31, 1946, amounted to $8,779,089.

Special Grants.—In the case of certain of the provinces, grants have been added to the original scale of subsidies in view of special circumstances obtaining, which, for the year ended Mar. 31, 1946, amounted in the aggregate to $2,280,880 as set forth below:—

Prince Edward Island.—A special grant of $195,000 less a deduction of $39,120 (net grant of $155,880).

New Brunswick.—An annual grant of $150,000 since 1875 in consideration of the repeal of lumber duties reserved to the Province by the B.N.A. Act of 1867.

Manitoba.—A special grant on the basis of population amounting at present to $562,500 per annum.

Saskatchewan and Alberta.—An annual sum as compensation for loss of public lands revenue, based on their respective populations and amounting at present to $750,000 for Saskatchewan and $562,500 for Alberta.

British Columbia.—A special grant amounting at present to $100,000 per annum.

19.—Subsidy Allowances to Provincial Governments, Years Ended Mar. 31, 1942-48

Province	1942	1943	1944	1945	1946	1947	1948
	$	$	$	$	$	$	$
Prince Edward Island	381,932	381,932	381,932	381,932	381,932	381,932	656,932
Nova Scotia	701,323	708,958	705,140	705,140	705,140	705,140	2,005,140
New Brunswick	729,167	735,605	732,386	732,386	732,386	732,386	1,632,386
Quebec	2,859,245	2,873,935	2,866,590	2,866,590	2,866,590	2,866,590	2,866,590
Ontario	3,136,394	3,173,621	3,155,007	3,155,007	3,155,007	3,155,007	3,155,007
Manitoba	1,713,284	1,722,475	1,717,879	1,716,987	1,717,284	1,709,043	1,722,202
Saskatchewan	2,132,175	2,052,162	2,092,169	2,028,578	2,049,775	2,034,650	10,079,651
Alberta	1,788,589	1,801,031	1,794,810	1,855,207	1,835,075	1,794,561	10,272,767
British Columbia	966,513	1,040,366	1,003,440	1,003,440	1,003,440	1,003,440	1,003,440
Totals	**14,408,622**	**14,490,085**	**14,449,353**	**14,445,267**	**14,446,629**	**14,382,750**	**33,394,115**

20.—Subsidy Allowances to Provincial Governments, July 1, 1867 to Mar. 31, 1948

Province	Allowances for Government	Allowances on Basis of Population	Special Grants[1]	Interest on Debt Allowances[2]	Total[3]
	$	$	$	$	$
Prince Edward Island	5,120,000	6,447,115	7,121,623	3,107,110	21,795,848
Nova Scotia	10,190,000	29,420,534	2,126,980	3,921,500	45,659,014
New Brunswick	9,550,000	22,625,548	12,780,000	1,768,144	46,723,692
Quebec	12,640,000	115,497,308	–	6,981,242	135,118,550
Ontario	13,040,000	139,400,207	–	6,879,907	159,320,114
Manitoba	9,395,000	24,864,382	27,769,233	18,692,798	80,721,413
Saskatchewan	8,576,667	25,406,884	35,562,500	17,431,125	86,977,176
Alberta	7,951,667	20,788,073	31,375,000	17,431,125	77,545,865
British Columbia	9,000,000	20,645,262	8,700,000	2,254,415	40,599,677
Totals	**85,463,334**	**405,095,313**	**125,435,336**	**78,467,366**	**694,461,349**

[1] See text at p. 981. [2] Allowances in lieu of debt. [3] Does not include "Additional Special Grants" (see text following).

Additional Special Grants.—Special grants were voted annually to the Maritime Provinces, Manitoba, Saskatchewan and British Columbia up to 1941.

These additional special grants were suspended with the coming into force of the Dominion-Provincial Taxation Agreements. Rent will be paid in 1947 and later years in the case of the three Maritime Provinces under the provisions of the Maritime Additional Subsidies Act, 1942.

Dominion-Provincial Taxation Agreements.—The Dominion-Provincial Tax Rental Agreements Act, 1947, authorized the Federal Government to enter into Agreements with the provinces by which, in return for compensation, the Provincial Governments would agree to refrain from levying certain direct taxes for a period of five years. These Agreements are successors to the Wartime Agreements which have lapsed (see pp. 900-901 of the 1946 Year Book). By October, 1948, seven provinces—Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta, and British Columbia—had made new Agreements with the Dominion. The Yukon Territory had made an Agreement similar to those made by the provinces.

The main purposes of these Agreements are to establish a more equitable system of taxation throughout Canada by reducing duplication of direct taxation and duplication of machinery for the collection of direct taxes, to give a greater measure of stability to the revenues of the provinces, and to enable the Federal Government, along with the Provincial Governments, to carry out national policies intended to maintain high levels of employment and production.

The Agreements continue the basic provisions of the Wartime Taxation Agreements, under which the provinces and their municipalities withdrew their income taxes, corporation income taxes and corporation taxes in return for compensation from the Federal Government (pp. 900-901 of the 1946 Year Book). There are, however, some additional provisions in the new Agreements which have resulted from the negotiations carried on between the governments in 1945 and 1946 at the Dominion-Provincial Conference meetings and since the Budget offer of June, 1946. The main features of this offer which have been embodied in the Agreements are outlined at pp. 883-884 of the 1946 Year Book.

The provinces are required, under the Agreements, to refrain from levying certain direct taxes, with the exception that they are permitted to impose a corporation income tax of 5 p.c. on the income of corporations attributable to

their operations in the particular province. The revenue from this tax is to go to the individual province with a corresponding reduction in the amount of compensation paid to that province. The purpose of this provision is to assure as nearly as possible a uniform level of corporation income tax throughout Canada as between the agreeing and non-agreeing provinces. Under the Agreements it is provided, however, that a deduction will be made from the payment to the province corresponding to the amount of revenue that such a tax would have yielded even if the province does not impose the tax. The Agreements contain a set of rules by which the income of corporations is allocated to the various provinces in which they carry on business and further provide that this tax must be imposed under the same general provisions as are in the Income War Tax Act, and that it will be administered on behalf of the provinces by the Federal Government and at the expense of the Federal Government.

Another provision concerns succession duties, a field not included in the Wartime Taxation Agreements. The provinces are now given the alternative of withdrawing from this field or remaining in it. If they withdraw, they receive the full amount of compensation otherwise payable under the Agreements (in the determination of which succession duties revenue was taken into account) but, if they remain, their payment is reduced by the amount of revenue loss which the Federal Government suffers, through the credit allowed against the Federal Government duty for provincial duties on the same succession. All seven of the provinces which have negotiated Agreements with the Federal Government have taken the first alternative and withdrawn from the succession duties field.*

The Agreements do not prevent the imposition of royalties and rentals on natural resources by a province since such royalties and rentals are not regarded as taxes when they are of a nature conforming with the definitions set forth in the Agreements. The imposition of taxes on income derived from logging and mining operations, as defined in the Agreements, is allowed without any deduction from the payment to the province.

The significant differences between the 1946 Budget offer and the present Agreements are as follows:—

(1) the provinces may choose between two methods of determining the amount of their guaranteed minimum annual payments (see below);
(2) the total guaranteed minimum annual payments to the provinces under these new methods are increased by $25,100,000 to $206,500,000;
(3) these new guaranteed minimum annual payments are used as the bases for calculating the annual payments which are adjusted for increases in provincial population and gross national production per capita;
(4) in the year following the termination of the Agreements, provincial taxpayers are to be allowed by the Federal Government tax credits of a maximum of 5 p.c. of the Federal income tax, 50 p.c. of Federal succession duties, and one-seventh of Federal corporation income tax for taxes imposed by their Provincial Governments.

The guaranteed minimum annual payments are now computed in one of two ways. Under the first option a province may elect as a base $12.75 per capita of its 1942 population, plus 50 p.c. of its income tax and corporation tax revenue in 1940, plus statutory subsidies payable in 1947; under the second it may choose $15 per capita of its 1942 population plus statutory subsidies payable in 1947. A special arrangement was made for Prince Edward Island which is to receive a guaranteed minimum payment of $2,100,000. This is slightly in excess of the amount determined by either of the two formulas. The guaranteed minimum

* See Succession Duties, pp. 1015-1022.

annual payments to the provinces under the most favourable option and the estimated 1948 payments are shown in Table 21. The guaranteed minimum annual payment to the Yukon is $89,365 and the estimated 1948 payment is $133,161.

The actual amount payable in any one year is calculated according to the following method. The minimum payment is adjusted for changes in provincial population and gross national product per capita, as compared with the base year 1942, for each of the three calendar years immediately preceding the fiscal year of payment. These three amounts are then averaged, and the resultant is the amount payable. If, in any of the three calendar years concerned, the amount calculated is less than the amount of the minimum payment, then the amount of the minimum payment is substituted. This method of computing the annual payments ensures that the revenues of the province will increase as the provincial population and gross national product per capita increase, and at the same time guarantees that the province will, at no time in the period covered by the Agreement, receive less than the stated minimum.

21.—Guaranteed Minimum Annual Payments to Provinces[1] under Most Favourable Option and Preliminary Estimated 1948 Payments

Province and Option	Guaranteed Minimum Annual Payments	Estimated 1948 Payments
	$'000	$'000
Prince Edward Island	2,100	1,755
Nova Scotia (Second)	10,870	10,584
New Brunswick (First)	8,773	8,418
Manitoba (First)	13,540	13,352
Saskatchewan (Second)	15,291	14,062
Alberta (First)	14,228	13,972
British Columbia (First)	18,120	22,062
Totals	**82,922**	**84,205**

[1] The Governments of Quebec and Ontario have not made agreements with the Federal Government. The payments for these Provinces under the first option would be: Quebec, $56,382,000 and $64,112,000; Ontario, $67,158,000 and $75,363,000.

Under an offer ancillary to the Agreements, but which applies to all provinces, whether agreeing or not, the Federal Government will pay to the province one-half of the Federal corporation income tax on income of corporations derived from generating and/or distributing to the public, electric energy, gas or steam where this is the main business of the corporation.

Loans to Provinces.—During the fiscal years 1931-32 to 1940-41 certain loans were made by the Government of Canada to the governments of the western provinces for direct relief, agricultural relief, capital and ordinary governmental purposes. These loans were secured by interest-bearing treasury bills of the respective provinces, the rate being 3 p.c. since July 1, 1936.

Under the provisions of the Western Provinces Treasury Bills and Natural Resources Settlement Act, 1947, the treasury bill indebtedness of the western provinces was adjusted and refunded as at July 1, 1947. This adjustment took into account the sum of $8,031,250 due by the Government to each of the Provinces of Alberta and Saskatchewan in respect of the full and final settlement of all or

any claims against or liabilities of the Government of Canada in respect of the administration and control by the Government of the natural resources in those Provinces before the transfer thereof to the said two Provinces. Loans for capital and ordinary governmental purposes were refunded over a period of thirty years with interest payable annually at a rate of $2\frac{5}{8}$ p.c. Such loans, by provinces as at Mar. 31, 1948, were: Alberta, $7,585,750; British Columbia, $17,346,838; Manitoba, $13,855,101; Saskatchewan, $5,383,191. Loans for direct and agricultural relief under the terms of the settlement were reduced by one-half and the remaining indebtedness was to be refunded by the provinces without interest over a period of thirty years, as follows: Alberta, $5,297,500; British Columbia, $8,342,191; Manitoba, $5,439,675; Saskatchewan, $30,610,614.

As at Mar. 31, 1948, the total treasury bill indebtedness was: Alberta, $12,883,250; British Columbia, $25,689,029; Manitoba, $19,294,776; Saskatchewan, $35,993,805. An additional indebtedness as at Mar. 31, 1948, by Saskatchewan of $8,707,469, representing outstanding loans in respect of 1938 seed grain loans guarantees, was not included in the 1947 settlement.

Subsection 5.—National Debt

The gross national debt of Canada on Mar. 31, 1914, was $544,391,369 as against assets of $208,394,519, leaving a net debt of $335,996,850. This was a comparatively small debt; it was incurred almost altogether for public works of general utility which, like the Intercolonial and transcontinental railways and the canal system, remained assets, though perhaps not realizable assets, of the nation, or was expanded by the subsidizing of enterprises which, like the Canadian Pacific Railway, though not government-owned, assisted greatly in extending the area of settlement as well as the productive and, therefore, the taxable capacity of the country. Broadly speaking, the debt was incurred for productive purposes. Also, it was mainly held outside the country, the principal of the Federal Government funded debt payable in London, England, being $302,842,485 on Mar. 31, 1914, as against only $717,453 payable in Canada.

From 1914 to 1920, the gross debt increased by almost $2,500,000,000 to a total of $3,042,000,000 due to heavy war and post-war expenditures, and while there was a slight reduction to a low point of $2,544,586,411 at Mar. 31, 1930, additional expenditures during the depression years resulted in a gross debt of $3,710,610,593 by Mar. 31, 1939.

From 1939 to 1946 there was an increase of $15,249,235,590, incurred mainly for war purposes, bringing the total gross debt to $18,959,846,183 at the end of March, 1946. After deduction of active assets held by the Government, the net debt showed an increase of $10,268,846,095 during this period, amounting to $13,421,405,409 at the end of March, 1946. At the end of March, 1948, total gross debt had been reduced to $17,197,348,981 and net debt to $12,371,636,893.

The portion of the funded debt payable in foreign currencies decreased steadily and sharply during the war years, as was inevitable under conditions where almost the entire amount of Canada's war financing was carried out through domestic operations. Of the total funded debt and treasury bills outstanding as at Mar. 31, 1948, amounting to $15,957,382,593, less than 1·0 p.c. was payable outside of Canada: $9,324,772 payable in London and $198,000,000 in New York.

22.—Summary of the Public Debt of Canada and Interest Payments Thereon, Years Ended Mar. 31, 1934-48

NOTE.—Statistics for the years 1867-99 are given at pp. 775-776 of the 1942 Year Book; those for 1900-13, at p. 944 of the 1945 edition; and those for 1914-33 at p. 972 of the 1947 edition.

Year	Gross Debt	Active Assets	Net Debt	Net Debt Per Capita[1]	Increase or Decrease of Net Debt During Year	Interest Paid on Debt	Interest Received from Active Assets	Interest Paid Per Capita[1]
	$	$	$	$	$	$	$	$
1934...	3,141,042,097	411,063,957	2,729,978,141	254·16	133,497,314	139,725,417	11,148,231	13.01
1935...	3,205,956,369	359,845,411	2,846,110,958	262·44	116,132,817	138,533,202	10,963,478	12.77
1936...	3,431,944,027	425,843,510	3,006,100,517	274·53	159,989,559	134,549,169	10,614,125	12.29
1937...	3,542,521,139	458,568,937	3,083,952,202	279·22	77,851,685	137,410,345	11,231,035	12.44
1938...	3,540,237,614	438,570,044	3,101,667,570	278·13	17,715,368	132,117,422	13,120,523	11.85
1939...	3,710,610,593	558,051,279	3,152,559,314	279·80	50,891,744	127,995,617	13,163,015	11.36
1940...	4,028,728,606	757,468,959	3,271,259,647	287·43	118,700,333	129,315,442	13,393,432	11.36
1941...	5,018,928,037	1,370,236,588	3,648,691,449	317·08	377,431,802	139,178,670	14,910,554	12.10
1942...	6,648,823,424	2,603,602,263	4,045,221,161	347·11	396,529,712	155,017,901	21,748,701	13.30
1943...	9,228,252,012	3,045,402,911	6,182,849,101	523·44	2,137,627,940	188,556,249	41,242,237[2]	15.96
1944...	12,359,123,230	3,619,038,337	8,740,084,893	729·86	2,557,235,792	242,681,180	48,281,313[2]	20.27
1945...	15,712,181,527	4,413,819,509	11,298,362,018	932·29	2,558,277,125	318,994,821	60,749,186[2]	26.32
1946...	18,959,846,183	5,538,440,734	13,421,405,449	1,090·55	2,123,043,431	409,134,502	70,914,626[2]	33.24
1947...	17,698,195,740	4,650,439,192	13,047,756,548	1,037·02	−373,648,901	464,394,876	69,438,880[2]	36·91
1948...	17,197,348,981	4,825,712,088	12,371,636,893	960·31	−676,119,656	455,455,204	75,799,912[2]	35·35

[1] Based on the official estimates of population given at p. 139. [2] This amount represents return on investments, which includes interest on investments, profits of Bank of Canada and Central Mortgage Bank and other items.

Funded Debt Operations.—Conversions and other national debt operations carried out between 1914 and 1930 are dealt with at pp: 842-843 of the 1933 Year Book; those between 1931 and 1934 at pp. 905-907 of the 1934-35 Year Book; those of the fiscal years 1936 to 1946 in the respective Year Books for those years.

Treasury Bills.—During the past decade a market for short-term treasury bills that has proven highly satisfactory has been built up in Canada. Each issue, with two exceptions (where the bills were sold direct to the Bank of Canada), has been offered for public tender. Lists of treasury bills sold by public tender for the fiscal years ended 1934-46 appear in the respective Year Books beginning with the 1937 edition. Details of the treasury bills issued in 1945-47 are given at the end of Table **23**. Details of the issues in continuation of the list published at p. 778 of the 1942 Year Book may be obtained on request.

23.—Funded Debt and Treasury Bills of Canada, as at Mar. 31, 1947

NOTE.—Certain qualifications as to redemption prior to maturity govern most of these issues; they are explained fully in the "Public Accounts".

Date of Maturity	Description	Rate	Where Payable	Amount of Loan Outstanding	Annual Interest Charges
		p.c.		$ cts.	$ cts.
1948—May 1	Six-Month Notes.....	⅝	Canada	200,000,000 00	1,250,000 00
July 1	School Land Debentures.....	4	Canada	33,293,470 85	1,331,738 83
Sept. 1	Six-Month Notes.....	⅝	Canada	550,000,000 00	3,437,500 00
Nov. 1	Seventh Victory Loan, 1944....	1¾	Canada	344,267,000 00	6,024,672 50
1949—Feb. 1	First War Loan, 1940.....	3½	Canada	49,987,650 00	1,624,598 63
Nov. 1	Eighth Victory Loan, 1945.....	1¾	Canada	267,800,000 00	4,686,500 00

23.—Funded Debt and Treasury Bills of Canada, as at Mar. 31, 1947—concluded

Date of Maturity	Description	Rate	Where Payable	Amount of Loan Outstanding	Annual Interest Charges
		p.c.		$ cts.	$ cts.
1950—Feb. 1	First War Loan, 1940	3¼	Canada	50,000,000 00	1,625,000 00
Mar. 1	Two-Year Bonds	1½	Canada	325,000,000 00	4,875,000 00
Nov. 1	Ninth Victory Loan, 1945	1¾	Canada	335,690,000 00	5,874,575 00
Nov. 1	Four-Year Bonds	1¾	Canada	400,000,000 00	7,000,000 00
1951—Feb. 1	First War Loan, 1940	3¼	Canada	50,250,000 00	1,625,000 00
Mar. 1	Export-Import Bank Loan	2½	New York	16,667,000 00	416,675 00
June 15	First Victory Loan, 1941	3	Canada	649,969,592 50	19,306,027 50
Nov. 15	Refunding Loan, 1937	3¼	Canada	60,000,000 00	1,950,000 00
1952—Feb. 1	First War Loan, 1940	3¼	Canada	50,500,000 00	1,625,000 00
Mar. 1	Export-Import Bank Loan	2½	New York	16,667,000 00	416,675 00
Oct. 1	Second War Loan, 1940	3	Canada	324,945,700 00	9,748,371 00
1953—Mar. 1	Export-Import Bank Loan	2½	New York	16,666,000 00	416,650 00
1954—Mar. 1	Second Victory Loan, 1942	3	Canada	676,355,489 00	20,089,767 00
1955—May 1	Registered Stock, 1934	3¼	London	3,854,446 18	125,269 50
June 1	Loan of 1935, Dated June 1	3	Canada	40,000,000 00	1,200,000 00
June 1	Loan of 1935, Dated Nov. 15	3	Canada	55,000,000 00	1,650,000 00
1956—Nov. 1	Third Victory Loan, 1942	3	Canada	855,607,410 50	25,414,081 50
Nov. 1	Canada Savings Bonds, Series I	2¾	Canada	391,015,850 00	10,752,935 88
1957—May 1	Fourth Victory Loan, 1943	3	Canada	1,111,261,650 00	33,337,849 50
Nov. 1	Canada Savings Bonds, Series II	2¾	Canada	263,530,150 00	7,247,079 12
1958—June 1	Loan of 1938-39	3	Canada	88,200,000 00	2,646,000 00
Sept. 1	Loan of 1933	4	London	2,613,504 07	104,540 16
Nov. 1	Conversion Loan, 1931	4½	Canada	276,687,600 00	12,450,942 00
1959—Jan. 1	Fifth Victory Loan, 1943	3	Canada	1,197,324,750 00	35,919,742 50
Nov. 1	Conversion Loan, 1931	4½	Canada	289,693,300 00	13,036,198 50
1960—June 1	Sixth Victory Loan, 1944	3	Canada	1,165,300,350 00	34,959,010 50
Oct. 1	Loan of 1930	4	New York	100,000,000 00	4,000,000 00
1961—Jan. 15	Loan of 1936	3¼	New York	48,000,000 00	1,560,000 00
1962—Feb. 1	Seventh Victory Loan, 1944	3	Canada	1,315,639,200 00	39,469,176 00
1963—July 1	Loan of 1938	3¼	London	2,856,821 32	92,846 69
Oct. 1	Eighth Victory Loan, 1945	3	Canada	1,295,819,350 00	38,874,580 50
1966—June 1	Loan of 1936	3¼	Canada	54,703,000 00	1,777,847 50
Sept. 1	Ninth Victory Loan, 1945	3	Canada	1,691,796,700 00	50,753,901 00
Perpetual	Loan of 1936	3	Canada	55,000,000 00	1,650,000 00
1948—Apr. 9	Treasury Bills	0·410	Canada	75,000,000 00	307,500 00
Apr. 23	Treasury Bills	0·410	Canada	75,000,000 00	307,500 00
May 7	Treasury Bills	0·410	Canada	75,000,000 00	307,500 00
May 28	Treasury Bills	0·411	Canada	75,000,000 00	308,250 00
June 11	Treasury Bills	0·410	Canada	75,000,000 00	307,500 00
June 25	Treasury Bills	0·411	Canada	75,000,000 00	308,250 00
Sept. 3	Deposit Certificates	0·625	Canada	100,000,000 00	625,000 00
1950—June 15	Non-Interest Bearing Certificates	–	Canada	303,215 04	–
	War Savings Certificates	3	Canada	225,867,493 94	6,776,024 82
				15,498,133,693 41	419,593,276 13
	Refundable portion of personal income tax and excess profits tax (estimated)	2	Canada	459,248,899 97	4,495,740 52
				15,957,382,593 38	424,089,016 65

Recapitulation

Payable in Canada	$15,750,057,821 81
Payable in New York	198,000,000 00
Payable in London	9,324,771 57
Totals, Funded Debt and Treasury Bills	**$15,957,382,593 38**

24.—Federal Government Domestic and Other Loan Flotations, Years Ended Mar. 31, 1947 and 1948

Item	Interest Rate	Price to Government	Yield at Price to Government	Issued for Cash	Issued as Renewals or Conversions	Total Amount Issued
	p.c.	$	p.c.	$	$	$
1947						
Treasury Notes—						
(Sold to Bank of Canada)						
Issue of Apr. 15, 1946[1]–Sept. 1, 1946....	⅜	100·00	0·625	–	350,000,000	350,000,000
Issue of Sept. 1, 1946–Mar. 1, 1947.....	⅜	100·00	0·625	–	606,000,000	606,000,000
Issue of Mar. 1, 1947–Sept. 1, 1947.....	⅜	100·00	0·625	–	550,000,000	550,000,000
Totals, Treasury Notes.....	–	–	–	–	1,506,000,000	1,506,000,000
Four-Year Bonds—						
Issue of Nov. 1, 1946–Nov. 1, 1950						
Sold to Bank of Canada.....	1¾	100·75	1·56	–	237,950,000	237,950,000
Sold to chartered banks.....	1¾	100·75	1·56	–	162,050,000	162,050,000
Totals, Four-Year Bonds.....	–	–	–	–	400,000,000	400,000,000
Canada Savings Bonds, Series I (net)—						
(Sold to Public)						
Issue of Nov. 1, 1946–Nov. 1, 1956...	2¾	99·375	2·82[2]	483,410,000	–	483,410,000
Grand Totals, 1947.....	–	–	–	**483,410,000**	**1,906,000,000**	**2,389,410,000**
1948						
Treasury Notes—						
(Sold to Bank of Canada)						
Issue of May 1, 1947–Nov. 1, 1947....	⅜	100·00	0·625	200,000,000		200,000,000
Issue of Sept. 1, 1947–Mar. 1, 1948....	⅜	100·00	0·625	–	550,000,000	550,000,000
Issue of Nov. 1, 1947–May 1, 1948....	⅜	100·00	0·625	–	200,000,000	200,000,000
Issue of Mar. 1, 1948–Sept. 1, 1948....	⅜	100·00	0·625	–	550,000,000	550,000,000
Totals, Treasury Notes.....	–	–	–	200,000,000	1,300,000,000	1,500,000,000
Two-Year Bonds—						
Issue of Mar. 1, 1948–Mar. 1, 1950						
Sold to Bank of Canada.....	1½	100·30	1·347	145,000,000	–	145,000,000
Sold to chartered banks.....	1½	100·30	1·347	180,000,000	–	180,000,000
Totals Two-Year Bonds.....	–	–	–	325,000,000	–	325,000,000
Deposit Certificates—						
(Sold to Chartered Banks)						
Issue of Mar. 5, 1948–Sept. 3, 1948....	⅜	100·00	0·625	100,000,000	–	100,000,000
Three- to Five-Year Notes—						
(Sold to Export-Import Bank of Washington)						
Issue of Mar. 1, 1948–Mar. 1, 1951....	2½[3]	100·00	2·500	16,667,000	–	16,667,000[4]
Issue of Mar. 1, 1948–Mar. 1, 1952....	2½	100·00	2·500	16,667,000	–	16,667,000[4]
Issue of Mar. 1, 1948–Mar. 1, 1953....	2½[3]	100·00	2·500	16,666,000	–	16,666,000[4]
Totals, Three- to Five-Year Notes..	–	–	–	50,000,000	–	50,000,000[4]
Canada Savings Bonds, Series II (net)—						
(Sold to Public)						
Issue of Nov. 1, 1947–Nov. 1, 1957...	2¾	99·375	2·82[2]	263,530,150	–	263,530,150
Grand Totals, 1948.....	–	–	–	**938,530,150**	**1,300,000,000**	**2,238,530,150**

[1] Issue dated Mar. 31, 1946, sold to Bank of Canada on Apr. 15, 1946, at par and accrued interest. [2] Yield at price to public 2·75 p.c. [3] In addition to the interest charge, the loan from the Export-Import Bank carries a commitment charge of ½ p.c. on the unutilized portion. [4] Payable in United States dollars.

Interest-Bearing Debt.—The interest-bearing debt of Canada has shown a sharp increase since 1939, amounting to $16,632,000,000 at Mar. 31, 1948, as compared with $3,658,000,000 on the same date of 1939. The average rate of interest on this debt continued downward during the war years, reaching the low point at Mar. 31, 1945 of 2·547 p.c. Slight increases in 1946, 1947 and 1948 were recorded, and the rate stood at 2·710 p.c. at Mar. 31, 1948. This is in contrast with the experience of the First World War, when the average interest rate on the direct debt of the nation rose from 3·368 p.c. at Mar. 31, 1913, to a high point of 5·164 p.c. at Mar. 31, 1922.

During the fiscal year ended Mar. 31, 1939, interest on the public debt absorbed about 26 p.c. of total Government receipts. Interest on the debt now absorbs a smaller portion of revenues, amounting to 20·7 p.c. in the year ended Mar. 31, 1948.

25.—Interest-Bearing Debt, Annual Interest Charges Thereon and Average Rates of Interest, as at Mar. 31, 1934-48

NOTE.—Statistics for the years 1913-33 are given at p. 977 of the 1947 Year Book.

Year	Bonds, Debentures, and Treasury Bills	Annual Interest Charges on Bonds, Debentures, and Treasury Bills	Average Interest Rate on Bonds, Debentures, and Treasury Bills	Savings Bank Deposits, Trust and Other Funds	Annual Interest on Savings Bank Deposits and Other Funds	Total Interest-Bearing Debt[1]	Annual Interest Charge	Average Rate of Interest
	$	$	p.c.	$	$	$	$	p.c.
1934...	2,858,624,524	132,354,806	4·630	154,137,868	6,093,937	3,012,762,392	138,448,743	4·595
1935...	3,061,955,821	127,074,870	4·150	171,554,957	6,683,560	3,233,510,778	133,758,430	4·136
1936...	3,265,314,332	128,598,908	3·938	196,197,897	7,679,285	3,461,512,229	136,278,193	3·937
1937...	3,337,358,832	125,093,381	3·748	224,157,683	8,798,557	3,561,516,515	133,891,938	3·759
1938...	3,314,558,032	117,062,907	3·532	248,176,039	9,771,812	3,562,734,071	126,834,719	3·560
1939...	3,385,722,462	119,198,476	3·521	272,692,286	9,879,428	3,658,414,748	129,077,904	3·528
1940...	3,695,705,919	125,575,106	3·398	288,066,211	10,726,716	3,983,772,130	136,301,822	3·421
1941...	4,372,007,319	133,970,676	3·064	317,332,308	12,488,959	4,689,339,627	146,459,635	3·123
1942...	5,865,280,821	170,218,719	2·902	343,238,738	13,522,857	6,208,519,559	183,741,576	2·960
1943...	7,893,493,950[2]	204,896,794	2·596	377,869,660	14,779,052	8,271,363,610	219,675,846	2·656
1944...	10,936,847,068[2]	278,792,582	2·549	415,629,678	16,251,031	11,352,476,746	295,043,613	2·599
1945...	13,983,763,575[2]	351,589,751	2·514	458,079,901	18,304,039	14,441,843,476	369,893,790	2·547
1946...	16,807,177,765	436,223,927	2·595	494,177,833	19,517,520	17,301,355,598	455,741,447	2·634
1947...	16,541,900,182	437,853,818	2·647	570,226,510	22,538,419	17,112,126,692	460,392,237	2·690
1948...	15,957,382,594	424,089,017	2·658	674,555,372	26,625,452	16,631,937,966	450,714,469	2·710

[1] Includes bonds purchased and held by the Treasury for sinking funds. [2] Includes refundable portion of income tax and excess profits tax.

Guaranteed Debt.—Besides the direct debt of the Federal Government, already dealt with, there are also large indirect obligations, arising mainly out of the guarantee of securities, by the Federal Government, of the railway lines that now form the Canadian National Railways, and the subsequent extensions thereof. Together with these are other small indirect obligations, originating in the Government's guarantees of the bonds of the Canadian National Steamship services and of the bonds of the Harbour Commissions, issued in the main for harbour improvements. Since 1932, guarantees of certain bank loans have been made under the various Relief Acts. With the commencement of business of the Bank of Canada on Mar. 11, 1935, the guarantee [authorized by Sect. 27 (6) of the Bank of Canada Act] of the deposit required to be maintained in the Bank of Canada by every chartered bank, came into force. This guarantee will require to be implemented "in the event of the property and assets of the Bank being insufficient to pay its liabilities, and if the Bank suspends payment of any of its liabilities".

For full details of other guarantees also outstanding at Mar. 31, 1948, see Schedule "V" to the "Public Accounts" for 1948.

26.—Guaranteed Debt of the Federal Government (Amounts Held by the Public), as at Mar. 31, 1934-48

NOTE.—Figures for the years 1914-23 are given at p. 837 of the 1943-44 Year Book; those for the years 1924-33 at p. 978 of the 1947 Year Book.

Year	Railways, Guaranteed as to Principal and Interest	Railways, Guaranteed as to Interest Only	Canadian National Steamships	Harbour Commissions	Other Guarantees	Bank of Canada	Total
	$	$	$	$	$	$	$
1934....	746,035,434	216,207,142	9,400,000	21,634,472	93,296,073 [1]	–	1,086,573,121 [1]
1935....	740,117,976	216,207,142	9,400,000	21,601,481	104,525,860	149,028,902 [2]	1,240,881,361
1936....	747,366,632	216,207,142	9,400,000	21,576,481	96,044,370	188,202,917	1,278,797,542
1937....	756,163,072	216,207,142	9,400,000	21,565,595	14,836,167	194,275,314	1,212,447,290
1938....	803,740,048	216,207,142	9,400,000	21,260,595	18,399,635 [3]	194,859,595	1,263,867,015
1939....	838,658,616	216,207,142	9,400,000	21,200,338	87,617,198 [3]	205,641,646	1,378,724,940
1940....	837,708,753	216,207,141	9,400,000	21,163,338	68,430,115 [3]	202,324,405	1,355,233,752
1941....	836,398,498	117,072,699	9,400,000	21,145,182	121,802,817 [3]	207,994,267	1,313,813,463
1942....	755,223,525	33,075,010	9,400,000	21,143,182	136,112,799 [3]	241,931,985	1,196,886,501
1943....	675,957,496	10,505,683	9,400,000	21,046,682	90,604,364 [3]	260,983,307	1,068,497,532
1944....	659,921,136	9,116,527	9,400,000	21,005,682	53,712,958 [3]	359,158,155	1,112,314,458
1945....	567,810,980	8,495,920	9,400,000	20,958,182	84,729,879 [3]	422,029,434	1,113,424,395
1946....	502,265,560	8,358,001	9,400,000	20,958,182	9,188,294	518,135,599	1,068,305,636
1947....	528,505,889	8,309,454	9,400,000	20,739,182	14,724,473	536,264,805	1,117,943,803
1948....	483,502,968	8,304,100	9,400,000	20,739,182	20,631,122	519,211,261	1,061,788,633

[1] Unstated advances *re* wheat marketing are not included. [2] First year data recorded. [3] The main item in this category is the guarantee of bank advances to the Canadian Wheat Board. Does not include indeterminate amounts and amounts not yet determined.

Section 3.—Provincial Public Finance*

In preparing this Section it has been possible to obtain from the provincial public accounts, statistics of provincial debt for 1946 as shown in Tables **31** to **34**. However, since not all provinces have supplied information necessary to complete the revenue and expenditure tables for 1946, these data are available only up to 1945 as shown in Tables **27** to **30**. Also the detailed classification of revenues and expenditures for 1946 differs from that followed in previous years. Statistics on the new basis will be published in the 1950 Year Book. In the meantime reference should be made to reports published by the Public Finance Division of the Dominion Bureau of Statistics.

Subsection 1.—Revenues and Expenditures of Provincial Governments

Tables **27**, **28** and **29** present an over-all picture of Provincial Government finance by combining ordinary and capital account revenues and expenditures. These tables provide a more valid basis for comparison than those based on ordinary account alone because they eliminate interprovincial and inter-year incomparabilities that arise through variations from province to province, and from year to year, in the type of expenditure capitalized. Since all expenditures, ordinary or capital, are included in the combined picture, amounts provided through ordinary account for debt retirement have been excluded to avoid duplication. Sinking fund

* Revised under the direction of J. H. Lowther, Director, Public Finance Division, Dominion Bureau of Statistics. Years referred to throughout this Section are fiscal years ended nearest Dec. 31 of year stated.

earnings are not included as revenue. The tables present the *net* cost of services to the provinces after the following revenues have been offset against the corresponding expenditures: shared cost contributions of other governments, institutional revenue and certain other sales of commodities and services, and interest revenue exclusive of sinking fund earnings.

During the years 1940-45 Provincial Government revenues and expenditures reached very high levels. The combined net ordinary and capital revenues in 1945 totalled $427,000,000 as compared with the 1944 total of $374,000,000, an increase of 14·4 p.c. The combined net ordinary and capital expenditures amounted to $383,000,000 as compared with $350,000,000 in 1944, an increase of 9·4 p.c. With the exception of Prince Edward Island and New Brunswick, surpluses were recorded by all provinces for 1945 and the total surplus amounted to over $44,000,000 ($56,000,000 in 1943 and $24,000,000 in 1944). Included in the total expenditures were capital account expenditures of more than $30,000,000, an increase of about 16 p.c. over such expenditures in 1944.

An examination of the details relating to both combined net ordinary and capital revenues and expenditures gives some insight into the factors contributing to the high levels reached in 1945. Liquor revenues increased over 1944 by 41·5 p.c., and gasoline tax revenues by 23·3 p.c. Increases in expenditures were chiefly accounted for by the following: highways, bridges and ferries, 22·4 p.c.; education, 13·6 p.c.; and public welfare, 12·5 p.c. It is interesting to note that debt charges, exclusive of debt retirement, decreased by 3·0 p.c.

There was only a slight change from the year 1944 in the relative importance of revenue sources. While in both years, 30 p.c. of the total net revenue was derived from taxes, 25 p.c. was from other governments (29 p.c. in 1944), and 23 p.c. from liquor control (19 p.c. in 1944).

Expenditures on specific items were also made in just about the same ratios as in 1944. Expenditures on public welfare represented 22 p.c. of the total (22 p.c. in 1944); on highways, bridges and ferries, 20 p.c. (18 p.c. in 1944); on education, 19 p.c. (18 p.c. in 1944); and on debt charges, exclusive of debt retirement, 15 p.c. (17 p.c. in 1944).

Total net combined ordinary and capital revenues in 1945 amounted to $35.30 per capita. Chief sources of revenue were: taxes, $10.64; other governments, $8.83; and liquor control, $8.23. Total net combined ordinary and capital expenditures, per capita, were $31.62. At the same time, the more important expenditure functions in per capita terms were: public welfare, $7.01; highways, bridges and ferries, $6.47; education, $5.95; and debt charges, exclusive of debt retirement, $4.71.

It should be noted that Tables **27**, **28**, **29** and **30** exclude cash collected and payments and expenditures made *re* the Debt Reorganization Program of the Government of the Province of Alberta.

Further statistical details are given in the report *Financial Statistics of Provincial Governments in Canada*, published by the Dominion Bureau of Statistics.

27.—Net Combined Ordinary and Capital Revenues and Expenditures, by Provinces, 1943-45

Province	Revenues			Expenditures[1]		
	1943	1944	1945	1943	1944	1945
	$'000	$'000	$'000	$'000	$'000	$'000
Prince Edward Island	2,617[2]	2,183	2,529	2,546[2]	2,769	3,323
Nova Scotia	16,937	17,810	19,207	13,429	15,156	18,401
New Brunswick	13,724	14,246	15,605	12,137	15,901	17,352
Quebec	99,997	103,281	117,236	94,701	107,928	110,970
Ontario	117,483	115,712	132,911	102,292	113,486	124,777
Manitoba	19,995	21,325	24,199	14,465	14,572	16,958
Saskatchewan	30,931	31,002	34,992	20,219	22,707	27,851
Alberta	25,920	27,416	34,490[3]	19,890	22,623	23,480[3]
British Columbia	39,019	40,962	46,057	30,505	34,773	39,505
Totals	**366,623**	**373,937**	**427,226**	**310,184**	**349,915**	**382,617**

[1] Exclusive of debt retirement. [2] Fifteen months. [3] Excludes cash collected and payments and expenditures *re* Debt Reorganization Program.

28.—Details of Net Combined Ordinary and Capital Revenues, 1943-45

Item	1943	1944	1945
	$'000	$'000	$'000
Taxes—			
Amusement	4,295	5,729	6,649
Corporation (arrears)	632	762	903
Gasoline	45,591	47,083	58,075
Income of persons (arrears)	1,104	591	349
Real property	6,576	6,521	5,613
Retail sales	17,520	17,856	20,827
Succession duties	24,402	23,482	25,217
Tobacco	4,491	4,999	5,636
Other	3,790	4,156	5,539
Motor-vehicle licences	30,472	30,963	31,800
Other licences, permits and fees	9,672	11,036	12,426
Public domain	33,466	35,358	40,630
Liquor control	64,986	70,436	99,659
Dominion of Canada	111,578	107,368	105,412
Other revenue	8,048	7,597	8,491
Totals	**366,623**	**373,937**	**427,226**

29.—Details of Net Combined Ordinary and Capital Expenditures, 1943-45

Item	1943	1944	1945
	$'000	$'000	$'000
Legislation	3,151	3,199	4,167
General government	18,478	18,598	20,405
Protection of persons and property	15,358	16,486	17,411
Highways, bridges and ferries	55,017	63,978	78,306
Public Welfare—			
Health	6,009	6,507	7,232
Labour	1,619	1,999	2,196
Relief	3,336	3,375	3,709
Old age pensions and pensions for the blind	15,547	18,249	20,368
Other public welfare	41,095	45,330	51,382
Education	49,619	63,375	71,978
Agriculture	13,107	15,910	14,064
Public domain	17,050	20,499	23,192
Debt charges [1]	62,018	58,746	56,959
Other	8,780	13,664	11,248
Totals	**310,184**	**349,915**	**382,617**

[1] Exclusive of debt retirement.

30.—Gross Ordinary Revenues and Expenditures of the Provincial Governments for Their Respective Fiscal Years Ended in the Census Years 1871-1931 and in Each Year 1932-45.

NOTE.—For provincial ordinary revenues and expenditures in all other provincial fiscal years since Confederation, see the 1932 Year Book, pp. 734-736. For dates on which the fiscal years of the provinces end, see Table 33, p. 996.

Year	Prince Edward Island		Nova Scotia		New Brunswick		Quebec	
	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure
	$	$	$	$	$	$	$	$
1871	385,014	406,236[1]	525,824	600,344	451,076	438,407	1,632,032	1,575,545
1881	275,380	261,276[1]	476,445	494,582	607,445	598,844	3,191,779	3,566,612
1891	274,047	304,486[1]	661,541	692,538	612,762	680,813	3,457,144	4,095,520
1901	309,445	315,326	1,090,230	1,088,927	1,031,267	910,346	4,563,432	4,516,554
1906	258,235[2]	264,135[1,2]	1,391,629	1,375,588	887,202	879,066	5,340,167	5,179,817
1911	374,798	398,490[1]	1,625,653	1,790,778	1,347,077	1,403,547	7,032,745	6,424,900
1916	508,455	453,151[1]	2,165,338	2,152,773	1,580,419	1,568,340	9,647,984	9,436,687
1921	769,719	694,042[1]	4,586,840	4,678,146	2,892,905	3,432,512	15,914,521	14,624,088
1926	832,551	756,114[1]	5,744,575	6,327,043	4,206,853	4,078,775	27,206,335	26,401,480
1931	1,149,570	1,453,191[1]	8,104,602	8,194,592	5,980,914	6,761,420	41,630,620	40,854,245
1932	1,206,026	1,277,401[1]	8,874,095	9,037,199	6,495,573	6,898,263	39,349,193	39,933,901
1933	1,263,063	1,392,276[1]	8,013,463	9,632,347	5,691,138	5,770,207	33,324,760	40,165,668
1934	1,385,777	1,656,924[1]	8,876,506	10,168,838	5,809,975	6,434,035	31,018,343	36,612,816
1935	1,535,709	1,912,006[1]	13,642,410[3]	14,540,011[3]	6,486,481	7,189,598	35,195,579	40,134,814
1936	1,718,466	1,743,120[1]	12,841,266	12,689,548	7,330,142	7,755,111	40,497,031	42,420,207
1937	1,830,260	1,951,034[1]	14,101,342	14,038,953	9,630,144	9,601,052	47,924,840	43,956,275
1938	1,894,135	1,974,248	14,870,251	14,724,114	10,551,806	10,492,396	56,303,738	53,295,451
1939	2,042,050	2,196,717	15,069,476	15,263,267	10,529,634	11,404,721	64,287,576	59,399,567
1940	2,030,366	2,152,101	16,443,946	15,497,608	12,459,611	11,921,467	59,153,857	66,441,201
1940[4]	1,970,000	2,195,000	16,962,000	15,790,000	12,859,000	12,427,000	72,228,000[2]	68,598,000[2]
1941	2,146,000[5]	2,134,000[5]	18,529,000	17,435,000	13,754,000	12,853,000	110,347,000	91,459,000
1942	2,278,000	2,273,000	20,462,000	17,737,000	16,216,000	15,056,000	114,583,000	101,293,000
1943	2,993,000	2,972,000	20,957,000	18,039,000	16,773,000	15,029,000	116,856,000	106,180,000
1944	2,564,000	2,907,000	22,526,000	20,252,000	17,875,000	17,318,000	122,308,000	118,306,000
1945	2,904,000	3,203,000	24,367,000	23,187,000	19,454,000	18,981,000	137,617,000	122,929,000

Year	Ontario		Manitoba		Saskatchewan	
	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure
	$	$	$	$	$	$
1871	2,333,180	1,816,784	—	—	—	—
1881	2,788,747	2,592,800	121,867	226,808	—	—
1891	4,138,589	4,158,460	590,484	664,432	—	—
1901	4,466,044	4,038,834	1,008,653	988,251	—	—
1906	7,149,478	6,720,179	2,089,652	1,572,691	1,441,258[3]	1,364,352[3]
1911	9,370,834	9,916,934	4,454,190	4,002,826	2,699,603	2,575,145
1916	13,841,339	12,706,333	5,897,807	6,147,780	4,801,064	5,258,756
1921	30,411,396	28,579,688	9,358,956	10,063,139	11,789,920	12,151,665
1926	52,039,855	51,251,781	10,582,537	10,431,652	13,317,398	13,212,483
1931	54,890,092[6]	54,846,994[6]	13,842,511	14,491,673	14,346,010	18,202,677
1932	68,999,855	71,060,654	15,726,641	15,726,641	13,254,871	19,075,161
1933	67,800,543	67,324,118	13,838,339	15,782,904	16,177,784	16,756,421
1934	61,426,935	103,578,686	13,966,921	14,003,533	15,585,918	16,979,911
1935	30,941,953[7]	41,382,625[7]	16,092,546	15,933,111	15,278,905	18,115,533
1936	90,321,896	103,664,602	16,415,993	16,294,294	17,838,692	18,890,607
1937	107,088,435	97,774,496	17,214,854	16,934,472	18,388,857	19,635,392
1938	105,893,469	101,283,751	18,993,927	18,488,738	20,925,237	21,112,402
1939	102,839,891	102,517,396	19,058,042	19,058,042	22,867,874	23,238,365
1940	106,384,870	109,618,967	20,223,411	20,223,411	25,002,817	25,006,591
1940[4]	131,216,000	116,857,000	23,514,000	22,306,000	28,756,000	33,203,000
1941	136,022,000	119,530,000	22,346,000	19,798,000	30,408,000	27,817,000[8]
1942	132,145,000	114,906,000	23,186,000	19,386,000	30,615,000	25,959,000
1943	141,268,000	128,923,000	24,446,000	20,025,000	37,454,000	27,743,000[8]
1944	140,627,000	139,503,000	25,669,000	20,641,000	37,551,000	29,607,000[8]
1945	159,665,000	151,729,000	28,259,000	22,628,000	41,570,000	34,810,000[8]

For footnotes, see end of table p. 994.

30.—Gross Ordinary Revenues and Expenditures of the Provincial Governments for Their Respective Fiscal Years Ended in the Census Years 1871-1931 and in Each Year 1932-45—concluded.

Year	Alberta		British Columbia		Totals for All Provinces	
	Revenue	Expenditure	Revenue	Expenditure	Revenue	Expenditure
	$	$	$	$	$	$
1871	—	—	191,820[9]	97,692[9]	5,518,946	4,935,008
1881	—	—	397,035	378,779	7,858,698	8,119,701
1891	—	—	959,248	1,032,104	10,693,815	11,628,353
1901	—	—	1,605,920	2,287,821	14,074,991	14,146,059
1906	1,425,059[2]	1,485,914[2]	3,044,442	2,328,126	23,027,122	21,169,868
1911	3,309,156	3,437,088	10,492,892	8,194,803	40,706,948	38,144,511
1916	5,281,695	6,018,894	6,291,694	10,083,505	50,015,795	53,826,219
1921	11,086,937	13,109,304	15,219,264	15,236,931	102,030,458	102,569,515
1926	11,912,128	11,894,328	20,608,672	19,829,522	146,450,904	144,183,178
1931	15,710,962	18,017,544	23,988,199	27,931,866	179,143,480	190,754,202
1932	13,492,430	18,645,481	25,682,892	32,734,453	193,081,576	214,389,154
1933	15,426,265	17,533,786	23,333,115	26,169,492	184,868,470	200,527,219
1934	15,178,607	17,056,639	22,618,367	22,992,344	175,867,349	229,483,726
1935	15,790,170	17,528,221	25,603,942	24,439,767	160,567,695	181,175,686
1936	16,636,652	18,287,450	29,016,044	26,396,869	232,616,182	248,141,808
1937	20,743,046	20,665,193	31,575,892	28,886,870	268,497,670	253,443,737
1938	24,127,806	21,359,739	34,395,477	31,130,578	287,955,846	273,861,417
1939	24,269,817	21,242,625	35,908,899	34,907,898	296,873,259	289,228,598
1940	24,410,040	21,922,189	36,417,312	33,037,276	302,526,230	305,820,811
1940[4]	25,956,000	21,597,000	41,850,000	37,957,000	355,311,000	330,930,000
1941	28,104,000	20,845,000	43,135,000	37,947,000	404,791,000	349,818,000
1942	28,752,000	21,312,000	44,148,000	36,273,000	412,385,000	354,195,000
1943	30,528,000	22,721,000	44,496,000	37,158,000	435,771,000	378,790,000
1944	32,560,000	25,002,000	47,295,000	40,619,000	448,975,000	414,155,000
1945	40,651,000[10]	28,034,000[10]	53,468,000	45,607,000	507,955,000	451,108,000

[1] Includes expenditure on capital account, which is not separable. [2] Nine months. [3] Fourteen months. [4] To facilitate interprovincial comparisons, the ordinary revenues and expenditures as shown in the various Public Accounts have been placed on a gross basis and certain adjustments made. For reconciliation with various Public Accounts see *Financial Statistics of Provincial Governments in Canada for 1940* and subsequent years. Statistics for the years shown below rule are for fiscal years ended nearest Dec. 31 of year stated. [5] Fifteen months. [6] Exclusive of interest paid by Hydro and other commissions. [7] Five months. [8] Excludes $7,136,000 in 1941, $1,510,000 in 1943, $16,878,000 in 1944 and $8,000 in 1945 implementing guarantees *re* Municipalities Seed Grain and Supply Act, 1937. [9] Six months. [10] Excludes cash collected and payments and expenditures *re* Debt Reorganization Program.

Subsection 2.—Debt of Provincial Governments

Total direct debt of all Provincial Governments amounted to $1,812,000,000 in 1946 which was an increase over 1945 of $8,000,000. This increase was fairly general among the provinces, only Quebec, Manitoba and Alberta showing a decrease. Total direct and indirect debt increased moderately.

Gross bonded debt, which amounted to $1,671,598,000 in 1946, represented an increase of $29,935,000 over the corresponding total for 1945. This is the first year since 1940 that provincial bonded debt has increased over the previous year's total.

Provincial Government bonds sold during 1946 were, in nearly all instances, payable in Canada only. This is indicative of a trend in currency of payment that has been increasingly apparent throughout and since the war years.

31.—Gross Bonded Debt (Exclusive of Treasury Bills) of Provincial Governments, 1942-46

NOTE.—Figures are as at provincial fiscal year ends nearest Dec. 31 of the years stated. Figures for 1916-30 are given at p. 887 of the 1938 Year Book; for the years 1931-40 at p. 787 of the 1942 edition; for the year 1941 at p. 984 of the 1947 Year Book.

Year	Bonded Debt	Average Coupon Rate	Average Term of Issue	Bonded Debt	Average Coupon Rate	Average Term of Issue
	Prince Edward Island			Nova Scotia		
	$'000	p.c.	yrs.	$'000	p.c.	yrs.
1942	10,568	4·02	11·9	100,911	3·99	19·3
1943	10,518	3·97	11·7	100,921	3·92	19·8
1944	10,648	3·84	11·6	95,875	3·92	20·2
1945	10,023	3·80	12·7	96,547	3·88	20·0
1946	11,533	3·59	13·0	105,780	3·76	19·6
	New Brunswick			Quebec		
	$'000	p.c.	yrs.	$'000	p.c.	yrs.
1942	106,505	4·16	18·1	396,071	3·53	16·7
1943	105,033	4·12	18·3	386,781	3·58	17·5
1944	104,828	4·07	18·1	406,781	3·53	17·4
1945	112,284	3·95	17·6	412,811	3·47	17·3
1946	117,030	3·76	18·5	408,311	3·47	17·3
	Ontario			Manitoba		
	$'000	p.c.	yrs.	$'000	p.c.	yrs.
1942	624,244[1]	4·14	20·1	86,545	4·61	24·7
1943	629,129[1]	3·96	19·4	83,775	4·50	24·3
1944	611,620[1]	3·93	19·3	79,630	4·43	24·0
1945	583,312[1]	3·92	19·9	75,691	4·46	24·6
1946	591,212[1]	3·71	19·0	75,233	4·24	24·0
	Saskatchewan			Alberta		
	$'000	p.c.	yrs.	$'000	p.c.	yrs.
1942	126,303	4·62	22·4	128,123	4·89	26·4
1943	125,245	4·54	21·9	127,962	4·88	26·4
1944	127,456	4·50	21·6	127,961	4·88	26·4
1945	119,793	4·50	22·0	114,600	3·47	23·4
1946	129,300	4·30	20·5	113,130	3·47	23·7
	British Columbia			Totals		
	$'000	p.c.	yrs.	$'000	p.c.	yrs.
1942	117,359	4·35	21·2	1,696,629	4·12	20·1
1943	114,918	4·34	21·4	1,684,282	4·05	20·0
1944	113,403	4·22	21·3	1,678,202	4·00	19·9
1945	116,602	4·19	21·3	1,641,663	3·86	19·8
1946	120,069	3·94	21·7	1,671,598	3·73	19·7

[1] Including Railway Aid Certificates.

32.—Total Gross Bonded Debt (Exclusive of Treasury Bills) of Provincial Governments, by Currency of Payment, 1942-46

Payable in—	1942	1943	1944	1945	1946
	$'000	$'000	$'000	$'000	$'000
Canada only	964,860	978,401	979,545	967,965	1,030,477
London (England) only	45,681	45,530	45,413	37,215	36,912
London (England) and Canada	27,477	25,609	20,214	16,214	16,214
New York only	16,025	19,519	33,905	31,905	21,905
New York and Canada	371,907	348,835	355,426	353,205	335,117
London (England), New York and Canada	265,943	261,652	238,963	230,423	226,237
Other	4,736	4,736	4,736	4,736	4,736
Totals	**1,696,629**	**1,684,282**	**1,678,202**	**1,641,663**	**1,671,598**

33.—Direct and Indirect Debt of Provincial Governments, 1946[1]

Item	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
Fiscal Year Ended	Mar. 31 1947	Nov. 30 1946	Oct. 31 1946	Mar. 31 1947	Mar. 31 1947	Mar. 31 1947	Mar. 31 1947	Mar. 31 1947	Mar. 31 1947	
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Direct Debt										
Funded Debt—										
Issued	11,533	105,780	116,470	406,096	591,212[2]	75,207	129,300	[3]	120,069	—
Assumed	Nil	Nil	560	2,215	Nil	26	Nil	[3]	Nil	—
Total Funded Debt	11,533	105,780	117,030	408,311	591,212	75,233	129,300	113,130	120,069	1,671,598
Less sinking funds	2,654	15,975[4]	17,983	84,035	27,949	19,124	38,024	143	20,205	226,092
Net Funded Debt	8,879	89,805	99,047	324,276	563,263	56,109	91,276	112,987	99,864	1,445,506
Treasury Bills—										
Held by Dominion of Canada	Nil	Nil	Nil	Nil	Nil	24,735	Nil	26,212	34,031	—
Held by others	"	"	"	7,241	"	8,553	"	Nil	4,915	—
Total Treasury Bills	—	—	—	7,241	—	33,288	104,855	26,212	38,946	210,542
Savings deposits	Nil	Nil	Nil	Nil	61,604	Nil	Nil	1,030	Nil	62,634
Temporary loans	1,738	740	724	"	2,409	"	"	Nil	"	5,611
Superannuation and other deposits	9	Nil	245	5,605	8,710	2,194	1,368	4,449	4,170	26,750
Accrued expenditure	Nil	812	1,091	3,193	7,268	2,063	1,144	1,282	1,682	18,535
Accounts payable and other liabilities	"	2,933	1,301	18,097	2,227	25	763	9,795	7,655	42,796
Totals, Direct Debt (*less* sinking funds)	**10,626**	**94,290**	**102,408**	**358,412**	**645,481**	**93,679**	**199,406**	**155,755**	**152,317**	**1,812,374**
Indirect Debt										
Guaranteed bonds	50	1,321	1,232	5,487	114,720	1,385	[3]	101	6,520	—
Less sinking funds	3	77	206	154	2,841	Nil	[3]	Nil	2,233	—
Net Guaranteed Bonds, etc.	47	1,244	1,026	5,333	111,879	1,385	64	101	4,287	125,366
Loans under the Municipal Improvements Assistance Act, 1938	5	533	363	1,534	Nil	121	605	503	1,552	5,216
Guaranteed bank loans	5	798	583	3,458	2,185	Nil	48	589	Nil	7,666
Other indirect liabilities	32	10	Nil	31,910	2	"	495	Nil	3,144	35,593
Totals, Indirect Debt (*less* sinking funds)	**89**	**2,585**	**1,972**	**42,235**	**114,066**	**1,506**	**1,212**	**1,193**	**8,983**	**173,841**
Grand Totals, 1946	**10,715**	**96,875**	**104,380**	**400,647**	**759,547**	**95,185**	**200,618**	**156,948**	**161,300**	**1,986,215**
1945	**10,507**	**95,925**	**100,994**	**404,586**	**757,252**	**96,435**	**196,315**	**160,977**	**156,893**	**1,979,884**

[1] Subject to revision. [2] Includes railway aid certificates. [3] Not available. [4] Includes $2,766,943 sinking funds held by Nova Scotia Power Commission in respect of bonds issued by the Province.

34.—Total Direct and Indirect Debt of Provincial Governments, 1943-46

Item	1943	1944	1945	1946
	$'000	$'000	$'000	$'000
Direct Debt				
Funded Debt—				
Issued	1,673,836	1,667,767	1,631,452	[1]
Assumed	10,446	10,435	10,211	[1]
Totals, Funded Debt	1,684,282	1,678,202	1,641,663	1,671,598
Less sinking funds	182,079	223,197	195,062	226,092
Net Funded Debt	1,502,203	1,455,005	1,446,601	1,445,506
Treasury Bills—				
Held by Dominion of Canada	166,563	182,871	178,074	[1]
Held by others	62,108	56,099	32,075	[1]
Totals, Treasury Bills	228,671	238,970	210,149	210,542
Savings deposits	41,560	45,771	48,448	62,634
Temporary loans	1,175	9,032	25,790	5,611
Superannuation and other deposits	20,249	21,814	23,134	26,750
Accrued expenditure	18,099	17,941	18,238	18,535
Accounts payble and other liabilities	15,256	17,340	31,975	42,796
Totals Direct Debt (*less* sinking funds)	**1,827,213**	**1,805,873**	**1,804,335**	**1,812,374**
Indirect Debt				
Guaranteed bonds	148,509	151,022	135,134	[1]
Less sinking funds	5,550	6,370	4,627	[1]
Net Guaranteed Bonds, etc.	142,959	144,652	130,507	125,366
Loans under the Municipal Improvement Assistance Act, 1938	5,659	5,496	5,317	5,216
Guaranteed bank loans	21,367	9,731	8,790	7,666
Other indirect liabilities	22,325	29,302	30,935	35,593
Totals Indirect Debt (*less* sinking funds)	**192,310**	**189,181**	**175,549**	**173,841**
Grand Totals	**2,019,523**	**1,995,054**	**1,979,884**	**1,986,215**

[1] Not available.

Section 4.—Municipal Finance*

Subsection 1.—The Organization and Growth of the Municipalities in Canada

Under the provisions of the British North America Act, the several provinces have jurisdiction and control over their respective organizations of municipal government. While the main types of municipalities are common to most provinces there is little or no similarity from the standpoint of prerequisites to incorporation, either as to area or population. In fact, some provinces have no specified requirements in this regard. There are, nevertheless, two main divisions into which incorporated municipalities may be grouped—urban and rural—each of which displays more or less distinct characteristics. The former comprises the cities, towns and villages. The official designation of the municipalities in the rural group, however, varies widely as between provinces: Townships in Ontario; Districts in British Columbia; Municipal Districts in Alberta; Counties in New Brunswick; Municipalities in Nova Scotia; Parishes and Townships in Quebec; and Rural Municipalities in Manitoba and Saskatchewan.

* Revised under the direction of J. H. Lowther, Director, Public Finance Division, Dominion Bureau of Statistics.

In 1946 there were 3,970 incorporated municipalities in Canda, as compared with 3,962 in 1945. The number of each different class or type of municipality, by provinces, for 1946 is shown in Table 35.

It should be noted that the counties in Ontario and Quebec, which are incorporated municipalities, are comprised of local towns or villages and rural municipalities, situated therein, which provide the necessary funds for the service falling within the scope of county administration. There are also counties in the Provinces of Nova Scotia and New Brunswick, but these are basically the same as rural municipalities in the other provinces. In Saskatchewan and Alberta, there are areas very similar to rural municipalities except that they enjoy a lesser degree of local services and are not self-governing. These are called Improvement Districts. The Provincial Governments administer the services provided in these areas and also levy and collect the necessary taxes. A 1943 amendment to the Ontario Municipal Act provides for the erection of Improvement Districts governed by a board of trustees appointed by the Lieutenant-Governor in Council. The Local Government Districts Act, 1944, of Manitoba, authorizes the Lieutenant-Governor in Council to incorporate unorganized or disorganized territory and appoint administrators and a general supervisor.

35.—Municipalities, Classified by Provinces, 1946, with Totals for 1943-45

NOTE.—See text immediately preceding this table for interpretation of the statistics.

Province	Cities	Towns	Villages	Total Urban	Rural	Total Local Municipalities	Counties	Total Incorporated Municipalities
	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	1	7	Nil	8	Nil	8	Nil	8
Nova Scotia	2	42	"	44	24	68	"	68
New Brunswick	3	19	2	24	15	39	"	39
Quebec	26	115	315	456	1,071	1,527	76	1,603
Ontario	28	146	156	330	571	901	38	939
Manitoba	4	31	24	59	115[1]	174	Nil	174
Saskatchewan	8	83	395	486	303	789	"	789
Alberta	7	54	134	195	60	255	"	255
British Columbia	34	Nil	33	67	28	95	"	95
Totals, 1946	**113**	**497**	**1,059**	**1,669**	**2,187**	**3,856**	**114**	**3,970**
1945	**113**	**494**	**1,064**	**1,671**	**2,177**	**3,848**	**114**	**3,962**
1944	**112**	**494**	**1,057**	**1,663**	**2,177**	**3,840**	**114**	**3,954**
1943	**111**	**494**	**1,052**	**1,657**	**2,225**	**3,882**	**114**	**3,996**

[1] Includes five self-governing units known as "suburban municipalities".

On the basis of the 1941 Census, over 10,689,000 persons or 93 p.c. of the population of the nine provinces, were in incorporated municipalities. Table 36, showing the comparable situation for each province, gives an indication of the development of self-government from the standpoint of the local population. The 800,000 persons excluded from the population in incorporated municipalities on this basis are comprised of those on Indian Reserves and in areas that have not yet reached the stage of development where self-government is felt necessary or desirable.

36.—Population of Incorporated Municipalities, by Provinces, 1941

Province	Total Population	Population of Incorporated Municipalities			Percentage Municipal to Total Population
		Urban	Rural	Total	
	No.	No.	No.	No.	
Prince Edward Island	95,047	24,340	Nil	24,340	25·6
Nova Scotia	577,962	267,540	308,304	575,844	99·6
New Brunswick	457,401	143,423	312,153	455,576	99·6
Quebec	3,331,882	2,109,684	1,137,519	3,247,203	97·5
Ontario	3,787,655	2,338,633	1,316,133	3,654,766	96·5
Manitoba	729,744	321,873	344,648	666,521	91·3
Saskatchewan	895,992	295,146	528,532	823,678	91·9
Alberta	796,169	306,586	321,219	627,805	78·9
British Columbia	817,861	443,394	170,269	613,663	75·0
Totals	**11,489,713**	**6,250,619**	**4,438,777**	**10,689,396**	**93·0**

Subsection 2.—Municipal Assessed Valuations

The revenue resources of municipalities are limited generally to direct taxation, based on assessed valuations of real and other types of property. The assessment of personal property has had its ups and downs particularly in the Prairie Provinces. The Maritime Provinces, Manitoba and Alberta are the only provinces at the present time in which municipalities assess and tax personal property. In Alberta in 1946 there was an increase in the use of this basis for tax revenue by villages while in Manitoba it is used generally by all classes of municipalities, except cities. Aside from real property, the next important type of valuation for taxation purposes is business assessment, although not all provinces assess for business purposes separately and distinctly from real property valuations. A variation of methods, schedules and rates exists not only between provinces but also between municipalities within the same province. Some municipalities use the rental basis, others the value of floor space occupied and still others the capital value of the premises occupied. Most of the provinces have other miscellaneous types of assessment, the general nature of which will be noted from the footnotes to Table **37**. It will also be noted that income assessment, which formerly was employed in Nova Scotia and New Brunswick only, disappeared in 1943. This is a result of the operation of the Dominion-Provincial Tax Agreements whereby the provinces and municipalities abandoned the income-tax field for the duration of the War and a limited period thereafter, so as to leave it open to the Federal Treasury.

It should be noted that the figures in Table **37** are not entirely comparable, on an interprovincial basis, from the standpoint of relative values of properties taxable for municipal purposes. Each province operates under its own assessment laws, which are not all similar, either in application or in effect. For instance, in British Columbia cities and municipal districts, improvements cannot be taxed on a value in excess of 75 p.c. of taxable values or in excess of 50 p.c. of taxable values in villages; the values actually taxed in 1946 ranged from nil to 75 p.c. In the majority of cases, improvements were assessed for tax purposes at 50 p.c. of taxable values, but for all municipalities the total improvements actually taxed represented approximately 47·7 p.c. of total taxable values. It should also be noted that Table **37** does not include assessed valuations in Improvement Districts for either Saskatchewan

or Alberta. In Saskatchewan these amounted to $29,998,740, $28,598,170, $27,327,995, and $26,874,190, and in Alberta to $69,222,473, $61,016,330, $63,171,742, and $62,753,779 in 1943, 1944, 1945 and 1946, respectively. In addition there are other intra-provincial inconsistencies between municipalities which, in turn, further affect interprovincial comparisons. These may be said to be due to the lack of integrated municipal assessment systems and uniform standards for establishing values on a province-wide basis, under the direction and control of a central authority. Some provinces, however, have made considerable progress along these lines in recent years, as in the case of Saskatchewan, the results of which are referred to in the text following Table 37.

37.—Municipal Assessed Valuations, by Provinces, 1943-46

Province and Year	Taxable Valuations on which Taxes were Levied					Total Exemptions
	Real Property	Personal Property	Business	Other[1]	Total	
	$	$	$	$	$	$
P.E.I.—[2]						
1943	10,596,974	4,235,120	—	—	14,832,094	5,765,500
1944	10,467,726	4,172,328	—	—	14,640,054	5,765,500
1945	10,623,217	4,241,766	—	—	14,864,983	6,174,500
1946	10,984,447	4,502,720	—	—	15,487,167	6,101,500
N.S.—						
1943	146,795,972	25,213,006	8,497,785	3,618,725	184,125,488	71,105,886
1944	148,691,531	25,466,512	9,872,785	3,873,185	187,904,013	83,406,901
1945	152,778,340	26,674,666	10,206,195	3,960,665	193,619,866	92,492,075
1946	157,154,637	28,015,764	10,153,105	3,716,785	199,040,291	93,799,064
N.B.—						
1943	121,698,829	15,678,211	9,454,085[3]	—	146,831,125	[4]
1944	127,220,640	16,548,973	15,396,604[3]	—	159,166,217	[4]
1945	146,980,050	21,229,398	16,196,114[3]	—	184,405,562	[4]
1946	172,431,970	25,603,181	17,628,210[3]	—	215,663,361	[4]
Que.—						
1943	—	—	—	—	2,301,613,338[5]	836,599,825[6]
1944	—	—	—	—	2,343,734,545[5]	839,704,322[6]
1945	—	—	—	—	2,436,210,884[5]	834,183,996[6]
1946	—	—	—	—	[7]	[7]
Ont.—						
1943	2,774,973,540[8]	—	262,665,481[8]	20,457,536[8]	3,062,227,526	428,846,000[9]
1944	2,796,478,478[8]	—	266,342,162[8]	—	3,066,176,684	433,985,000[9]
1945	2,836,780,212	—	272,281,909	—	3,109,062,121	440,533,000[9]
1946	2,890,673,352	—	282,781,011	—	3,173,454,363	440,985,000[9]
Man.—						
1943	426,645,939	5,458,760	11,364,048	—	443,468,747	160,033,765
1944	428,936,654	5,357,925	11,498,477	—	445,793,056	160,724,099
1945	434,656,903	5,426,310	11,768,128	—	451,851,341	159,756,368
1946	445,388,274	5,655,410	12,442,215	—	463,485,899	159,400,109
Sask.—						
1943	828,873,155	—	36,894,640	398,075	866,165,870	[4]
1944	789,010,569	—	38,501,071	523,417	828,035,057	[4]
1945	782,673,415	—	39,278,142	526,266	822,477,823	93,565,542
1946	782,937,261	—	40,073,658	541,552	823,552,471	98,992,996
Alta.—						
1943	470,646,366	3,559,516	11,285,107	3,806,563	489,297,552	52,599,528[10]
1944	485,650,854	8,835,584	12,313,699	3,693,653	510,493,790	78,330,720
1945	496,660,321	10,384,400	12,227,048	3,147,230	522,418,999	66,787,105
1946	516,607,849	13,026,153	13,120,380	3,297,738	546,052,120	65,334,428

For footnotes, see end of table.

37.—Municipal Assessed Valuations, by Provinces, 1943-46—concluded

Province and Year	Taxable Valuations on which Taxes were Levied					Total Exemptions
	Real Property	Personal Property	Business	Other	Total	
	$	$	$	$	$	$
B.C.—						
1943	398,263,762[11]	—	—	—	398,263,762	413,604,030[12]
1944	407,461,787[11]	—	—	—	407,461,787	427,996,794[12]
1945	420,156,138[11]	—	—	—	420,156,138	414,560,613[12]
1946	448,357,276[11]	—	—	—	448,357,276	433,520,319[12]
Totals—						
1943	**5,178,494,537**[8]	**54,144,613**[8]	**340,161,146**[8]	**28,280,899**	**7,906,825,502**	**1,968,554,534**[13]
1944	**5,193,918,239**[8]	**60,381,322**[8]	**353,924,798**[8]	**8,090,255**	**7,963,405,203**	**2,032,913,336**[13]
1945	**5,281,308,596**	**67,956,540**	**361,957,536**	**7,634,161**	**8,155,067,717**	**2,108,053,199**[13]
1946	[7]	[7]	[7]	[7]	[7]	[7]

[1] Includes the following: N.S.—Household Tax; Que.—Miscellaneous Stock-in-Trade, Tenants Tax, *et al*, not specified; Ont.—Income of Corporations derived from interest earnings on investments discontinued in 1944; Sask.—Special franchise; Alta.—Franchise and Other Special. [2] Includes estimated values for some municipalities, also total exemptions incomplete. [3] Includes some other types of valuations not specified. [4] Not available from published reports. [5] Detail not available. [6] Includes temporary exemptions: $76,494,294 (1943); $61,283,443 (1944) and $43,932,563 (1945). [7] At time of publication 1946 figures for Quebec were not available. [8] Does not cross-add to total; complete information for some municipalities not available. [9] Cities only; exemptions for other municipalities not published. [10] Cities, with exception of Drumheller; exemptions for other municipalities not published. [11] Includes $184,383,801 (1943), $192,542,560 (1944), $201,269,083 (1945) and $223,651,933 (1946) valuation of improvements, the total value of which was $412,707,744 (1943), $435,017,282 (1944), $433,581,311 (1945) and $468,844,049 (1946), and the maximum value at which they could be taxed was $257,964,422 (1943), $274,063,507 (1944), $271,071,473 (1945) and $292,353,568 (1946). [12] Consists of $185,280,087 (1943), $185,522,072 (1944), $182,248,385 (1945) and $188,328,203 (1946) valuation of exempted properties, and $228,323,943 (1943) $242,474,722 (1944) $232,312,228 (1945) and $245,192,116 (1946) exemptions of taxable improvements as referred to in footnote 11. [13] See footnotes 4, 6, 9, 10 and 12.

While complete figures for tax-exempt properties are not available for each province, it will be noted from the information given that these have assumed relatively high proportions. Most provinces have shown consistent increases in taxable assessed valuations which may be attributed largely to the stimulus to business and industry in general, arising from the War. Saskatchewan, however, showed a reduction in total valuations up to 1945. This was the result of a province-wide plan of re-assessment of rural municipalities by the Department of Municipal Affairs and is "the first occasion in Canada where an assessment system of such extensive proportions has ever been undertaken".*

Subsection 3.—Municipal Taxation

Table 38 shows, by provinces, the taxes levied by municipalities in comparison with collections in 1943, 1944, 1945 and 1946, and the total taxes outstanding at the end of those years. While these figures are as nearly comparable as may be obtained from existing published reports, they nevertheless reflect some inconsistencies due particularly to interprovincial variations in the division of responsibility for tax administration between municipalities and school authorities. In some instances school taxes are not included in the municipal levies. In Prince Edward Island, two only of the eight incorporated municipalities have their own individual school districts and levy and collect the school taxes. In Nova Scotia prior to 1943, and in New Brunswick prior to 1944, cities, towns and villages only levied and

* Annual report of the Department of Municipal Affairs of the Province of Saskatchewan for the fiscal year ended Apr. 30, 1941.

collected the school taxes. Hence the figures shown for these provinces are, generally speaking, exclusive of rural school taxes, particulars of which are not available from published reports. Commencing with 1943, however, under a program for establishing larger school units in Nova Scotia, some municipalities have been levying and collecting the school taxes for and on behalf of the rural school boards situated therein. A similar program has also been inaugurated in New Brunswick, so that more complete figures are now available as the larger school units are gradually established. Prior to 1943, the figures for Alberta were incomplete because municipal taxes did not include certain school and hospital levies, which were not collected by the municipal unit or were regarded as "trust" taxes. In Quebec, while school taxes, with few exceptions, are levied and collected by the school corporations which function independently of municipal authorities, they are, nevertheless, included in this tabulation for purposes of greater interprovincial comparability. It will therefore be apparent from the foregoing that the figures in Table 38, except in the case of Quebec, represent only the amount of tax levies, collections and arrears of the municipalities, and include school taxes only to the extent that such are also levied and collected by the municipalities for and on behalf of local school authorities. Taxes for schools outside incorporated municipal organizations are not included.

38.—Municipal Taxation, by Provinces, 1943-46

NOTE.—See text on p. 1001 for limitations on comparability of statistics in this table.

Province and Year	Tax Levy	Tax Collections, Current and Arrears		Taxes Receivable, Current and Arrears	Property Acquired for Taxes	Total Taxes Receivable and Property Acquired for Taxes	
		Total	P.C. of Levy			Total	P.C. of Levy
	$	$		$	$	$	
P.E. Island[1]—							
1943	339,632	344,677	101·5	152,766	[2]	152,766	45·0
1944	337,233	334,713	99·3	150,712	[2]	150,712	44·7
1945	377,487	379,576	100·6	146,975	[2]	146,975	38·9
1946	393,791	403,666	102·5	132,449	[2]	132,449	33·6
Nova Scotia—							
1943	9,084,299	9,446,146	104·0	4,606,728	304,148	4,910,876	54·1
1944	9,584,165	9,750,605	101·7	3,771,845	257,623	4,029,468	42·0
1945	10,046,450	10,216,800	101·7	3,386,493	232,897	3,619,390	36·0
1946	10,705,668	10,635,395	99·3	3,227,837	204,500	3,432,337	32·1
New Brunswick—							
1943	5,082,812[3]	5,462,616[3]	107·5	3,925,587	[2]	3,925,587	77·2
1944	5,377,195[3]	5,514,272[3]	102·5	3,526,083	[2]	3,526,083	65·6
1945	6,708,855[3]	6,545,264[3]	97·6	3,375,399	[2]	3,375,399	50·3
1946	7,350,407[3]	7,350,087[3]	99·3	3,040,178	[2]	3,040,178	41·4
Quebec—							
1943	75,906,155	77,519,824	102·1	26,080,874	16,564,008[4]	42,644,882	56·2
1944	74,428,078	31,008,759[5]	91·8[5]	19,553,478	14,756,456[4]	34,309,934	46·1
1945	81,066,353	[6]	[6]	17,875,172	12,836,487	30,711,659	37·9
1946	[6]	[6]	[6]	[6]	[6]	[6]	[6]
Ontario—							
1943	111,546,480	114,331,179	102·5	17,002,865	12,872,522	29,875,387	26·8
1944	111,380,748	114,435,002	102·7	13,977,678	13,422,460	27,400,138	24·6
1945	108,162,977	110,003,248	101·7	11,722,272	11,430,367	23,152,639	21·4
1946	117,628,950	117,925,376	100·3	11,115,210	8,033,594	19,148,804	16·3

For footnotes, see end of table.

38.—Municipal Taxation, by Provinces, 1943-46—concluded

Province and Year	Tax Levy	Tax Collections, Current and Arrears		Taxes Receivable, Current and Arrears	Property Acquired for Taxes	Total Taxes Receivable and Property Acquired for Taxes	
		Total	P.C. of Levy			Total	P.C. of Levy
	$	$		$	$	$	
Manitoba—							
1943	18,153,785	20,649,835	113·7	5,668,862	14,459,245	20,128,107	110·9
1944	18,884,541	21,162,059	112·1	4,502,178	7,408,245[7]	11,910,423[7]	63·1
1945	19,907,359	21,666,411	108·8	3,729,976	6,711,043	10,441,019	52·4
1946	21,850,851	24,078,551	110·2	3,321,263	5,875,686	9,196,949	42·1
Saskatchewan—[8]							
1943	22,097,720	29,917,214	135·4	29,216,503	16,515,146	45,731,649	207·0
1944	23,131,386	32,758,402	141·6	19,075,183	14,381,610	33,456,793	144·6
1945	24,472,774	26,771,259	109·4	14,381,434	13,164,621	27,546,055	112·6
1946	26,778,439	27,825,445	103·9	11,309,019	11,272,746	22,581,765	84·3
Alberta—[8]							
1943	17,183,306	20,503,890	119·3	13,852,468	15,504,143	29,356,611	170·8
1944	18,491,338	21,883,999	118·3	11,488,855	14,817,596	26,306,451	142·3
1945	20,126,704	21,982,639	109·2	9,753,560	13,162,366	22,915,926	113·8
1946	23,290,792	24,633,528	105·8	6,748,050	12,833,210	19,581,260	84·1
British Columbia—							
1943	19,302,324	20,020,366	103·7	3,004,761	13,046,087	16,050,848	83·2
1944	19,788,620	20,339,931	102·8	2,118,136	11,548,982	13,667,118	69·1
1945	20,824,066	21,144,607	101·5	1,760,416	10,351,989	12,112,405	58·2
1946	22,623,665	22,684,018	100·3	1,613,434	8,207,688	9,821,122	43·4
Totals—							
1943	**278,696,513**	**298,195,747**[9]	**107·0**[9]	**103,511,414**	**89,265,299**[9]	**192,776,713**	**69·2**
1944	**281,403,304**	**257,187,742**[9]	**109·2**[9]	**78,164,148**	**76,592,972**[9]	**154,757,120**	**55·0**
1945	**291,693,025**	[6]	[6]	**66,131,697**	**67,889,770**	**134,021,467**	**45·9**
1946	[6]	[6]	[6]	[6]	[6]	[6]	[6]

[1] Includes estimates in some instances as actual figures are not available. [2] Not reported separately. [3] Excludes $1,266,087 in 1943, $1,328,914 in 1944, $1,363,007 in 1945 and $1,366,821 in 1946 compensation through Provincial Government for loss of income tax (see pp. 1008). [4] Cities and towns only. [5] Excludes cities and towns. [6] At time of publication figures for Quebec were not available. [7] Reduction from 1943 accounted for by write-off of tax titles for city of Winnipeg. [8] Includes certain provincial and other special taxes (see text following this table), but excludes taxes in Improvement Districts. [9] See notes applying to the provinces.

Because of these inconsistencies and the fact also that there are considerable differences in the division of responsibility for services between the Provincial Governments and their respective municipalities, extreme caution should be exercised in using these figures as a basis for interprovincial comparisons of the relative burden of municipal taxation. Also, in Saskatchewan and Alberta, municipalities are required to levy certain taxes for and on behalf of the Provincial Government and for other special purposes for which there is no comparable situation in other provinces. The amounts of such taxes included in the municipal levies in these two provinces, are as follows:—

Item	*1943*	*1944*	*1945*	*1946*
	$	$	$	$
Saskatchewan—				
Public Revenue Taxes (Provincial)	1,718,209	1,650,131	1,621,273	1,661,667
Telephone and Hail Taxes	1,652,003	2,208,942	2,366,483	2,106,250
Totals, Saskatchewan	3,370,212	3,859,073	3,987,756	3,767,917
Alberta—				
Social Services, Educational and Wild Lands Taxes (Provincial)	983,286	1,010,475	1,033,456	1,009,951

There has been only a slow steady rise in the trend of municipal tax levies in Canada in the years 1943-46. While most provinces show increases, this does not necessarily mean an increased burden on the individual taxpayer in all instances, but is more the result, in part at least, of the increases reflected in assessed valuations. In Nova Scotia and New Brunswick the increases are, to a considerable extent, due to the establishment of larger school units previously referred to in this Section, whereby some municipalities are now levying certain taxes which formerly were levied by rural school boards. Tax collections continued high in relation to total levies; this, in recent years, has resulted in substantial reductions in the amount of unpaid taxes outstanding although these are still relatively high in most provinces. The situation for different classes of municipalities will, of course, vary considerably. Reference has heretofore been made to the Improvement Districts in Saskatchewan and Alberta which, although not incorporated municipalities, are nevertheless maintained by the Provincial Governments more or less as self-sustaining areas on the same basis. Taxation figures for these Districts are excluded from Table 38 but by reason of the special significance attached to them in relation to municipal organization in these provinces, and the fact that they may become incorporated, or part of existing municipalities at some future date, the corresponding information with regard to them is shown in Table 39.

39.—Taxation in Improvement Districts of Saskatchewan and Alberta, 1943-46

Province and Year	Tax Levy	Tax Collections, Current and Arrears		Taxes Receivable, Current and Arrears	Property Acquired for Taxes	Total Taxes Receivable and Property Acquired for Taxes	
		Total	P.C. of Levy			Total	P.C. of Levy
	$	$		$	$	$	
Saskatchewan[1]							
1943	641,380	807,927	126·0	1,554,204	185,338	1,739,542	271·2
1944	613,981	787,801	128·3	1,279,027	[2]	1,279,027	208·3
1945	511,947	537,908	105·1	1,137,871	224,829	1,362,700	266·2
1946	686,023	716,446	104·4	1,202,423	233,457	1,435,880	209·3
Alberta—							
1943[3]	1,966,296	2,284,376	116·2	4,553,510	[4]	4,553,510	231·6
1944	1,383,922	1,732,895	125·2	3,790,050	[4]	3,790,050	273·9
1945	1,524,539	1,611,255	105·7	3,891,080	[4]	3,891,080	255·2
1946	1,944,378	2,314,184	119·0	3,408,445	[4]	3,408,445	175·3
Totals—							
1943	**2,607,676**	**3,092,303**	**118·6**	**6,107,714**	**185,338**	**6,293,052**	**241·3**
1944	**1,997,903**	**2,520,696**	**126·2**	**5,069,077**	[4]	**5,069,077**	**253·7**
1945	**2,036,486**	**2,149,163**	**105·5**	**5,028,951**	**224,829**	**5,253,780**	**258·0**
1946	**2,630,401**	**3,030,630**	**115·2**	**4,610,868**	**233,457**	**4,844,325**	**184·2**

[1] Includes Public Revenue (Provincial) Taxes of $59,786 (1943); $56,998 (1944); $54,459 (1945) and $53,558 (1946). [2] Not available. [3] Includes Social Services, Educational and Wild Lands Taxes (Provincial) of $184,336. [4] Not reported separately.

Subsection 4.—Municipal Debt

The rapid growth experienced by municipalities in Canada coupled with increased demands and responsibilities for improvements, schools, utilities, and other services or facilities has resulted in the incurring of a heavy burden of debt. Debenture borrowings increased rapidly in the period 1900-12 and again during the 1920's and early 1930's. Since 1933, however, the trend has been downward.

Several important factors have contributed to this decline in municipal indebtedness, not the least important of which has been the measure of control exercised by Provincial Government departments over capital expenditures involving the incurring of debt. In addition, there was a more or less orderly retrenchment during the depression years following periods of what proved to be unwarranted expansion which, along with widespread demands to ease the tax burden on real property, has resulted in capital undertakings and works requiring debenture financing being severely curtailed. A further significant factor in this regard is that the greater part of the municipal long-term debt is represented by serial or instalment-type debentures, which require yearly repayments of principal. While the benefits of debt reduction are of course manifold, certain expenditures have been sorely needed in many communities for the rehabilitation of existing assets and for new improvements necessitated by the normal expansion and development that has taken place. These were sacrificed in the earlier years mainly in the interest of the taxpayer; subsequently, after the outbreak of the War in 1939, the policy of deferment was continued, if not extended, to free the financial market to the needs of the Federal Government in meeting its war financing requirements. Municipalities having been denied, either voluntarily or otherwise, improvement programs for so long, will show a natural tendency to get these under way as soon as possible in correlation with master post-war plans of the Federal and Provincial Governments. Table **40** shows figures of municipal indebtedness for 1946 and includes temporary loans and other liabilities in addition to debenture debt. Table **41** shows comparative figures for 1943, 1944 and 1945. The 1942 Year Book contains at pp. 792-793, a detailed description of the basis on which the information has been compiled. Reference should be made to this, as well as to the footnotes to Table **40** in interpreting the information. A table at p. 791 of the 1941 Year Book shows the bonded indebtedness of municipalities from 1919 to 1938.

40.—Debt of Municipal and School Corporations for their Fiscal Years Ended in 1946

NOTE.—Compiled from published reports of Provincial Departments of Municipal Affairs, auditors reports and financial statements of municipalities, and information secured from other official sources. For a general explanation in regard to the items covered by this table, see text above.

Item	Prince Edward Island	Nova Scotia	New Brunswick	Quebec[1]	Ontario
Direct Debt—	$	$	$	$	$
Debenture debt	3,068,618	32,444,635	23,821,822	–	221,501,073[2]
Less sinking funds	987,908	14,884,544	10,199,771	–	32,284,662
Net Debenture Debt	2,080,710	17,560,091	13,622,051	–	189,216,411
Temporary loans	69,854	1,329,536	1,292,303	–	7,465,313[3]
Accounts payable and other liabilities	23,329	1,529,453	3,435,749	–	16,778,399[3]
Totals, Direct Liabilities (*less* sinking funds)	**2,173,893**[4]	**20,419,080**[4]	**18,350,103**[4]	–	**213,460,123**
Indirect Debt—					
Guaranteed bonds, debentures, etc.	[5]	782,500	330,500	–	20,248,531
Less sinking funds	[5]	108,035	182,050	–	212,970
Totals, Indirect Liabilities (*less* sinking funds)	[5]	**674,465**	**148,450**	–	**20,035,561**
Grand Totals	**2,173,893**	**21,093,545**	**18,498,553**	–	**233,495,684**

For footnotes, see end of table, p. 1006.

40.—Debt of Municipal and School Corporations for their Fiscal Years Ended in 1946—concluded

Item	Manitoba	Saskatchewan	Alberta	British Columbia	Total[1]
	$	$	$	$	$
Direct Debt—					
Debenture debt	48,670,860	29,293,266[6]	37,334,040	106,551,341	–
Less sinking funds	17,609,602	10,086,638	997,466	31,913,171	–
Net Debenture Debt	31,061,258	19,206,628	36,336,574	74,638,170	–
Temporary loans	6,756,721[7]	473,920	3,563,192[8]	496,407	–
Accounts payable and other liabilities	5,056,428	32,043,104	7,938,128	6,943,525[9]	–
Totals, Direct Liabilities (*less* sinking funds)	**42,874,407**	**51,723,652**	**47,837,894**	**82,078,102**	–
Indirect Debt—					
Guaranteed bonds, debentures, etc.	14,392,137	[5]	[5]	17,235,946	–
Less sinking funds	5,333,019	[5]	[5]	3,438,835	–
Totals, Indirect Liabilities (*less* sinking funds)	9,059,118	[5]	[5]	13,797,111	–
Grand Totals	**51,933,525**	**51,723,652**	**47,837,894**	**95,875,213**	–

[1] At time of publication 1946 figures for Quebec were not available. [2] Includes $7,364,226 net debenture debt (less sinking funds) and other capital liabilities of Separate School Boards and School Districts in unorganized areas (debenture payments in arrears are also included in this amount). [3] Excludes liabilities of schools and other local boards and commissions but includes in lieu thereof amounts due by municipal revenue fund accounts to such schools and other local authorities (information required to make the necessary eliminations on this account not available from published reports (see footnote 2). [4] Excludes rural schools. [5] None reported. [6] Includes Rural Telephone, Drainage Districts and Union Hospital District debentures. [7] Includes $4,088,267 treasury bills and $4,740,595 other floating debt less $2,589,376 sinking funds accumulated in respect thereof *re* city of Winnipeg. [8] Includes $2,660,860 treasury bills. [9] Includes $1,108,868 tax repayment deposits.

41.—Total Municipal and School Debt, 1943-46

NOTE.—Details by provinces and explanatory notes for 1946 are given in Table 40. Similar information for other years is contained in previous issues of the Year Book.

Item	1943	1944	1945	1946[1]
	$	$	$	$
Direct Debt—				
Debenture debt	1,074,777,247	1,006,936,615	965,449,885	–
Less sinking funds	254,863,821	178,759,054	168,364,645	–
Net Debenture Debt	819,913,426	828,177,561	797,085,240	–
Temporary loans	70,765,349	28,564,558	32,807,391	–
Accounts payable and other liabilities	140,750,554	123,952,084	116,370,665	–
Totals, Direct Liabilities (*less* sinking funds)	**1,031,429,329**	**980,694,203**	**946,263,296**	–
Indirect Debt—				
Guaranteed bonds, debentures, etc.	56,269,826	54,719,570	54,613,277	–
Less sinking funds	7,773,043	8,032,842	8,747,963	–
Totals, Indirect Liabilities (*less* sinking funds)	**48,496,783**	**46,686,728**	**45,865,314**	–
Grand Totals	**1,079,926,112**	**1,027,380,931**	**992,128,610**	–

[1] At time of publication, figures for Quebec were not available.

Available information indicates that the direct and indirect debt of municipalities continued during 1945 the decline which had been evident since 1940. Retirement of direct debenture debt accounted for the major portion of the decrease during this period, although there have also been substantial reductions in unfunded liabilities. The decreases in debenture debt are due to the factors mentioned elsewhere in this Section while improved tax collections have made it possible for municipalities to avoid heavy temporary borrowings and reduce other current liabilities. It is pointed out however that debenture debt figures are intended to represent only principal unmatured. Principal past due, whether in default or unpaid because of non-presentation, has been included with accounts payable and other liabilities. It is impossible to ascertain if this is a true statement of fact in all cases as some reports do not indicate the exact situation. The more significant items available are given in Table 42.

42.—Debenture Principal and Interest Due, 1943-46

Province and Item	1943	1944	1945	1946
	$	$	$	$
Prince Edward Island—				
Principal	10,500	1,000	4,200	3,600
Interest	5,574	6,370	4,695	5,556
Totals, Prince Edward Island	16,074	7,370	8,895	9,156
Nova Scotia—				
Principal	12,792	16,800	20,848	24,213
Interest	43,369	50,605	40,528	54,101
Totals, Nova Scotia	56,161	67,405	61,376	78,314
New Brunswick—				
Interest payable and accrued	244,629	253,353	298,937	289,279
Quebec—				
Principal past due (municipal)	39,082,078	1,921,580	2,080,421	[1]
Past due and accrued interest (municipal)	1,672,636	220,135	290,265	[1]
Principal and interest past due (schools)	696,921	802,646	915,756	[1]
Totals, Quebec	41,451,635	2,944,361	3,286,442	[1]
Ontario—				
Principal and interest past due (municipal)	4,157,693	6,052,495	4,306,906	4,274,944
Manitoba—				
Interest due (schools only)	119,732	98,745	116,667	92,571
Saskatchewan—				
Principal past due (excluding primary schools)	1,417,816	1,674,103	287,364	207,975
Interest past due (excluding primary schools)	3,041,548	3,113,957	1,329,752	202,357
Principal and interest past due (primary schools)	1,828,297	940,423	267,935	220,238
Totals, Saskatchewan	6,287,661	5,728,483	1,885,051	630,570

[1] At time of publication, 1946 figures for Quebec were not available.

42.—Debenture Principal and Interest Due, 1943-46—concluded

Province and Item	1943	1944	1945	1946
	$	$	$	$
Alberta—				
Principal and interest past due (municipal)	655,186	445,145	534,533	451,455
Principal and interest past due (schools)	231,978	178,199	130,529	57,423
Totals, Alberta	887,164	623,344	665,062	508,878
British Columbia—				
Principal and interest past due	525,460	495,570	507,487	789,033
Grand Totals	**53,746,209**	**16,271,126**	**11,136,823**	[1]

[1] At time of publication, 1946 figures for Quebec were not available.

PART II.—DEVELOPMENTS IN THE TAXATION FIELD

Prior to the First World War, the Federal Government was able to finance its expenditures through the imposition of such indirect taxes as customs and excise duties. There were minor direct taxes imposed for other purposes than revenue but these, in the fiscal year 1914, amounted to less than 1·5 p.c. of the total revenue from taxation collected by the Federal Government. To-day, direct taxation accounts for about 46 p.c. of Federal revenue.

The unprecedented financial demands of the First World War began to be felt by 1915 and between 1915 and 1917 the Federal Government entered the direct-taxation field with the imposition of taxes on banks, trust and loan companies, insurance companies and business profits. The income tax was introduced in Canada in the latter year and continued to be an important source of revenue in the period between the two wars. The outbreak of war in 1939 and the resulting rapid expansion of expenditures by the Government led to a very substantial increase in individual and corporation income tax rates, the tax on excess profits was revived and made much more severe and the Federal Government entered the fields of succession duties and gasoline taxes (the latter are semi-direct) which had hitherto been imposed exclusively by the provinces.

The first reductions to be made in direct tax rates, which were at such high levels during the war years, were presented in the 1945-46 Budget and included: a reduction of 4 p.c. in individual income tax for 1945 and of 16 p.c. for 1946; reduction of the 100 p.c. rates of excess profits tax to 60 p.c. from Jan. 1, 1946; and an increase in the minimum standard profit under excess profits tax from $5,000 to $15,000 from Jan. 1, 1946.

The 1946-47 Budget introduced a new tax structure for individual taxpayers effective on Jan. 1, 1947. The tax rates were lowered and the exemption levels were raised to $750 for single persons and $1,500 for married persons. The excess

profits tax on individuals in business was eliminated and corporation tax rates were revised in such a way that the minimum Federal tax was reduced from 40 p.c. to 30 p.c. and the maximum from 60 p.c. to 45 p.c. A provincial corporation tax of 5 p.c. became collectable by the Federal Government in those provinces that entered into Dominion-Provincial Tax Agreements.

The 1947-48 Budget included further tax reductions in both the individual and corporation fields. Effective July 1, 1947, the rates of individual income tax were lowered for all ranges of income; the reduction amounted to 54 p.c. in the lowest levels of income and tapered down to 6 p.c. or 7 p.c. at the highest levels. Over a wide range of the so-called middle income brackets, the reduction was, on the average, 29 p.c. In the corporate field, the excess profits tax was eliminated as of Jan. 1, 1948.

In the 1948-49 Budget there were only minor changes in the individual and corporation tax provisions and no changes in basic rates. However, the exemption for Federal succession duties was raised from $5,000 to $50,000.

The place that direct taxation has assumed in the general taxation picture and its incidence on the purse of the ordinary taxpayer has made it advisable to give this subject separate treatment but this should not detract attention from the important place that indirect taxation, through customs, excise and sales taxes, still holds in the taxation burden that the individual taxpayer is called upon to bear. (See Table 6, p. 967.)

In order to present a clearer picture of the main elements of direct or semi-direct taxation, Part II has been divided into three Sections, dealing with income tax, gasoline taxes and succession duties, respectively.

Section 1.—Income Tax*

The income tax was instituted in 1917, as a part of what was known as war-tax revenue. Before the outbreak of the Second World War it had become a permanent and important part of the taxation structure, and the chief source of raising ordinary revenue. In many respects, it is an ideal form of direct taxation: in theory its incidence is admittedly fair and just, and the experience and machinery for the collection of this tax has been built up over a long period of years. The War, with its increased burden of taxation which, in turn, has made necessary the prepayment of taxes on a "pay-as-you-go" basis, has necessitated changes in the presentation of the statistics. Previously, comparisons for individuals between income assessed and tax paid were subject to the important qualification that, while the *income assessed* related to the net income upon which assessments had been approved for the year designated although the income itself was earned two years previously, the figures of *tax paid* included arrears of taxes that were assessed in previous years

* Revised by M. F. Sprott, Chief Statistician, Taxation Division. More detailed information is given in the annual report "Taxation Statistics" published by the Taxation Division, Department of National Revenue, Ottawa.

and even prepayments of taxes not due in the year under review. Under the present system, large sums of money are being collected month by month from individuals or their employers during the taxation year to which they apply. Analyses of *taxes paid* have not the same significance now as formerly except as indicating the trend of general collections: analyses of taxes *assessed for the taxation year* have now more significance. On the new basis the statistics are related to the year in which the income is earned by the taxpayer and all incomes earned in a particular year will be combined to form the taxation-year statistics for that year regardless of when the assessments are made by the Department.

Subsection 1.—Collection Statistics

Collections on a Fiscal-Year Basis.—Collection statistics are gathered by the accounting section at the time the payments are made and, therefore, have the value of being very up-to-date. Their timeliness has been enhanced within the past few years by the adoption of the "pay-as-you-go" system which results in collecting tax substantially during the year in which the income is earned and, on the average, about ten months prior to the actual filing of an income tax return by the taxpayer. The payments on behalf of most taxpayers, however, are made by their employers and a cheque from one employer may cover the tax payments of hundreds of employees. At this stage, therefore, it is not possible to link the moneys received to the individuals who are, in the final analysis, contributing the tax. Collection statistics, as such, for this reason are not capable of being closely related to the persons who are being taxed and any statistical tables that attempt to describe the taxpayer, such as by occupation or income class, must be based on the income tax return which is filed by the taxpayer many months after the payment of his tax. However, collection statistics, if interpreted along with the tax rate, do serve the purpose of indicating the general trend of income upon which tax is levied well in advance of the assessment data.

The statistics given in Table 1 represent annual collections on a Government fiscal-year basis.

1.—Taxes Collected by the Taxation Division of the Department of National Revenue, Years Ended Mar. 31, 1934-48

NOTE.—Figures for the years 1917-33 will be found at pp. 999-1000 of the 1947 Year Book.

Year Ended Mar. 31—	Income Tax	Excess Profits Tax	Succession Duties	Total Collections
	$	$	$	$
1934	61,399,172	Nil	–	61,399,172
1935	66,808,066	"	–	66,808,066
1936	82,709,803	"	–	82,709,803
1937	102,365,242	"	–	102,365,242
1938	120,365,532	"	–	120,365,532
1939	142,026,138	"	–	142,026,138
1940	134,448,566	"	–	134,448,566
1941	248,143,022	23,995,269	–	272,138,291
1942	510,243,017	135,168,345	6,956,574	652,367,936
1943	910,188,672[1]	454,580,677[1]	13,273,483	1,378,042,832
1944	1,151,757,035[1]	468,717,840[1]	15,019,831	1,635,494,706
1945	1,072,758,068[1]	465,805,356[1]	17,250,798	1,555,814,222
1946	937,729,273[1]	494,196,483[1]	21,447,573	1,453,373,330
1947	963,458,245	448,697,443	23,576,071	1,435,731,759
1948	1,059,848,357	227,030,494	30,828,040	1,317,706,891

[1] Including refundable portion and therefore does not agree with Table 8, p. 971.

Collections on a Taxation-Year Basis.—Table 1 reflects the total taxes collected during a Government fiscal year without regard to which particular taxation years the revenues applied. In Table 2 the collection of the more important taxes are rearranged in order to reveal the revenues received for the account of each succeeding taxation year.

A taxation year is a period of time during which income is received and becomes subject to tax at rates laid down in the Act. In the case of an individual, the taxation year is almost always the calendar year. In the case of a corporation the taxation year is the calendar year in which the company's fiscal period ends. Under the present system of collection, a substantial portion of the taxes is collected during the year in which the income is earned, that is to say, during the taxation year, and the balance is collected almost entirely in the two following years.

The general Head Office account for a taxation year is held open for statistical purposes for a period of three years. Thereafter, any taxes collected for a "closed" year are credited to a "Combined Years Account". As of Mar. 31, 1948, general Head Office accounts were open for the taxation years 1948, 1947 and 1946 and the Combined Account was known as 1917-45. All collections in the Combined Account are, in Table 2, credited to the last year in the Combined Account which in this case is 1945. The collections received in the Combined Account are relatively small and as each taxation year eventually receives the "combined" revenues for a twelve-month period it is not believed that this procedure materially affects the comparative table and it has the advantage of permanently closing off a taxation year for general statistical purposes. It is not to be understood from the foregoing description that the account of an individual taxpayer is closed off for any taxation year until full payment is received.

Table 2 distributes the collections from individual and corporation income and excess profits tax on a taxation-year basis.

2.—Individual and Corporation Income and Excess Profits Tax Collections by Taxation Years, 1934-48

NOTE.—Figures for the years 1917-33 will be found at p. 1001 of the 1947 Year Book.

Taxation Year	Income Tax		Excess Profits Tax		Total
	Individuals	Corporations	Individuals	Corporations	
	$	$	$	$	$
1934	34,134,623	44,524,671	–	–	78,659,294
1935	35,102,446	53,276,177	–	–	88,378,623
1936	39,653,609	67,149,110	–	–	106,802,719
1937	45,730,913	88,919,516	–	–	134,650,429
1938	42,358,966	74,076,529	–	–	116,435,495
1939	54,781,130	90,498,381	–	–	145,279,511
1940	152,245,616	151,394,634	4,533,451	102,518,315	410,692,016
1941	329,333,512	224,471,245	10,148,521	252,371,160	816,324,438
1942	391,194,438	270,204,989	18,543,654	396,478,331	1,076,421,412
1943	825,781,811	278,507,805	25,375,690	458,896,881	1,588,562,187
1944	809,113,007	231,004,405	27,850,327	431,502,987	1,499,470,726
1945	710,478,191	191,072,297	30,417,265	407,618,086	1,339,585,839
1946[1]	675,305,315	265,347,162	12,119,676	383,091,601	1,335,863,754
1947[1]	523,518,356	308,689,415	1,062,243	149,426,464	982,696,478
1948[1]	70,003,930	24,324,064	–	6,237,256	100,565,250

[1] The accounts for these taxation years are not yet closed and the figures are therefore not complete; there will be a small change in the 1946 account and substantial additions to the 1947 and 1948 accounts.

Subsection 2.—Individual Income Tax Statistics

As stated on p. 1010, individual income tax statistics are henceforth to be presented on a taxation-year or calendar-year basis. Individual statistics for the 1946 taxation year are summarized in Table 4. These figures are taken from tax returns as declared by the taxpayer prior to any changes that may later be made after scrutiny by the assessing branch.

3.—Taxpayers and Assessments by Occupational Classes and Provinces, Taxation Year 1946

NOTE.—The income used in this table is "taxable income" arrived at after deducting charitable donations but before deduction of specific exemptions for single or married status or for dependents.

Class	Taxpayers Assessed	Total Income Assessed	Total Tax Assessed	Province	Taxpayers Assessed	Total Income Assessed	Total Tax Assessed
	No.	$'000	$'000		No.	$'000	$'000
Occupational Class				**Province**			
				P.E. Island	5,401	10,890	1,352
Primary producers	45,787	98,947	11,927	Nova Scotia	90,499	175,800	21,053
Professional	20,476	108,746	29,514	New Brunswick	58,764	114,100	13,775
Employees	2,069,092	3,864,977	437,131	Quebec	565,882	1,176,939	158,206
Salesmen	21,090	73,128	14,169	Ontario	1,003,607	2,075,026	291,510
Business proprietors	130,974	435,828	87,386	Manitoba	139,921	278,887	36,182
Financial	63,560	224,575	66,552	Saskatchewan	94,666	181,564	21,456
Estates	950	1,437	546	Alberta	130,540	262,322	33,408
Unclassified	1,193	2,758	486	British Columbia	262,511	531,543	70,175
				Yukon	1,331	3,325	594
Totals	**2,353,122**	**4,810,396**	**647,711**	**Totals**	**2,353,122**	**4,810,396**	**647,711**

4.—Individual Income Tax Statistics, Taxation Year 1946

NOTE.—The income used in this table is the income prior to allowable deduction for charitable donations or medical expenses.

Income Class	Taxpayers	Total Income	Total Tax	Average Tax
	No.	$'000	$'000	$
Under $700	30,620	19,967	274	9
$700 to $ 800	91,400	68,615	2,090	23
$800 to $ 900	98,770	83,916	4,391	45
$900 to $1,000	102,090	96,878	6,219	61
Under $1,000	322,880	269,376	12,974	40
$1,000 to $1,100	97,280	102,031	8,003	82
$1,100 to $1,200	86,230	99,026	9,013	105
$1,200 to $1,300	131,730	164,792	10,426	79
$1,300 to $1,400	144,290	194,571	12,566	87
$1,400 to $1,500	143,190	207,572	14,037	98
$1,500 to $1,600	147,090	227,906	15,852	108
$1,600 to $1,700	138,620	228,512	16,936	122
$1,700 to $1,800	126,990	222,068	16,988	134
$1,800 to $1,900	120,830	223,282	18,544	154
$1,900 to $2,000	107,520	209,511	18,136	169
$1,000 to $2,000	1,243,770	1,879,271	140,501	113
$2,000 to $2,100	98,040	200,841	18,502	189
$2,100 to $2,200	87,070	186,982	18,348	211
$2,200 to $2,300	72,330	162,543	16,813	233
$2,300 to $2,400	61,580	144,576	15,718	255
$2,400 to $2,500	52,760	129,085	14,756	280
$2,500 to $2,600	43,170	109,983	12,838	297
$2,600 to $2,700	36,990	98,016	12,091	327
$2,700 to $2,800	32,430	89,092	11,486	354
$2,800 to $2,900	26,880	76,548	10,226	380
$2,900 to $3,000	24,480	72,189	9,938	406
$2,000 to $3,000	535,730	1,269,855	140,716	263

4.—Individual Income Tax Statistics, Taxation Year 1946—concluded

Income Class	Taxpayers	Total Income	Total Tax	Average Tax
	No.	$'000	$'000	$
$3,000 to $3,500	79,660	256,481	38,063	478
$3,500 to $4,000	44,620	166,206	27,531	617
$4,000 to $4,500	27,520	116,175	21,047	765
$4,500 to $5,000	18,520	87,584	17,335	936
$3,000 to $5,000	170,320	626,446	103,976	611
$5,000 to $6,000	24,330	132,368	28,358	1,166
$6,000 to $7,000	14,490	93,325	22,233	1,534
$7,000 to $8,000	9,970	74,579	19,168	1,923
$8,000 to $9,000	5,960	50,366	13,538	2,272
$9,000 to $10,000	5,210	49,317	14,223	2,730
$5,000 to $10,000	59,960	399,955	97,520	1,626
$10,000 to $15,000	11,970	143,146	47,347	3,956
$15,000 to $20,000	4,040	69,086	27,230	6,740
$20,000 to $25,000	1,970	43,857	18,891	9,589
$10,000 to $25,000	17,980	256,089	93,468	5,198
$25,000 to $50,000	1,942	64,678	31,954	16,454
$50,000 to $100,000	449	29,889	16,983	37,824
$100,000 or over	91	14,837	9,619	106,759
$25,000 or over	2,482	109,404	58,556	23,592
Grand Totals	**2,353,122**	**4,810,396**	**647,711**	**275**

Subsection 3.—Corporation Income Tax Statistics

In the following tables, corporation statistics are presented on a taxation-year basis prior to assessment. The data has been extracted and compiled from the returns shortly after they have been filed and are as declared by the taxpayer without the scrutiny or revision of the Department of National Revenue. Provincial figures contain an unavoidable bias in favour of Ontario and Quebec, which is caused by the fact that many large companies which operate across Canada file their returns in one or other of these two provinces.

5.—Summary Statistics for Corporations Reporting a Profit, Taxation Year 1946

Item	Companies Reporting	Net Taxable Income	Income Tax Declared	Excess Profits Tax Declared	Refundable Portion
	No.	$'000	$'000	$'000	$'000
Companies Taxable under the Income War Tax Act					
Active Companies—					
Fully tabulated—established	19,966	1,280,607	227,068	391,048	16,881
Fully tabulated—newly incorporated	2,148	26,085	4,697	5,714	24
Not fully tabulated—established	899	78,678	13,116	24,123	924
Not fully tabulated—newly incorporated	73	646	116	148	–
Not fully tabulated—filing interim returns	80	1,286	232	332	3
Total Active Taxable Companies	23,166	1,387,302	245,229	421,365	17,832
Inactive taxable companies	397	95	17	13	–
Exempt companies	1,419	1	11	–	–
Grand Total—Taxable and Exempt	**24,982**	**1,387,398**	**245,257**	**421,378**	**17,832**

6.—Distribution of Active Taxable Companies Reporting a Profit, by Income Classes, Industrial Divisions, and Provinces, Taxation Year 1946

Class or Province	Companies Reporting	Net Taxable Income	Income Tax Declared	Excess Profits Tax Declared	Refundable Portion
Income Class	No.	$'000	$'000	$'000	$'000
Under $1,000	3,355	1,374	247	197	-
$ 1,000 to $ 2,000	2,290	3,162	569	488	-
$ 2,000 to $ 3,000	1,645	3,865	694	655	3
$ 3,000 to $ 4,000	1,431	4,808	864	875	-
$ 4,000 to $ 5,000	1,279	5,610	1,011	1,020	-
$ 5,000 to $ 10,000	3,654	25,679	4,620	5,963	130
$ 10,000 to $ 15,000	2,028	24,685	4,449	6,182	263
$ 15,000 to $ 20,000	1,370	23,335	4,195	6,043	296
$ 20,000 to $ 25,000	865	19,082	3,418	5,115	233
$ 25,000 to $ 50,000	2,067	72,396	13,010	21,512	1,003
$ 50,000 to $ 100,000	1,359	95,909	17,195	30,286	1,389
$ 100,000 to $ 250,000	1,008	156,748	27,824	51,368	2,389
$ 250,000 to $ 500,000	397	137,965	24,721	44,988	1,985
$ 500,000 to $1,000,000	210	144,195	25,245	45,787	1,913
$1,000,000 to $5,000,000	178	331,253	58,186	99,547	3,972
$5,000,000 or over	30	337,236	58,981	101,339	4,256
Totals	**23,166**	**1,387,302**	**245,229**	**421,365**	**17,832**
Industrial Division					
Agriculture, fishing and forestry	427	8,561	1,540	2,388	93
Mining	343	88,029	15,256	23,002	105
Manufacturing	6,998	736,591	131,268	221,358	6,444
Construction	822	13,808	2,509	3,836	110
Public utilities	1,141	133,198	23,859	35,239	420
Wholesale trade	3,607	122,019	21,501	39,272	1,485
Retail trade	4,411	149,688	27,287	63,026	8,132
Service	2,460	39,611	7,126	11,485	358
Finance	2,908	95,433	14,818	21,667	684
Unclassified	49	364	65	92	1
Province					
Prince Edward Island	146	3,759	695	559	83
Nova Scotia	898	25,474	4,619	7,355	347
New Brunswick	620	21,599	3,885	6,994	383
Quebec	6,026	465,890	82,436	132,685	3,297
Ontario	8,296	609,281	106,766	185,994	8,945
Manitoba	1,427	68,856	12,376	24,511	1,583
Saskatchewan	758	13,441	2,418	4,364	207
Alberta	1,329	37,927	6,749	12,386	723
British Columbia	3,666	141,075	25,285	46,517	2,264

Section 2.—Gasoline Taxes

The provincial gasoline taxes can be termed "direct taxes" only because the consumer knows exactly the amount of tax he is paying when purchasing gasoline. These taxes have been brought together in this Section on account of the large number of Canadian motorists who are directly affected, while the non-motoring portion of the population is affected by the effect of higher gasoline taxes on delivery costs and bus transportation.

The Federal Government, in the Third War Budget of Apr. 29, 1941, imposed a tax of 3 cents per gallon on gasoline. Proceeds from this tax are given in Table 6, p. 967. The Federal gasoline tax was repealed as of Apr. 1, 1947.

The present provincial rates of gasoline tax, per gallon, are: Prince Edward Island, 13 cents; Nova Scotia, 13 cents; New Brunswick, 13 cents; Quebec, 11 cents; Ontario, 11 cents; Manitoba, 9 cents; Saskatchewan, 10 cents; Alberta, 9 cents; British Columbia, 10 cents; Yukon, 3 cents.

There are certain refunds and exemptions allowed by the various taxing authorities and these are set out in the Bureau's publication "The Motor Vehicle in Canada".*

7.—Federal and Provincial Government Receipts from Gasoline Taxes, Nearest Fiscal Years 1940-46[1]

NOTE.—For statistics of gallonage on which these taxes are levied, see p. 714. For periods covered by fiscal years, see headnote to Table 8, p. 1017. Figures for 1923-34 are given at p. 978 of the 1945 Year Book, for 1935-39 at p. 1006 of the 1947 edition.

Year and Item	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
	$	$	$	$	$
1940—Collected from public	300,842	2,875,400	2,104,686	11,154,540	26,608,291
1941—Collected from public	284,722	3,031,449	2,052,234	12,260,427	27,641,457
1942—Collected from public	292,728	2,422,692	1,689,599	9,977,871	20,996,053
Federal Government subsidy	58,851	470,409	391,678	1,529,050	5,612,238
1943—Collected from public	279,103	2,171,788	1,561,900	9,939,879	19,167,961
Federal Government subsidy	46,885	696,490	539,173	1,863,369	7,440,330
1944—Collected from public	290,731	2,839,367	1,763,299	11,022,934	18,913,406
Federal Government subsidy	19,021	606,654	359,013	778,602	7,694,885
1945—Collected from public	364,663	2,642,334	2,017,488	11,461,400	24,167,451
Federal Government subsidy	–	264,305	83,584	–	2,440,840
1946—Collected from public	465,648	3,498,181	2,832,391	12,949,099	31,260,377

Year and Item	Manitoba	Saskatchewan	Alberta	British Columbia	Federal Government[2]
	$	$	$	$	$
1940—Collected from public	2,805,074	3,348,936	3,221,775	3,759,629	–
1941—Collected from public	2,736,158	3,340,357	4,212,305	4,005,947	17,459,698
1942—Collected from public	2,343,942	2,901,257	3,524,625	3,283,493	24,917,486
Federal Government sudsidy	334,207	496,023	–	480,133	–
1943—Collected from public	2,403,159	3,271,516	3,645,895	3,139,025	24,775,505
Federal Government subsidy	274,990	125,763	–	624,601	–
1944—Collected from public	2,401,865	3,386,328	3,808,155	3,257,146	29,509,122[3]
Federal Government subsidy	276,284	10,952	–	506,480	–
1945—Collected from public	2,681,556	4,390,333	4,463,196	4,330,543	29,660,132[3]
1946—Collected from public	3,320,949	4,724,071	5,403,921	5,682,094	34,916,832[3]

[1] Exclusive of amounts deducted by agents as commissions. [2] Includes Yukon. [3] Calendar year.

Section 3.—Succession Duties†

The first imposition of succession duties in Canada was in 1892, when Nova Scotia, New Brunswick, Quebec and Ontario enacted legislation of this nature. Legislation was passed in the other provinces on the following dates: Manitoba, 1893; Prince Edward Island and British Columbia, 1894; Saskatchewan and Alberta, 1905.

Succession duties have grown to be an important if fluctuating part of provincial revenues and Table 8 shows the receipts from this source from 1921.

* Obtainable from the Dominion Statistician, Ottawa, Ont., price 25 cents.

† Revised under the direction of Dr. A. K. Eaton, Assistant Deputy Minister, Department of Finance, Ottawa.

In 1947 seven provinces withdrew from the succession duties field as part of general agreements for the removal of duplication of direct taxation, negotiated with the Federal Government. These agreements succeeded the expiring Wartime Tax Agreements, and followed the general terms of the offer set out in the Budget Speech of June 27, 1946. This offer was drawn up in such terms that any province could elect either to enter or not to enter into an agreement with the Federal Government and, in respect of succession duties, provided that even a province that did enter into an agreement could, if it wished, retain its own levies. As previously mentioned, seven of the nine provinces, namely, Prince Edward Island, Nova Scotia, New Brunswick, Manitoba, Saskatchewan, Alberta and British Columbia, accepted this offer and elected to repeal their own succession duties for the period from Apr. 1, 1947, to Mar. 31, 1952. For this period, therefore, provincial succession duties will be limited to those provinces which have not accepted the Federal Government offer before the period expires.

The Federal Government provided in the 1946 Budget that, as from Jan. 1, 1947, the rates of Federal duty would be doubled, and that where a provincial levy was continued a credit would be allowed against one-half of the Federal duty for duty paid to a province. The existing situation, therefore, is that in provinces that have withdrawn their duties the previous combination of Federal and provincial rates has been supplemented by a single Federal duty at double the previous Federal level, which in most cases results in the continuation of a total duty approximately the same as previously levied under the two duties combined. On the other hand, in the provinces that have not withdrawn their duties, the doubled rates of Federal duty apply but may be reduced up to one-half by a credit for the duty paid to the province.

The Dominion Succession Duty Act was enacted as c. 14 of the session of 1940-41. Certain amendments were made to the Act by c. 25 of 1942; c. 37 of 1944; c. 18 of 1945; and the doubling of rates and provision of the tax credit mentioned above by c. 46 of the Statutes of 1946. Two important amendments were made to the Act in 1948. The former provision by which bequests to non-profit charitable organizations in Canada were exempt only up to 50 p.c. of the aggregate net value of the estate, was changed to remove this limit entirely. A second change exempted from duty all successions derived from an estate of an aggregate net value not exceeding $50,000: formerly this exemption had applied only up to an aggregate net value of $5,000. While estates in excess of $50,000 remain dutiable in full; it was provided at the same time that in no case would the duty reduce the value of the estate below $50,000.

Revenue from the Federal duty is given in Table 8.

A common feature of both Federal and Provincial duties is the variation of rates by the degree of relationship of the beneficiary to the deceased. The four classes of beneficiaries that are established under Federal law (see p. 1018) have, for example, specific rates that change with each classification, while in Ontario there are three classes of beneficiary with different rates of duty attached to each class. It is also a common feature of both Federal and Provincial Acts for an initial rate of duty to be charged based on the total value of the estate and an additional rate based on the bequest received by each individual. Thus, in the case of the Federal Government, a person who receives a bequest of $50,000, say, out of an estate of $500,000 is charged the rate for a $500,000 estate plus an additional rate for $50,000, and the total rate is then applied in calculating the tax on his bequest of $50,000.

Double taxation of estates resulting from taxation of the same property by more than one province has been common in the past, but the withdrawal of seven of the provinces from the field will considerably reduce this problem. In the international field, dual taxation has been dealt with by way of tax conventions. Such a tax convention between Canada and the United States was signed on June 8, 1944. One of the terms of this convention is that shares in a corporation organized in or under the laws of the United States or any of the individual States shall be deemed to be property situated within the United States, and shares in a corporation organized in or under the laws of Canada or of the provinces or territories of Canada shall be deemed to be property situated within Canada.

An agreement respecting succession duties between Canada and the United Kingdom was also signed June 5, 1946.

Under these circumstances, the difficulties of working out succession duty tables so as to show the combined effects of Federal and provincial duties is realized. The best that can be done here is to choose typical estates in the main classes laid down in the legislation and give a picture of the combined duties applicable in such cases. This has been attempted in the following series of tables in the hope that it will be useful in presenting to the student of this subject a general knowledge of the incidence of succession duties in Canada under conditions existing at present.

8.—Federal and Provincial Net Receipts from Succession Duties, Respective Fiscal Years Ended in 1921-47

NOTE.—The fiscal years of the provinces end on the following dates: P.E.I., Dec. 31 to 1942 and thereafter Mar. 31; N.S., Sept. 30 prior to 1935 and Nov. 30 thereafter; N.B., Oct. 31; Que., June 30 to 1940 and Mar. 31 thereafter; Ont., Oct. 31 prior to 1935 and Mar. 31 thereafter; Man. and Sask., Apr. 30; Man. Mar. 31 after 1946; Alta. and B.C., Mar. 31.

Year	Federal	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
	$	$	$	$	$	$	$	$	$	$
1921	–	10,569	158,972	151,326	2,100,456	4,821,811[1]	457,563	331,370[2]	177,415	342,259
1922	–	20,592	120,740	241,753	3,005,293	6,523,245[1]	168,503	314,235[2]	128,185	563,573
1923	–	9,165	222,679	152,609	2,620,337	3,858,260	290,850[4]	280,985	164,087	682,919
1924	–	6,088	135,846	163,123	2,977,850	4,175,198	455,808	489,082	189,808	772,712
1925	–	15,289	258,408	290,530	2,423,149	5,786,893	592,257[4]	287,698	459,659	708,880
1926	–	18,788	536,635	293,775	2,257,277	8,761,863	422,199	337,354	253,611	565,017
1927	–	8,587	188,385	461,386	3,653,898	9,468,950	757,489	295,192	471,859	701,737
1928	–	17,122	221,637	413,797	3,740,630	4,667,958	606,576	368,800	115,095[5]	758,136
1929	–	29,325	290,457	319,600	4,183,577	6,610,382	732,697	410,626	383,102	735,990
1930	–	25,946	311,720	198,982	5,268,089	11,229,439	1,033,564	468,893	897,302	836,637
1931	–	11,640	256,415	293,941	6,916,637	9,504,814	452,023	323,007	552,767	558,790
1932	–	35,453	515,086	190,558	3,798,795	6,136,624	346,952	199,094	258,098	410,720
1933	–	30,713	262,925	208,586	3,070,138	8,081,322	267,078	177,376	470,741	535,808
1934	–	50,452	298,337	245,542	2,697,771	6,515,071	423,416	148,944	256,850	382,650
1935	–	19,839	462,733[6]	415,040	3,401,574	3,469,467[7]	340,214	223,211	292,701	979,401
1936	–	42,811	566,856	618,985	4,697,618	11,984,720	375,045	324,328	270,901	1,067,101
1937	–	45,380	606,367	398,103	7,636,875	15,991,351	463,963	311,019	342,841	825,047
1938	–	67,782	745,997	318,947	11,837,572	20,214,183	403,878	240,809	1,326,346	1,261,091
1939	–	75,312	557,221	177,276	12,277,427	15,314,854	605,426	375,585	372,169	703,780
1940	–	44,036	550,057	526,050	12,404,322	11,500,282	875,449	352,427	374,996	1,161,975
1941	–	42,662	409,632	383,425[8]	5,014,773[8]	11,172,484	603,328	261,849	415,156	888,860
1941[9]	6,956,574[10]	42,662	409,632	383,425	12,201,557	11,676,453	737,393	345,918	673,058	760,768
1942[9]	13,273,483	56,767	688,427	221,909	12,075,952	11,636,058	538,698	405,710	458,702	818,321
1943[9]	15,019,830	46,143	662,188	599,877	6,796,154	13,320,867	341,223	480,684	686,456	1,449,789
1944[9]	17,250,798	82,120[11]	508,718	364,778	6,504,608	12,783,119	334,886	501,070	902,519	1,870,507
1945[9]	21,447,573	108,893	881,586	677,485	5,381,806	12,524,929	649,680	648,154	1,132,131	1,723,092
1946[9]	23,576,071	92,617	667,364	1,072,414	6,298,837	15,227,470[3]	767,275	667,610	855,433[3]	2,918,920
1947[9]	30,828,040	63,568	368.029	431,716	11,353,143	17,944,532	809,365[12]	509,313	652,921	1,048,501

[1] Includes "Funds in lieu of Succession Duties". [2] Includes "Succession Duties Act" fees. [3] Revised since the publication of the 1947 Year Book. [4] Eight months. [5] Three months. [6] Fourteen months. [7] Five months. [8] Nine months. [9] Figures below the rule are for fiscal years ended nearest to Dec. 31 of year stated; due to changes in the provincial fiscal years, figures are given in several cases for broken periods. [10] Ten months; Act came into force June 14, 1941. [11] Fifteen months. [12] Eleven months.

Federal Duty.—Beneficiaries are divided into four classes, as follows:—

(1) Widow or dependent child or dependent grandchild.
(2) Husband; parent; grandparent; child over 18 years of age, not infirm; son- or daughter-in-law.
(3) Lineal ancestor other than parent or grandparent; brother, sister or their descendant; uncle or aunt or their descendant.
(4) Others.

No duty is payable on estates not exceeding $50,000, or on bequests up to $1,000 to any one individual, nor is duty levied on gifts to the Federal Government or provinces, on residential property of certain diplomatic or consular officials, on pensions administered by the Canadian Pensions Commission or those payable by Allied Nations for war services nor on insurance moneys or annuities if the assured or person with whom contract was made was domiciled outside of Canada at the time of death. Provision is made for increased exemptions and reduced duties in the case of those dying as a result of war service. Bequests to non-profit charitable organizations in Canada are exempt.

Widows are exempt up to $20,000, dependent children to $5,000 each and, in cases where dependent children do not benefit, the widow's exemption is increased by $5,000 for each child who does not benefit. In the case of dependent orphaned children, there is a further exemption of $15,000 (in addition to $5,000) divisible proportionately among such orphans according to the number of them and the value of each individual benefit. Duty is payable on the excess only when the limit is passed, i.e., these exemptions are deductible exemptions.

Gifts made during the lifetime are exempt if the transfer was carried out more than three years prior to the death of the deceased and the recipient of such gifts secured full possession at the time of the transfer and the donor (the deceased) thereafter did not retain any rights therein or secure any benefits therefrom.

If gift tax payable under the provisions of the Income War Tax Act has been paid in connection with the transfer made by a deceased person during his life-time then no succession duty is payable in respect of such gift except to the extent that succession duty thereon is in excess of the gift tax.

Examples of the rates of duty and duty levied are given in Table 9.

9. — The Incidence of Succession Duties in all Provinces (except Quebec and Ontario) on Typical Estates

Class	Aggregate Net Value	Dutiable Value	Rate	Duty
	$	$	p.c.	$
A. Widow only	60,000	40,000	10·60	4,240
	100,000	80,000	14·70	11,760
	300,000	280,000	26·70	74,760
	500,000	480,000	32·70	156,960
	1,000,000	980,000	38·70	379,260
B. Only child over 18 years	60,000	60,000	11·90	7,140
	100,000	100,000	16·70	16,700
	300,000	300,000	28·70	86,100
	500,000	500,000	34·70	173,500
	1,000,000	1,000,000	40·70	407,000
C. Brother or sister	60,000	60,000	13·90	8,340
	100,000	100,000	18·70	18,700
	300,000	300,000	30·70	92,100
	500,000	500,000	36·70	183,500
	1,000,000	1,000,000	42·70	427,000
D. Stranger	60,000	60,000	15·90	9,540
	100,000	100,000	20·70	20,700
	300,000	300,000	32·70	98,100
	500,000	500,000	38·70	193,500
	1,000,000	1,000,000	44·70	447,000

The Incidence of Combined Federal and Provincial Succession Duties.—Under the new tax agreements outlined at p. 1016, only the Provinces of Quebec and Ontario, which have not entered the agreement, have retained their own succession duties. As mentioned above, the other seven provinces elected to repeal their succession duties for the period from Apr. 1, 1947, to Mar. 31, 1952. As a consequence, the tables showing combined rates of Federal and provincial duty for each province, which appeared at pp. 942-950 of the 1946 Year Book, have been dropped with the exception of those for the two above-mentioned provinces. The new condition of doubled Federal duties and a tax credit up to 50 p.c. for the provincial duty has been taken into account in Tables **10** and **11**. The rates under the heading "Dominion Duty" shown in the 1946 Year Book have been doubled and under "Combined Duty" the greater of (1) the amount of the Federal duty (doubled rates), or (2) the provincial duty plus one-half the Federal duty, is given.

In these two tables, the beneficiaries under all the classes show the duties collectable where the estate of given value is left to one beneficiary only, since it would be impossible to cover the many different classifications, exemptions and saving clauses to be found in the legislation of the respective provinces. In every case the estate is assumed to be wholly situated within the province and the beneficiary domiciled therein to be the sole heir. The reader is referred to the legislation and to the taxing authority shown under each provincial heading for more complete information.

Quebec.—The current legislation under which succession duties are collected is c. 18 of 1943. As stated at p. 1017, the following text and table can give only a broad outline of such duties as applied to comparable classes of beneficiaries in other Provinces. Full details regarding other cases may be obtained from the Act quoted or from the Collector of Succession Duties, Provincial Revenue Offices, Quebec.

Under the legislation, beneficiaries are divided into three classes, as follows:—

(1) Those in direct ascending or descending line between consort, between father- or mother-in-law, and son- and daughter-in-law, between step-father or step-mother and step-son and step-daughter. There is no limitation of degree in the direct ascending or descending line between these relationships.

(2) Those in collateral line including a brother or sister, or descendant of a brother or sister of the deceased, or to a brother or sister, or son or daughter of a brother or sister, of the father or mother of the deceased.

(3) Others.

No duty is payable when the aggregate value of the property passing to persons in Class (1) does not exceed $10,000. This sum is increased by $1,000 for each child who has survived or has left surviving descendants. No duty is payable on bequests up to $1,000 to beneficiaries in Class (3) who have been in the employ of the testator for five years or more. No duty is payable on legacies for religious, charitable or educational purposes in Quebec and the same privilege is extended to legacies for similar work outside the Province, provided that the Province or State within which the work is to be carried out extends reciprocal privileges under its succession duty laws.

10.—The Incidence of Federal and Quebec Succession Duties on Typical Estates

Class	Aggregate Net Value	Federal Duty[1]			Provincial Duty			Combined Duties[1]
		Dutiable Value	Rate	Duty	Dutiable Value	Rate	Duty	
	$	$	p.c.	$	$	p.c.	$	$
A. Widow only.....	20,000	–	–	–	20,000	2·80	560	560
	25,000	–	–	–	25,000	3·00	750	750
	50,000	–	–	–	50,000	4·00	2,000	2,000
	60,000	40,000	10·60	4,240	60,000	5·60	3,360	7,140
	100,000	80,000	14·70	11,760	100,000	8·00	8,000	13,880
	300,000	280,000	26·70	74,760	300,000	12·00	36,000	74,760
	500,000	480,000	32·70	156,960	500,000	15·50	77,500	156,960
	1,000,000	980,000	38·70	379,260	1,000,000	23·00	230,000	419,630
B. Only child over 18 years.	20,000	–	–	–	20,000	2·80	560	560
	25,000	–	–	–	25,000	3·00	750	750
	50,000	–	–	–	50,000	4·00	2,000	2,000
	60,000	60,000	11·90	7,140	60,000	5·60	3,360	7,140
	100,000	100,000	16·70	16,700	100,000	8·00	8,000	16,700
	300,000	300,000	28·70	86,100	300,000	12·00	36,000	86,100
	500,000	500,000	34·70	173,500	500,000	15·50	77,500	173,500
	1,000,000	1,000,000	40·70	407,000	1,000,000	23·00	230,000	433,500
C. Brother or sister...	20,000	–	–	–	20,000	7·80	1,560	1,560
	25,000	–	–	–	25,000	8·50	2,125	2,125
	50,000	–	–	–	50,000	12·00	6,000	6,000
	60,000	60,000	13·90	8,340	60,000	13·40	8,040	12,210
	100,000	100,000	18·70	18,700	100,000	16·00	16,000	25,350
	300,000	300,000	30·70	92,100	300,000	19·00	57,000	103,050
	500,000	500,000	36·70	183,500	500,000	21·67	108,350	200,100
	1,000,000	1,000,000	42·70	427,000	1,000,000	28·33	283,300	496,800
D. Stranger.....	20,000	–	–	–	20,000	14·00	2,800	2,800
	25,000	–	–	–	25,000	14·50	3,625	3,625
	50,000	–	–	–	50,000	17·00	8,500	8,500
	60,000	60,000	15·90	9,540	60,000	18·00	10,800	15,570
	100,000	100,000	20·70	20,700	100,000	22·00	22,000	32,350
	300,000	300,000	32·70	98,100	300,000	25·75	77,250	126,300
	500,000	500,000	38·70	193,500	500,000	28·25	142,250	239,000
	1,000,000	1,000,000	44·70	447,000	1,000,000	34·50	345,000	568,500

[1] The rates of Federal duty shown are those actually applied but a credit may be made to the taxpayer up to one-half of this amount on account of duty paid to the provinces, see p. 1016.

11.—The Incidence of Federal and Ontario Succession Duties on Typical Estates

Class	Aggregate Net Value	Federal Duty[1]			Provincial Duty			Combined Duties[1,3]
		Dutiable Value	Rate	Duty	Dutiable Value	Rate	Duty	
	$	$	p.c.	$	$	p.c.	$	$
A. Widow only.....	20,000	–	–	–	Nil	–	–	–
	25,000	–	–	–	"	–	–	–
	50,000	–	–	–	50,000	2·50	1,438[2]	1,438
	60,000	40,000	10·60	4,240	60,000	4·60	3,174[2]	5,294
	100,000	80,000	14·70	11,760	100,000	7·50	8,625[2]	14,505
	300,000	280,000	26·70	74,760	300,000	10·00	34,500[2]	74,760
	500,000	480,000	32·70	156,960	500,000	12·50	71,875[2]	156,960
	1,000,000	980,000	38·70	379,260	1,000,000	18·00	207,000[2]	396,630
B. Only child over 18 years.....	20,000	–	–	–	Nil	–	–	–
	25,000	–	–	–	"	–	–	–
	50,000	–	–	–	50,000	2·50	11,438[2]	1,438
	60,000	60,000	11·90	7,140	60,000	4·60	3,174[2]	7,140
	100,000	100,000	16·70	16,700	100,000	7·50	8,625[2]	16,975
	300,000	300,000	28·70	86,100	300,000	10·00	34,500[2]	86,100
	500,000	500,000	34·70	173,500	500,000	12·50	71,875[2]	173,500
	1,000,000	1,000,000	40·70	407,000	1,000,000	18·00	207,000[2]	410,500
C. Brother or sister...	20,000	–	–	–	20,000	8·60	2,064[4]	2,064
	25,000	–	–	–	25,000	9·15	2,744[4]	2,744
	50,000	–	–	–	50,000	11·90	7,140[4]	7,140
	60,000	60,000	13·90	8,340	60,000	13·00	9,360[4]	13,530
	100,000	100,000	18·70	18,700	100,000	15·20	18,240[4]	27,590
	300,000	300,000	30·70	92,100	300,000	18·00	64,800[4]	110,850
	500,000	500,000	36·70	183,500	500,000	20·50	123,000[4]	214,750
	1,000,000	1,000,000	42·70	427,000	1,000,000	26·00	312,000[4]	525,500
D. Stranger.....	20,000	–	–	–	20,000	13·10	3,275[5]	3,275
	25,000	–	–	–	25,000	13·40	4,187[5]	4,187
	50,000	–	–	–	50,000	15·00	9,375[5]	9,375
	60,000	60,000	15·90	9,540	60,000	15·50	11,625[5]	16,395
	100,000	100,000	20·70	20,700	100,000	17·50	21,875[5]	32,225
	300,000	300,000	32·70	98,100	300,000	22·50	84,375[5]	133,425
	500,000	500,000	38·70	193,500	500,000	27·50	171,875[5]	268,625
	1,000,000	1,000,000	44·70	447,000	1,000,000	35·00	437,500[5]	661,000

[1] The rates of Federal duty shown are those actually applied but a credit may be made to the taxpayer up to one-half of this amount on account of duty paid to the provinces, see p. 1016. [2] Includes a surtax of 15 p.c. [3] Includes surtax on provincial duty. [4] Includes a surtax of 20 p.c. [5] Includes a surtax of 25 p.c.

Ontario.—The current legislation on succession duties is c. 1 of 1939 (Second Session) as amended, and full information may be obtained on application to the Succession Duty Office, Treasury Department, Parliament Buildings, Toronto.

Beneficiaries are divided into three classes, as follows:—

(1) Widow; child; husband; parent; grandparent; grandchild; son- or daughter-in-law.

(2) Brother; sister; nephew; niece; uncle; aunt; cousin; child of nephew or niece.

(3) Others.

No duty is payable on estates not exceeding $5,000 in aggregate value, nor on estates not exceeding $25,000 devised to persons in Class (1), nor on those not exceeding $10,000 devised to persons in Class (2). Where the aggregate value of an estate does not exceed $25,000 the shares in such an estate passing to beneficiaries in Class (1) are exempt from duty. The same rule applies to shares of beneficiaries in Class (2) where the aggregate value does not exceed $10,000. Where the aggregate value does not exceed $5,000, the estate will be exempt from duty regardless of what class or classes of persons inherit.

Where any person in Class (3) was in the employ of the deceased for at least five years immediately prior to his death, no duty shall be payable with respect to any benefits which such person derived from the deceased where the total value of such benefits is not in excess of $1,000. Such benefits however, while exempt, are nevertheless taken in as a factor in fixing the rates applicable to the dutiable portions of the estate.

Bequests for religious, charitable or educational purposes to any religious charitable or educational organization which carries on its work solely in Ontario are exempt from duty and are altogether ignored in the computation of duty on the portions of the estate which are not exempt. The same rule applies to the Canadian National Institute for the Blind, the Canadian Red Cross Society and other approved patriotic organizations.

CHAPTER XXIV.—CURRENCY AND BANKING; MISCELLANEOUS COMMERCIAL FINANCE

CONSPECTUS

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In this Chapter are assembled the statistics regarding financial institutions and transactions, other than those pertaining to insurance: the latter are dealt with separately in Chapter XXV. Operating profits of corporations and net income to stockholders formerly dealt with in this Chapter will be found in Chapter XXVI.

PART I.—CURRENCY AND BANKING

Section 1.—Historical Sketch

At pp. 900-905, inclusive, of the 1938 Year Book there appears a historical sketch of currency and banking in Canada, tracing certain features of the central banking system that finally led up to the establishment of the Bank of Canada. In chronological order these were:—

(1) *Central Note Issue*, permanently established with the issue of Dominion notes under legislation of 1868.

(2) *The Canadian Bankers' Association*, established in 1900 and designed to effect greater co-operation among the banks in the issue of notes, in credit control and in various aspects of bank activities.

(3) *The Central Gold Reserves*, established by the Bank Act of 1913.

(4) *Rediscount Facilities*, although originated as a war measure by the Finance Act of 1914, were made a permanent feature of the system by the Finance Act of 1923, which empowered the Minister of Finance to issue Dominion notes to the banks on the deposit by them of approved securities. This legislation provided the banks with a means of increasing their legal tender cash reserves at will.

Section 2.—The Bank of Canada

Subsection 1.—The Bank of Canada Act and Its Amendments

The Bank of Canada was incorporated in 1934 and commenced operations on Mar. 11, 1935. An account of the capital structure of the Bank and its transition from a privately owned institution to a wholly government-owned one is given at p. 800 of the 1941 Year Book.

The Bank is authorized to pay cumulative dividends of 4½ p.c. per annum from its profits after making such provision as the Board thinks proper for bad and doubtful debts, depreciation in assets, pension funds, and all such matters as are properly provided for by banks. The remainder of the profits will be paid into the Consolidated Revenue Fund of Canada and to the Rest Fund of the Bank in specified proportions until the Rest Fund is equal to the paid-up capital, when all the remaining profits will be paid into the Consolidated Revenue Fund.

The Bank may buy and sell securities of the Dominion and the provinces without restriction if of a maturity not exceeding two years, and in limited amounts if of longer maturity; short-term securities of the Dominion or provinces may be rediscounted. It may also buy and sell short-term securities of British Dominions, the United States or France without restriction, if maturing within six months, and such securities having a maturity exceeding six months in limited amounts. The Bank may buy and sell certain classes of commercial paper of limited currency, and, if endorsed by a chartered bank, may rediscount such commercial paper. Advances for six-month periods may be made to chartered banks, Quebec Savings Banks, the Dominion or any province against certain classes of collateral, and advances of specified duration may be made to the Dominion or any province in amounts not exceeding a fixed proportion of such government's revenue. The Bank may accept from the Federal or Provincial Goverments, or from any chartered bank or any bank incorporated under the Quebec Savings Banks' Act, deposits that shall not bear interest. The Bank may buy and sell gold, silver, nickel and bronze coin, and gold and silver bullion, and may deal in foreign exchange.

The provisions regarding the note issue of the Bank of Canada are dealt with at p. 1028.

The Bank of Canada Act (c. 43, Statutes of 1934 and amendments) provides that the Bank shall maintain a reserve of gold equal to not less than 25 p.c. of its total note and deposit liabilities in Canada. Under the terms of the Exchange Fund Order, 1940, authorizing the transfer of the Bank's gold holdings to the Foreign Exchange Control Board, the minimum gold reserve requirement has been temporarily suspended; this suspension was continued under the Foreign Exchange Control Act, 1946. The reserve, in addition to gold, may include silver bullion; balances in pounds sterling in the Bank of England, in United States dollars in the Federal Reserve Bank of New York, and in gold currencies in central banks in gold-standard countries or in the Bank for International Settlements; treasury bills of the United Kingdom or the United States of America having a maturity not exceeding three months; and bills of exchange having a maturity not exceeding 90 days, payable in London or New York, or in a gold-standard country, less any liabilities of the Bank payable in the currency of the United Kingdom, the United States of America or a gold-standard country. In accordance with the terms of the Foreign Exchange Acquisition Order, 1940, the Bank of Canada sold foreign exchange with a Canadian dollar value of $27,734,444 to the Foreign Exchange Control Board.

The chartered banks are required to maintain a reserve of not less than 5 p.c. of their deposit liabilities, payable in Canadian dollars, in the form of deposits with, and notes of, the Bank of Canada.

The Bank acts as the fiscal agent of the Dominion of Canada without charge and may, by agreement, act as banker or fiscal agent of any province. The Bank does not accept deposits from individuals and does not compete with the chartered banks in commercial banking fields.

The head office of the Bank is at Ottawa, and it has an agency in each province, namely, at Charlottetown, Halifax, Saint John, Montreal, Toronto, Winnipeg, Regina, Calgary and Vancouver.

The Governor of the Bank is its chief executive officer and Chairman of the Board of Directors; he is assisted by a Deputy Governor and an Assistant Deputy Governor. The first appointments were made by the Government. Subsequent appointments are to be made by the Board of Directors subject to the approval of the Governor in Council.

At the first meeting of the shareholders on Jan. 23, 1935, seven directors were elected with terms as follows: one director, until the third annual general meeting (1938); two, until the fourth (1939); two, until the fifth (1940); and two, until the sixth annual general meeting (1941). Former directors continued in office when the Government took over the management of the Bank but directors are now appointed by the Minister of Finance with the approval of the Governor in Council for terms of three years. In 1948 there were eleven directors. In the transaction of the business of the Bank, each director has one vote.

There is also an Executive Committee of the Board of Directors consisting of the Governor, Deputy Governor and one member of the Board, which must meet once a week. This Committee has the same powers as the Board but every decision is submitted to the Board of Directors at its next meeting. The Board must meet at least four times a year. The Deputy Minister of Finance is an ex officio member of the Board of Directors and of the Executive Committee, but is without vote.

The Governor alone, or in his absence the Deputy Governor, has the power to veto any action or decision of the Board of Directors or the Executive Committee, subject to confirmation or disallowance by the Governor in Council.

Subsection 2.—The Bank of Canada and Its Relationship to the Canadian Financial System

An article under this title is given at pp. 881-885 of the 1937 edition of the Year Book. It deals with such subjects as the functions of the Bank, its control and regulation of credit and currency, the mechanism by which such control is exercised, the expansion and contraction of credit, the mitigation of general economic fluctuations, the control of exchange operations, the advisory function of the Bank, and its duties as the Government's banker. An article on the wartime functions of a central bank appears at pp. 803-806 of the 1942 Year Book.

Subsection 3.—Bank of Canada Operations

The expansion of Bank of Canada liabilities and assets has provided for increased Bank of Canada notes in active circulation (the chartered bank-note issue is limited and is gradually being retired) and has enlarged the cash reserves of the chartered banks. The principal changes in Bank of Canada assets since April, 1938, have

been (*a*) the rise in investments, partly to replace the gold and foreign-exchange holdings transferred to the Foreign Exchange Control Board under the terms of the Exchange Fund Order and Foreign Exchange Acquisition Order, dated Apr. 30, 1940, and (*b*) the fluctuations in holdings of sterling exchange through which the Bank has temporarily financed Canadian dollar requirements of the Foreign Exchange Control Board.

1.—Liabilities and Assets of the Bank of Canada, Mar. 13, 1935, and Dec. 31, 1945-47

(From the Annual Statements of the Bank of Canada)

Item	Mar. 13, 1935	Dec. 31, 1945	Dec. 31, 1946	Dec. 31, 1947
Liabilities	$	$	$	$
Capital paid up	4,991,640	5,000,000	5,000,000	5,000,000
Rest fund	Nil	10,050,367	10,050,367	10,050,367
Notes in circulation	97,805,665	1,129,099,247	1,186,201,681	1,211,350,386
Deposits—				
Federal Government	*4,212,200*	*175,838,826*	*81,468,167*	*87,607,699*
Chartered banks	*151,927,628*	*521,209,383*	*565,469,559*	*536,161,793*
Other	*277,922*	*29,770,378*	*93,800,975*	*67,523,489*
Totals, Deposits	156,417,750	726,818,587	740,738,701	691,292,981
Liabilities payable in sterling, United States and foreign gold currencies	Nil	156,829,962	960,131	1,978,667
Dividends declared	"	112,500	112,500	112,500
Other liabilities	99,702	3,975,966	5,552,901	5,435,578
Totals, Liabilities	**259,314,757**	**2,031,886,629**	**1,948,616,281**	**1,925,220,479**
Assets				
Reserves (at market values)—				
Gold coin and bullion	106,584,356	[1]	[1]	[1]
Silver bullion	986,363	Nil	Nil	Nil
Sterling and U.S.A. dollars	394,875	156,829,962	960,131	1,958,591
Other currencies	Nil	Nil	Nil	226,483
Totals, Reserves	107,965,594	156,829,962[1]	960,131[1]	2,185,074[1]
Subsidiary coin	297,335	339,157	345,465	131,437
Investments (at not exceeding market values)—				
Federal and Provincial Government short-term securities	*34,846,294*	*1,157,312,459*	*1,197,436,208*	*1,022,024,822*
Other Federal and Provincial Government securities	*115,013,637*	*688,270,178*	*708,164,801*	*857,529,340*
Totals, Investments	149,859,931	1,845,582,637	1,905,601,009	1,879,554,162
Industrial Development Bank capital stock	–	10,000,000	15,000,000	25,000,000
Bank premises	Nil	1,884,018	2,438,215	2,341,722
All other assets	1,191,897	17,250,855	24,271,461	16,008,084
Totals, Assets	**259,314,757**	**2,031,886,629**	**1,948,616,281**	**1,925,220,479**

[1] The Exchange Fund Order, 1940, authorized the transfer of the Bank's gold holdings to the Foreign Exchange Control Board and temporarily suspended the requirement for a minimum gold reserve.

Subsection 4.—The Industrial Development Bank

The Industrial Development Bank, a subsidiary of the Bank of Canada, was incorporated by Act of Parliament during 1944, commencing its banking operations on Nov. 1, 1944. Its functions are described in the preamble to the Act as follows:—

> "To promote the economic welfare of Canada by increasing the effectiveness of monetary action through ensuring the availability of credit to industrial enterprises which may reasonably be expected to prove successful if a high level of national income and employment is maintained, by supplementing the activities of other lenders and by providing capital assistance to industry with particular consideration to the financing problems of small enterprises."

The President of the Industrial Development Bank is the Governor of the Bank of Canada and the Directors are the Directors and Assistant Deputy Governor of the Bank of Canada. The $25,000,000 capital stock of the Bank, now completely paid up, was subscribed by the Bank of Canada. The Industrial Development Bank may also raise funds by the issue of bonds and debentures provided that its total direct liabilities and contingent liabilities in the form of guarantees and underwriting agreements do not exceed three times the aggregate of the Bank's paid-up capital and Reserve Fund.

The lending powers of the Bank may be extended only to industrial enterprises in Canada with respect to which it is empowered to:—

(1) lend money or guarantee loans;
(2) enter into underwriting agreements with regard to any issue of stock, bonds or debentures;
(3) acquire stock, bonds or debentures from the issuing corporation or any person with whom the Bank has entered into an underwriting agreement.

The Bank may accept any form of collateral security against its advances, including real property.

The Industrial Development Bank is intended to supplement the activities of other lending agencies rather than to compete with them and the Act of incorporation requires that it should extend credit only when the Board of Directors is of the opinion that similar credit would not be available elsewhere on reasonable terms and conditions. The Bank is specifically prohibited from engaging in the business of deposit banking.

Authorized and outstanding loans of the Industrial Development Bank as of Mar. 31, 1948, are classified by provinces, size of loans and industries in Table 2. The monthly statement of assets and liabilities of the Bank for June 30, 1948, showed outstanding loans and investments at that date of $15,985,285.

2.—Authorized and Outstanding Loans and Investments of the Industrial Development Bank, by Provinces, Size and Industries, as at Mar. 31, 1948

Province	Authorized	Outstanding	Industry	Authorized	Outstanding
	$	$		$	$
Prince Edward Island	38,500	20,100	Miscellaneous metal products	1,914,524	1,555,624
Nova Scotia	267,216	201,216	Foods and beverages	3,126,960	2,358,816
New Brunswick	813,679	537,599	Agricultural and industrial machinery	1,597,429	1,203,471
Quebec	8,191,452	5,419,712	Furniture and woodenware	1,768,781	1,584,885
Ontario	8,775,638	7,164,876	Finished textile products	1,081,969	1,040,287
Manitoba	1,040,162	974,514	Refrigeration	1,430,659	1,137,634
Saskatchewan	190,175	172,533	Builders' supplies	840,487	799,387
Alberta	1,797,690	1,077,690	Automotive equipment	714,950	496,663
British Columbia[1]	2,034,953	1,365,281	Chemical products	3,112,449	886,291
Canada	**23,149,465**	**16,933,521**	Pulp and paper products	3,440,075	2,744,075
Size of Loan	No.	Authorized	Primary textiles	846,677	645,286
		$	Primary lumber products	807,985	772,227
$5,000 or under	46	145,003	Ceramics, glass and plastic products	212,050	186,744
$5,001 to $25,000	162	2,196,391	Other	2,254,470	1,522,131
$25,001 to $50,000	56	2,144,110			
$50,001 to $100,000	54	3,942,303			
$100,001 to $200,000	40	5,683,174			
$200,001 or over	14	9,038,484			
Totals	**372**	**23,149,465**	**Totals**	**23,149,465**	**16,933,521**

[1] Includes Yukon and the Northwest Territories.

Section 3.—Currency

Subsection 1.—Notes and Coinage

Note Circulation.—The development by which bank notes became the chief circulating medium in Canada prior to 1935 is described at pp. 900-905 of the 1938 Year Book. The main steps of this development that remained as permanent features of the system are outlined at pp. 809-810 of the 1941 Year Book.

When the Bank of Canada commenced operations in 1935 it assumed liability for Dominion notes outstanding. These were replaced in public circulation and partly replaced in cash reserves by the Bank's legal tender notes in denominations of $1, $2, $5, $10, $20, $50 and $100. Deposits of chartered banks at the Bank of Canada completed the replacement of the old Dominion notes of $1,000 to $50,000 denomination that had previously been used as cash reserves.

The chartered banks were required under the Bank Act of 1934 to reduce the issue of their own bank notes gradually during the years 1935-45 to an amount not in excess of 25 p.c. of their paid-up capital on Mar. 11, 1935. Bank of Canada notes thus replaced chartered bank notes as the issue of the latter was reduced. Further restrictions introduced by the 1944 revision of the Bank Act cancelled the right of chartered banks to issue or re-issue any notes after Jan. 1, 1945, and after Jan. 1, 1950, the chartered banks' liability for such of their notes which then remain outstanding will be transferred to the Bank of Canada in return for payment of a like sum to the Bank of Canada.

As a result of the changes indicated above, current data on bank-note circulation are not comparable with those of earlier years though statistics of total notes in the hands of the general public are comparable. This public circulation includes chartered bank notes together with Dominion or Bank of Canada notes, exclusive of those held by the banks as reserves.

Since 1935 there has been little change in the circulation of denominations under $5. In the denominations from $5 to $1,000, where Bank of Canada notes have partially replaced chartered bank notes or Dominion notes, there has been a large increase. This is apparent from a study of the accompanying tables.

3.—Denominations of Bank of Canada, Dominion and Other Notes in Circulation for Certain Years, 1926-47

NOTE.—Annual averages of month-end figures. The totals outstanding are not always multiples of the denominations of notes because of adjustments made according to scale when parts of mutilated notes are turned in for cancellation.

Denomination	1926	1929	1944	1945	1946	1947
	$	$	$	$	$	$
$1	17,732,100	20,032,308	38,740,526	40,577,111	41,241,696	42,333,444
$2	12,925,212	14,609,088	29,159,772	31,024,976	31,889,923	32,267,026
$4	33,397	32,138	28,842	28,838	28,831	28,829
$5	626,179	730,101	98,942,174	102,603,827	102,390,902	101,204,684
$10	Nil	Nil	381,050,750	403,777,675	391,899,105	391,716,339
$20	"	"	222,345,129	266,684,012	280,872,417	284,105,734
$25	"	"	47,215	43,977	47,073	46,683
$50	650	650	54,382,062	75,590,344	89,303,404	95,227,990
$100	Nil	Nil	99,845,808	137,953,983	168,910,387	196,214,333
$500	1,875,917	1,811,875	480,792	457,917	402,875	345,000
$1,000	3,799,250	4,168,917	17,398,500	19,024,083	17,779,166	17,145,750
Totals	36,992,705	41,385,077	942,421,570	1,077,766,743	1,124,765,779	1,160,635,812

3.—Denominations of Bank of Canada, Dominion and Other Notes in Circulation for Certain Years, 1926-47—concluded

Denomination	1926	1929	1944	1945	1946	1947
	$	$	$	$	$	$
Specials—						
$1,000	671,333	407,667	1,000	1,000	1,000	1,000
$5,000	16,307,500	7,209,583	10,000	10,000	10,000	10,000
$50,000	134,675,000	153,970,834	Nil	Nil	Nil	Nil
Provincial	27,624	27,621	27,573	27,574	27,574	27,573
Fractional	1,330,663	1,380,710	1,093,666	1,093,051	1,092,522	1,091,963
Defunct notes	–	–	89,695[1]	89,660	89,406	88,923
Grand Totals	**190,004,825**	**204,381,492**	**943,576,233**[1]	**1,078,988,028**	**1,125,986,281**	**1,161,855,271**

[1] Three-month average; not shown prior to October, 1944. The grand total is, however, a twelve-month average.

4.—Annual Averages of Note Circulation in the Hands of the Public, 1938-47

NOTE.—Figures of circulating media in the hands of the general public for the years 1900-35 appear at p. 900 of the 1936 Year Book. Figures comparable to those shown below for the years 1926-37 are given at p. 959 of the 1946 edition.

Year	Averages of Month-End Figures			Averages of Daily Figures of Total	
	Chartered Bank Notes[1]	Dominion or Bank of Canada Notes[2]	Total	Amount[3]	Per Capita[4]
	$	$	$	$	$
1938	93,978,355	109,748,030	203,726,385	205,000,000	18·38
1939	88,820,636	129,261,655	218,082,291	216,000,000	19·17
1940	87,194,399	206,916,964	294,111,363	287,000,000	25·22
1941	78,761,049	320,037,329	398,798,378	386,000,000	33·54
1942	69,502,871	472,011,416	541,514,287	523,000,000	44·88
1943	49,082,172	660,998,231	710,080,403	688,000,000	58·25
1944	37,056,187[5]	821,330,660	858,386,847	835,000,000	69·73
1945	28,636,174[5]	940,911,000	969,547,174	951,000,000	78·47
1946	23,172,717[5]	981,727,494	1,004,900,211	992,000,000	80·60
1947	19,675,994[5]	1,161,854,113	1,181,530,107	1,013,000,000	80·51

[1] Gross note circulation of chartered banks less notes of other chartered banks. [2] Total issue less notes held by chartered banks and notes deposited in the Central Gold Reserves up to March, 1935. [3] Figures, to nearest million, supplied by the Bank of Canada. [4] Figures based on estimates of population as given at p. 139. [5] Gross note circulation only; notes of other chartered banks not available.

Coinage.*—The present monetary standard of Canada is gold of 900 millesimal fineness (23·22 grains of pure gold equal to one gold dollar). Under the Uniform Currency Act of 1871, gold coin has been authorized but only very limited issues were ever made. Gold coins have not been struck since 1919. The British sovereign and half-sovereign, and United States eagle, half-eagle and double eagle are legal tender. Subsidiary coin consists of $1, and 50-, 25- and 10-cent silver pieces,† 5-cent nickel and 1-cent bronze pieces. Subsidiary silver coin is legal tender to the

* Revised by the Royal Canadian Mint, Ottawa.

† The Currency Act of 1910 made provision for a silver dollar and a 5-cent silver coin. The 5-cent silver coin was coined freely until 1921. It still has limited legal tender but has been replaced in the coinage by the nickel 5-cent piece. In 1942 a new 5-cent piece was coined from 'tombac', a copper-zinc alloy, in order to conserve nickel for war purposes, and this coin was replaced in 1944 by a 5-cent coin composed of mild steel with a chromium finish. The current coin is pure nickel.

amount of ten dollars. The 5-cent piece is legal tender up to five dollars and the 1-cent bronze coin up to twenty-five cents. There is no provision for the redemption of subsidiary coin. A table at p. 807 of the 1941 Year Book gives particulars of weight, fineness, etc., of current coins.

5.—Circulation of Canadian Coin as at Dec. 31, 1938-47

NOTE.—The figures are of net issues of coin. Figures for the years 1901-25 are given at p. 858 of the 1927-28 Year Book and for 1926-37 at p. 956 of the 1946 edition. Per capita figures are based on estimates of population as given at p. 139.

Year	Silver	Nickel	'Tombac'	Steel	Bronze	Total	Per Capita
	$	$	$	$	$	$	$
1938.....	30,482,924	3,051,594	-	-	3,091,873	36,626,391	3·28
1939.....	32,236,145	3,355,906	-	-	3,276,771	38,868,822	3·45
1940.....	36,944,040	4,015,232	-	-	4,092,234	45,051,506	3·96
1941.....	40,339,221	4,467,463	-	-	4,648,567	49,455,251	4·30
1942.....	44,011,038	4,827,596	169,424	-	5,422,131	54,430,189	4·67
1943.....	51,009,046	4,826,033	1,407,424	-	6,300,627	63,543,130	5·38
1944.....	54,972,812	4,825,057	1,407,754	571,000	6,753,329	68,529,952	5·72
1945.....	58,327,590	4,823,237	1,407,462	1,521,170	7,499,263	73,578,722	6·07
1946.....	59,944,549	5,113,103	1,155,791	1,520,849	8,024,547	75,758,839	6·16
1947.....	61,049,986	5,503,117	868,994	1,520,647	8,382,327	77,325,071	6·15

The Royal Canadian Mint.—The Ottawa Mint was established as a branch of the Royal Mint under the (Imperial) Coinage Act, 1870, and opened on Jan. 2, 1908. By 21-22 Geo. V, c. 48, it was constituted a branch of the Department of Finance, and by the Proclamation of Nov. 14, 1931, issued under Sect. 3 of that Act, it has, since Dec. 1, 1931, operated as the Royal Canadian Mint. At first the British North American provinces, and later the Dominion of Canada, obtained their coins from the Royal Mint at London or from The Mint, Birmingham, Ltd., England. In its earlier years the operations of the Mint in Canada were confined to the production of gold, silver and bronze coins for domestic circulation, of British sovereigns and of small coins struck under contract for Newfoundland and Jamaica. Previous to 1914, small quantities of gold bullion were refined, but during the War of 1914-18 the Mint came to the assistance of the British Government by establishing a refinery in which nearly 20,000,000 fine oz. of South African gold were treated on account of the Bank of England. The subsequent development of the gold-mining industry in Canada has resulted in gold-refining becoming one of the principal activities of the Mint. Most of the fine gold produced from the rough shipments from the mines is delivered to the Department of Finance (since Mar. 11, 1935, the Bank of Canada has acted as agent for the Government) in the form of bars of approximately 400 fine oz. each, the rest being sold in a convenient form to manufacturers. The fine silver extracted from the rough gold, when not required for coinage, is sold in New York or disposed of to local manufacturing firms.

An account of the organization and operational methods of the Royal Canadian Mint is given at pp. 888-892 of the 1940 Year Book.

6.—Annual Receipts of Gold Bullion at the Royal Canadian Mint, and Bullion and Coinage Issued, 1938-47

NOTE.—Although not presented in exactly the same form, figures for 1901-16 are given at pp. 857-858 of the 1927-28 Year Book; for 1917-25 at p. 894 of the 1936 edition. Comparable figures to those shown below for 1926-37 are given at p. 957 of the 1946 edition.

Year	Gold Received	Gold Bullion Issued	Silver Coin Issued	Nickel Coin Issued	Steel Coin Issued	'Tombac' Coin Issued	Bronze Coin Issued
	fine oz.	fine oz.	$	$	$	$	$
1938	4,398,258	4,308,067	1,376,000	153,500	-	-	184,300
1939	4,869,239	4,834,214	2,794,032	321,000	-	-	214,600
1940	4,990,847	5,026,793	4,845,000	660,500	-	-	822,800
1941	5,092,609	5,134,348	3,534,000	454,000	-	-	575,300
1942	4,611,982	4,611,892	3,764,000	361,576	-	169,424	783,500
1943	3,616,959	3,645,740	7,044,000	Nil	-	1,238,000	881,300
1944	2,862,048	2,829,755	4,006,000	"	571,000	400	454,600
1945	2,503,416	2,499,163	3,416,300	"	950,300	Nil	748,500
1946	2,652,245	2,665,964	1,701,000	291,500	Nil	"	528,500
1947	2,868,469	2,859,084	1,186,000	391,000	"	"	360,300

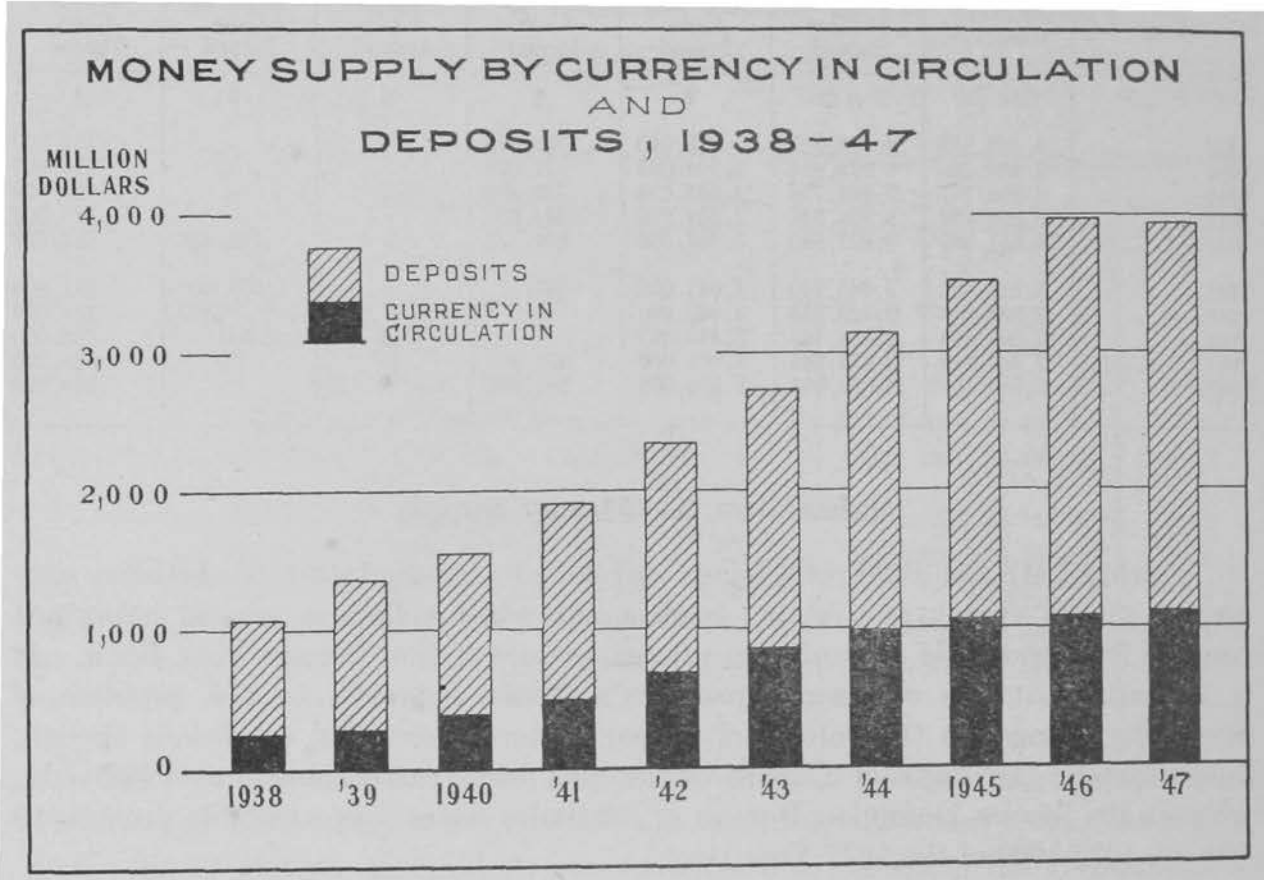
Subsection 2.—Money Supply

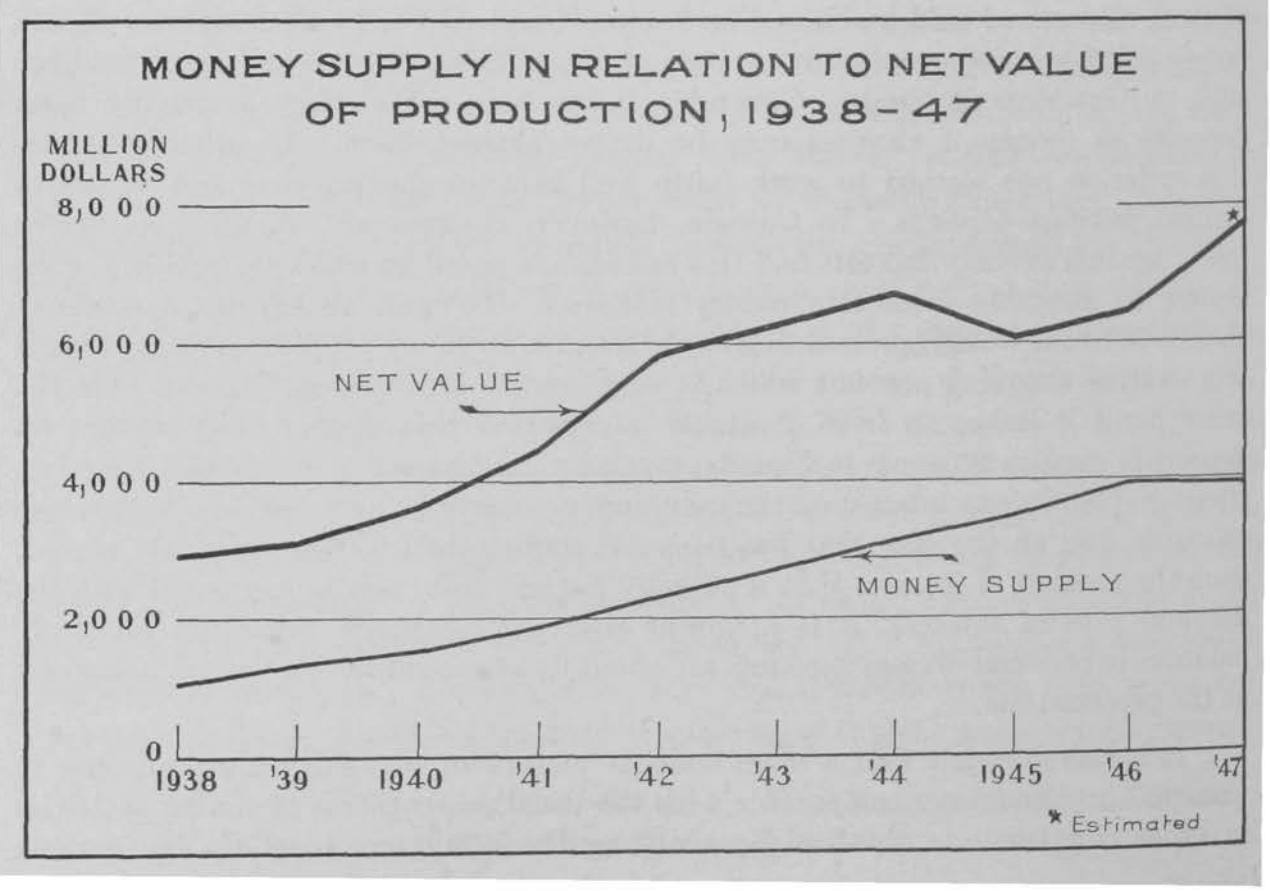
During 1947 the Bank of Canada developed a presentation of statistics concerning money supply and related bank assets which differs in several important respects from the table presented in previous issues of the Canada Year Book. It is believed that the new series provides a better approach to the problem of measuring changes in the volume of money under present-day conditions though, unfortunately, the Bank of Canada series has been carried back to 1938 only, whereas the former Dominion Bureau of Statistics series was available from 1919 (see pp. 1022-1023 of the 1947 Year Book).

In measuring the volume of money it is necessary to decide which categories of bank deposits should be classed as "money" and which, by their nature, should be regarded more appropriately as part of the public's other liquid asset holdings such as Government bonds. Generally, it has been satisfactory to classify bank deposits as money if cheques may be drawn against them. In other countries this criterion has seemed to work fairly well because cheques may not be drawn against savings deposits. In Canada, however, cheques are, in practice, drawn freely against savings deposits and this has always posed an awkward problem when trying to assemble volume of money statistics. To omit all savings deposits of chartered banks would ignore the obvious fact that for many people a savings account is an active chequing account which is very similar to a current deposit. On the other hand it is known from available information that of the total amount on deposit in savings accounts in Canada, much the larger part is, in practice, inactive. Chartered banks pay interest on the minimum quarterly balances in personal savings accounts, i.e., on the sum that has been left undisturbed for the quarterly period; from the amount of interest that is actually paid on this basis as compared with the nominal rate of interest, it is apparent that the aggregate minimum quarterly balances in personal savings accounts are about five-sixths of the total of such deposits at the present time.

It is therefore felt that a more realistic picture of monetary developments in Canada—and one more comparable with the usual presentation of similar statistics in other countries—is obtained by omitting the minimum quarterly balances in

personal savings deposits and non-personal notice deposits, from volume-of-money statistics. It has seemed preferable to exclude these deposits from the volume of money on the basis that they are inactive in practice rather than to include them on the grounds that they are potentially active because cheques may be issued against them.





The published returns of Canadian chartered banks include among assets "Cheques on Other Banks" which represents the amount of cheques that have been credited to the deposit account of the payee but not yet cleared against the deposit account of the drawer. To the extent of such items in "float" there is therefore duplication in the figures of bank deposits. In Table 7 "Cheques on Other Banks" has been deducted from the figure of chartered bank deposits in order to eliminate this duplication.

Government deposits are given different treatment in different countries as far as volume-of-money statistics is concerned. In most cases the commonly used figure of bank deposits excludes Government deposits and, on the whole, it appears preferable to exclude Federal Government deposits from the Canadian money supply figures.

7.—Money Supply, 1938-47

(Millions of dollars)

Year	Currency Outside Banks[1]			Bank Deposits			Money Supply
	Notes	Coin	Total Currency	Chartered Banks Net[2]	Bank of Canada "Other" Deposits[3]	Total Bank Deposits	
1938	207	31	238	847	3	850	1,088
1939	247	34	281	1,071	18	1,089	1,370
1940	341	38	379	1,174	10	1,184	1,563
1941	450	42	492	1,403	6	1,409	1,901
1942	633	49	682	1,648	19	1,667	2,349
1943	794	55	849	1,859	18	1,877	2,726
1944	930	60	990	2,135	28	2,163	3,153
1945	992	63	1,055	2,429	30	2,459	3,514
1946	1,031	65	1,096	2,806	94	2,900	3,996
1947	1,046	66	1,112	2,764	68	2,832	3,944

[1] Note circulation excluding notes held by chartered banks together with total coin issued by the Mint, less coin held by the banks. [2] Demand and notice deposits; deposits of Provincial Governments, United Kingdom and foreign banks; less float deposits, that is, cheques on banks as shown in month-end returns. [3] Excludes Federal Government, chartered bank and foreign deposits.

Section 4.—Monetary Reserves

Subsection 1.—Bank of Canada Reserves

The composition of Canadian gold reserves held by the Government is presented in the 1936 edition of the Year Book, at p. 895, for the years 1905 to 1934. Since March, 1935, the gold reserves have been held by the Bank of Canada. By authority of the Exchange Fund Act (c. 60, 1935), effective in July, 1935, they are valued at the current market price of gold. The new data are to be found under the item "Reserves" in the "Assets" section of Table 1, p. 1026. As explained in the footnote to that table, under the Exchange Fund Order of Apr. 30, 1940, the gold reserves of the Bank of Canada were transferred to the Foreign Exchange Control Board and the requirement that the Bank should maintain a reserve of gold equal to not less than 25 p.c. of its total note and deposit liabilities in Canada was temporarily suspended.

Subsection 2.—Chartered Bank Canadian Cash Reserves

Before the Establishment of the Bank of Canada.—Up to March, 1935, legal tender cash reserves in Canada were made up partly of Dominion notes; partly of gold coin and bullion, and subsidiary coin, including these forms of cash

held by the banks themselves, and as deposits in the Central Gold Reserves. In so far as these reserves were in actual gold or were in Dominion notes backed by gold, they were subject to the expanding or contracting influences of monetary gold imports or exports arising from Canada's balance of international payments, so long as Canada was on the gold standard.

Since the Establishment of the Bank of Canada.—When the Bank of Canada was established, the chartered banks turned over their reserves of gold in Canada and Dominion notes to the new bank in exchange for deposits with, and notes of, the Bank of Canada. It was provided that, henceforth, the chartered banks were to carry reserves in these forms amounting to at least 5 p.c. of their deposit liabilities in Canada. Since that time, therefore, the gold reserves against currency and bank credit have been in the custody of the central bank, except as affected by the Exchange Fund Order, 1940, as explained under Bank of Canada reserves in Subsection 1, p. 1033.

8.—Annual Averages of Cash Reserves of the Chartered Banks, 1938-47

NOTE.—Figures, to nearest million, supplied by the Bank of Canada. Cash reserves include notes and deposits with the Bank of Canada. Figures for the years 1926-37 are given at p. 960 of the 1946 Year Book.

Year	Annual Average of Daily Figures	Annual Average of Month-End Figures	Year	Annual Average of Daily Figures	Annual Average of Month-End Figures
	$	$		$	$
1938	254,000,000	252,000,000	1943	423,000,000	413,000,000
1939	269,000,000	268,000,000	1944	538,000,000	527,000,000
1940	289,000,000	287,000,000	1945	603,000,000	593,000,000
1941	313,000,000	308,000,000	1946	672,000,000	673,000,000
1942	342,000,000	340,000,000	1947	670,000,000	665,000,000

Section 5.—Commercial Banking

Subsection 1.—Historical

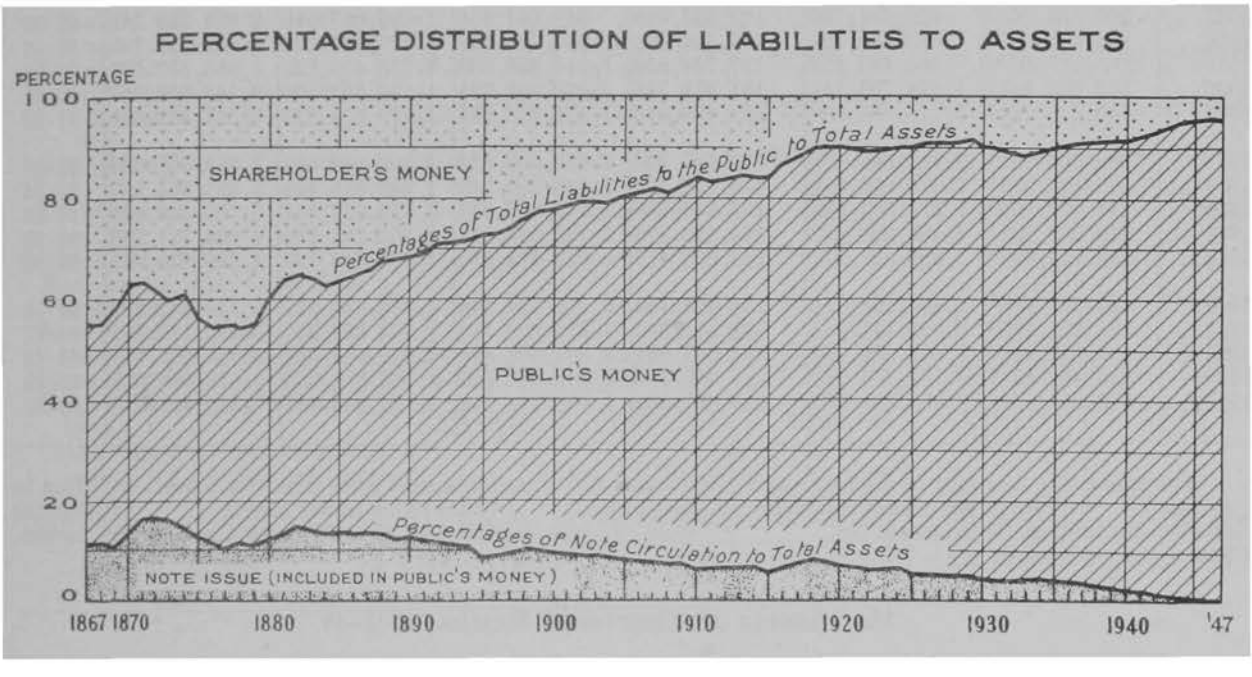
Since one of the chief functions of the early banks in Canada was to issue notes to provide a convenient currency or circulating medium, it has been expedient to cover both currency and banking in the one historical sketch, which is given at pp. 901-905 of the 1938 Year Book. A list of the banks at Confederation appears at p. 897 of the 1940 Year Book and bank absorptions since 1867 are given at pp. 812-813 of the 1941 edition. A table at pp. 894-895 of the 1937 Year Book shows the insolvencies from Confederation; the last insolvency occurred in 1923.

A summary of the more important changes resulting from the revision of the Bank Act in 1944 is given at pp. 961-962 of the 1946 Year Book.

Subsection 2.—Combined Statistics of Chartered Banks

In order to afford a clear view of the nature of banking transactions in Canada, bank liabilities have been classified in Table 9 in two main groups: liabilities to shareholders and liabilities to the public. Only the latter group is ordinarily considered when determining the financial position of any such institution. Assets are divided into four groups, "other assets" being included in the total. Of interest to students of banking practice, the relative rates of increase of capital and reserve

funds may be noted, also the great increase in the proportion of liabilities to the public to total liabilities, and the gradually increasing percentage of liabilities to the public to total assets. The chart below showing the division of ownership of assets is of interest in this connection. The declining proportion of notes in circulation to total liabilities to the public is also characteristic of the evolution of banking in recent times. Holdings of Federal and Provincial Government and municipal securities were relatively insignificant prior to the War of 1914-18.



9.—Development of Chartered Banking Business in Canada, 1933-47

NOTE.—These statistics are yearly averages computed from the twelve monthly returns in each year. Figures for the years 1867-1880 will be found at pp. 918-919 of the 1938 Year Book; for the years 1881-1915 at pp. 815-816 of the 1941 edition; for the years 1916-26 at pp. 963-964 of the 1946 edition; for the years 1927-32 at pp. 1025-1026 of the 1947 edition.

Year	LIABILITIES						
	Liabilities to Shareholders		Liabilities to the Public				
	Capital	Rest or Reserve Fund	Notes in Circulation	Demand Deposits in Canada	Notice Deposits in Canada	Total on Deposit[1]	Total Public Liabilities[2]
	$	$	$	$	$	$	$
1933...	144,500,000	157,250,000	130,362,488	488,527,864	1,378,497,944	2,236,841,539	2,517,934,260
1934...	144,916,667	132,604,166	135,537,793	513,973,506	1,372,817,869	2,274,607,936	2,548,720,434
1935...	145,500,000	132,750,000	125,644,102	568,615,373	1,445,281,247	2,426,760,923	2,667,950,352
1936...	145,500,000	133,000,000	119,507,306	618,340,561	1,518,216,945	2,614,895,597	2,855,622,232
1937...	145,500,000	133,750,000	110,259,134	691,319,545	1,573,654,555	2,775,530,413	3,025,721,653
1938...	145,500,000	133,750,000	99,870,493	690,485,877	1,630,481,857	2,823,686,934	3,056,684,905
1939...	145,500,000	133,750,000	94,064,907	741,733,241	1,699,224,304	3,060,859,111	3,298,351,099
1940...	145,500,000	133,750,000	91,134,378	875,059,476	1,646,891,010	3,179,523,062	3,411,104,825
1941...	145,500,000	133,916,667	81,620,753	1,088,198,370	1,616,129,007	3,464,781,844	3,711,870,680
1942...	145,500,000	135,083,333	71,743,242	1,341,499,012	1,644,842,331	3,834,335,141	4,102,355,598
1943...	145,500,000	136,750,000	50,230,204	1,619,407,736	1,864,177,700	4,592,336,705	4,849,222,532
1944...	145,500,000	136,750,000	37,056,187	1,863,793,981	2,272,573,361	5,422,302,978	5,689,443,095
1945...	145,500,000	136,750,000	28,636,174	1,986,075,142	2,750,358,254	6,159,997,976	6,438,617,676
1946...	145,500,000	144,666,667	23,172,717	2,155,312,749	3,327,057,442	6,771,555,153	7,123,979,417
1947...	145,500,000	178,000,000	19,675,994	2,138,771,178	3,681,231,057	7,075,355,884	7,476,627,449

For footnotes, see end of table, p. 1036.

9.—Development of Chartered Banking Business in Canada, 1933-47—concluded

Year	ASSETS						P.C. of Public Liabilities to Total Assets
	Specie and Dominion or Bank of Canada Notes	Federal and Provincial Government Securities	Municipal Securities in Canada and Public Securities Elsewhere	Total Securities	Total Loans	Total Assets[3]	
	$	$	$	$	$	$	p.c.
1933...	209,550,285[4]	626,881,709	163,834,318	841,151,958	1,409,067,110	2,831,393,641	88·93
1934...	214,419,280[4]	683,498,403	139,850,099	866,725,958	1,373,683,071	2,837,919,961	89·81
1935...	227,692,952[5,6]	860,942,292	137,764,626	1,044,351,653	1,276,430,825	2,956,577,704	90·24
1936...	240,596,447[5]	1,074,795,141	161,879,725	1,330,808,991	1,140,557,800	3,144,506,755	90·81
1937...	249,372,724[5]	1,118,893,938	181,972,016	1,426,371,394	1,200,574,223	3,317,087,132	91·22
1938...	262,354,597[5]	1,143,040,485	170,487,703	1,439,666,822	1,200,692,605	3,348,708,580	91·28
1939...	279,161,539[5]	1,234,066,994	179,924,335	1,540,330,246	1,243,616,409	3,591,564,586	91·84
1940...	296,877,855[5]	1,311,641,053	157,361,535	1,579,467,048	1,324,021,841	3,707,316,459	92·01
1941...	318,039,223[5]	1,483,299,697	149,467,128	1,726,543,416	1,403,181,296	4,008,381,256	92·60
1942...	349,729,409[5]	1,806,891,877	182,052,417	2,073,471,530	1,370,418,799	4,399,820,746	93·24
1943...	422,561,348[5]	2,404,756,734	232,405,156	2,713,939,940	1,334,080,022	5,148,458,722	94·19
1944...	538,206,187[5]	2,991,047,582	283,417,399	3,353,259,736	1,343,938,364	5,990,410,887	94·98
1945...	604,842,928[5]	3,438,830,751	313,061,291	3,857,534,890	1,505,039,333	6,743,217,134	95·48
1946...	686,368,427[5]	3,734,872,237	381,996,554	4,287,002,710	1,642,519,066	7,429,608,029	95·89
1947...	679,051,569[5]	3,395,306,552	436,075,580	4,108,441,158	2,125,582,441	7,810,913,975	95·72

[1] Includes the deposits of Federal and Provincial Governments and also deposits elsewhere than in Canada. [2] Includes other liabilities to the public. [3] Includes other assets. [4] Includes deposits in Central Gold Reserves. [5] Notes of, and deposits in, the Bank of Canada and specie. [6] Ten-month average.

10.—Assets of Chartered Banks, 1943-47

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Item	1943	1944	1945	1946	1947
	$	$	$	$	$
Cash reserves against Canadian deposits (as per Table 8)	412,834,602	526,874,824	592,867,272	672,762,790	664,718,056
Subsidiary coin	6,991,299	8,694,595	9,343,542	10,817,528	11,253,241
Notes of other Canadian banks	1,148,032	222,305,178[1]	232,805,515[1]	251,558,442[1]	288,583,047[1]
Cheques of other banks	189,114,743				
Deposits at other Canadian banks	2,503,852	2,534,265	2,616,417	2,542,969	2,506,564
Gold and coin abroad	2,735,447	2,636,768	2,632,114	2,788,109	3,080,272
Foreign currencies	66,976,350	106,180,869	96,418,427	94,545,941	115,869,508
Deposits at United Kingdom banks	55,990,635	42,353,724	41,065,991	28,497,537	30,497,542
Deposits at foreign banks	156,911,232	181,249,668	192,180,650	175,873,662	158,496,104
Securities—					
Federal and Provincial Government securities	2,404,756,734	2,991,047,582	3,438,830,751	3,734,872,237	3,395,306,552
Other Canadian and foreign public securities	232,405,156	283,417,399	313,061,291	381,996,554	436,075,580
Other bonds, debentures and stocks	76,778,050	78,794,755	105,642,848	170,133,919	277,059,026
Call and Short Loans—					
In Canada	34,697,849	62,428,611	129,871,551	131,944,670	103,930,497
Elsewhere	80,868,655	99,745,985	108,483,349	87,186,136	75,806,677

[1] Not shown separately since August, 1944.

10.—Assets of Chartered Banks, 1943-47—concluded

Item	1943	1944	1945	1946	1947
	$	$	$	$	$
Current Loans—					
Canada—					
Loans to Provincial Governments	5,505,875	6,223,023	11,987,899	15,607,671	15,191,463
Loans to cities, towns, municipalities and school districts	55,862,298	37,409,437	22,536,443	28,580,333	38,518,846
Other current loans and discounts	1,052,702,964	1,022,117,870	1,100,493,367	1,223,437,931	1,692,840,036
Elsewhere than in Canada	101,667,089	114,202,426	130,510,874	154,811,967	198,241,867
Non-current loans	2,775,292	1,811,012	1,155,850	950,358	1,053,055
Other Assets—					
Real estate, other than bank premises	5,113,871	3,667,696	2,106,279	1,604,785	739,823
Mortgages on real estate sold by the banks	3,124,855	2,453,173	2,146,201	1,672,166	1,434,343
Bank premises	66,705,291	63,907,545	62,792,527	64,533,559	68,199,564
Bank circulation redemption fund	3,696,690	2,776,557	2,030,754	1,532,267	1,239,186
Liabilities of customers under letters of credit as *per contra*	113,289,929	113,887,283	125,296,836	175,810,337	213,372,833
All other assets	13,301,932	13,690,642	16,340,386	15,546,161	16,900,293
Totals, Assets	**5,148,458,722**	**5,990,410,887**	**6,743,217,134**	**7,429,608,029**	**7,810,913,975**

11.—Liabilities of Chartered Banks, 1943-47

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year.

Item	1943	1944	1945	1946	1947
	$	$	$	$	$
LIABILITIES TO THE PUBLIC					
Notes in circulation	50,230,204	37,056,187	28,636,174	23,172,717	19,675,994
Deposit Liabilities—					
Government Deposits—					
Federal	425,628,704	464,521,970	541,976,377	363,047,533	271,549,539
Provincial	95,622,892	105,146,178	110,671,712	120,274,679	132,491,736
Public Deposits—					
Demand	1,619,407,736	1,863,793,981	1,986,075,142	2,155,312,749	2,138,771,178
Notice	1,864,177,700	2,272,573,361	2,750,358,254	3,327,057,442	3,681,231,057
Other[1]	–	59,495,010[2]	54,691,038	76,243,048	87,061,746
Foreign	587,499,673	696,435,818	716,225,453	729,619,702	764,250,628
Inter-Bank Deposits—					
Canadian	13,242,169	17,700,142	17,895,061	19,338,432	21,946,138
United Kingdom	32,405,240	32,072,586	36,859,630	31,809,528	34,649,703
Other	40,792,612	58,721,002	63,326,006	96,151,327	105,205,023
Totals, Deposit Liabilities[3]	4,678,776,726	5,530,796,708	6,278,078,673	6,918,854,440	7,237,156,748

For footnotes, see end of table, p. 1038.

11.—Liabilities of Chartered Banks, 1943-47—concluded

Item	1943	1944	1945	1946	1947
	$	$	$	$	$
Canadian currency (estimated)	*3,962,000,000*	*4,686,000,000*	*5,378,000,000*	*5,993,000,000*	*6,278,000,000*
Foreign currency (estimated)..	*716,000,000*	*844,000,000*	*900,000,000*	*925,000,000*	*959,000,000*
Totals, Note and Deposit Liabilities.....	4,729,006,930	5,567,852,895	6,306,714,847	6,942,027,157	7,256,832,742
Other Liabilities to the Public—					
Letters of credit outstanding.	113,289,929	113,887,283	125,296,836	175,810,337	213,372,833
Liabilities not included under foregoing headings.....	6,925,673	7,702,917	6,605,993	6,141,923	6,421,874
TOTALS, LIABILITIES TO THE PUBLIC.....	4,849,222,532	5,689,443,095	6,438,617,676	7,123,979,417	7,476,627,449
LIABILITIES TO SHAREHOLDERS					
Capital.....	145,500,000	145,500,000	145,500,000	145,500,000	145,500,000
Rest or reserve fund.....	136,750,000	136,750,000	136,750,000	144,666,667	178,000,000
Grand Totals, Liabilities.....	**5,131,472,532**	**5,971,693,095**[2]	**6,720,867,676**	**7,414,146,084**	**7,800,127,449**

[1] Deposits in currencies other than Canadian, expressed in Canadian dollars at current rate of exchange. [2] Four-month average; not shown prior to September, 1944. The grand total is, however, a twelve-month average. [3] Totals do not correspond with those in Table 9 because of the inclusion here of inter-bank deposits.

12.—Significant Ratio Comparisons of Assets and Liabilities of Chartered Banks, 1938-47

NOTE.—Yearly averages of month-end figures, except where otherwise specified. Figures for the years 1926-37 will be found at p. 966 of the 1946 Year Book.

Year	Canadian Cash to Canadian Deposits		Securities to Note and Deposit Liabilities	Loans to Note and Deposit Liabilities
	Daily[1]	Month-End		
	p.c.	p.c.	p.c.	p.c.
1938.....	10·5	10·3	48·1	40·1
1939.....	10·4	10·2	47·5	38·4
1940.....	10·6	10·4	47·3	39·6
1941.....	10·5	10·2	47·8	38·9
1942.....	10·5	10·2	52·1	34·5
1943.....	10·9	10·4	57·4	28·2
1944.....	11·8	11·2	60·2	24·1
1945.....	11·4	11·0	61·2	23·9
1946.....	11·4	11·2	61·8	23·7
1947.....	10·8	10·9	54·7	32·0

[1] Figures supplied by the Bank of Canada.

13.—Deposits, According to Size and Currency, in Chartered Banks, as at Sept. 30, 1947

Class and Amount of Deposit	Deposits in Canadian Currency		Class and Amount of Deposit	Deposits in Currencies Other Than Canadian	
	No.	$		No.	$
Deposits Payable on Demand—			**Deposits Payable on Demand—**		
$1,000 or less	685,874	169,628,324	$1,000 or less	1,594	415,121
$1,000 to $5,000	146,502	321,714,512	$1,000 to $5,000	586	1,521,980
$5,000 to $25,000	38,491	386,932,079	$5,000 to $25,000	350	3,960,420
$25,000 to $100,000	7,409	344,091,543	$25,000 to $100,000	203	10,084,540
Over $100,000	2,309	945,894,278	Over $100,000	118	58,904,691
Adjustment items[1]	-	−4,945,557	Adjustment items[1]	-	+16,209,474
Totals	**880,585**	**2,163,315,179**	**Totals**	**2,851**	**91,096,226**
Deposits Payable After Notice—			**Deposits Payable After Notice—**		
$1,000 or less	5,517,033	922,031,213	$1,000 or less	128	14,181
$1,000 to $5,000	725,161	1,478,409,921	$1,000 to $5,000	14	23,836
$5,000 to $25,000	89,613	752,649,511	$5,000 to $25,000	4	24,905
$25,000 to $100,000	4,677	203,379,812	$25,000 to $100,000	1	37,537
Over $100,000	984	440,669,327	Over $100,000	1	155,600
Adjustment items[1]	-	+8,732,671	Adjustment items[1]	-	+40,442
Totals	**6,337,468**	**3,805,872,455**	**Totals**	**148**	**296,501**

[1] Represents certified cheques, interest accrued on interest-bearing accounts, items in transit, etc.

14.—Loans, Made by Chartered Banks and Outstanding, According to Class, as at Oct. 31, 1945 and 1946 and Sept. 30, 1947[1]

Class of Loan	1945	1946	1947
	$	$	$
Provincial Government	11,484,285	12,116,968	20,641,900
Municipal Government and school district	20,219,900	26,544,759	43,868,336
Agricultural—			
Loans to farmers, cattlemen and fruit growers	71,277,960	109,773,783	147,313,944
Loans to grain dealers, grain exporters and seed merchants	109,526,961	67,720,952	67,871,193
Totals, Agricultural	180,804,921	177,494,735	215,185,137
Financial—			
Call loans and other accommodation to brokers and bond dealers	130,617,338	97,788,415	83,911,159
Loans to trust, loan, mortgage, investment and insurance companies, and other financial institutions	34,182,234	63,742,856	38,027,462
Loans to individuals against approved stocks and bonds not otherwise classified	172,542,182	220,826,908	225,816,219
Totals, Financial	337,341,754	382,358,179	347,754,840
Merchandising, wholesale and retail	153,883,437	240,059,325	417,687,276
Manufacturing—dealers in lumber, pulpwood, and products thereof	61,445,295	79,420,060	116,359,285
Other manufacturing of all descriptions	189,210,529	238,838,107	387,153,392
Mining	11,472,036	13,702,190	16,953,232
Fishing, including packers and curers of fish	11,445,196	16,437,941	21,327,631
Public utility, including transportation companies	7,823,631	15,878,106	42,474,475
Building—contractors and others for building purposes	47,578,121	71,766,822	93,907,698
Charitable, religious and educational institutions—churches, parishes, hospitals, etc.	6,388,526	7,784,535	13,521,814
Other	100,369,928	156,476,195	201,381,411
Grand Totals	**1,139,467,559**	**1,438,877,922**	**1,938,216,427**

[1] Since 1946 the end of the accounting year has been Sept. 30.

Cheque Payments.—The great bulk of monetary transfers in Canada is made through the banks, payments in notes and coin being of relatively minor importance. It is estimated that about 80 p.c. of all business transactions are financed by cheque and the amount of the cheques paid through the banks and charged to deposit accounts is thus a fairly accurate measurement of the volume of business transacted in a given period.

Reflecting more prosperous conditions in 1947, the amount of business transacted in the form of cheques cashed rose considerably over the preceding year. The increase was relatively greater than that of 1946 when the temporary reaction in productive activity had a limiting effect on the advance. The gain of 7·6 p.c. in 1947 compared with 1946 established a new high position; wholesale prices as well as the higher level of industrial production accounted for the increase, which was general in the five economic areas. The greatest relative increase was achieved in British Columbia where business activity expanded rapidly after the end of the War. Ontario and the Prairie Provinces showed gains in 1947 following recessions in the previous year, and Quebec and the Maritimes showed a continuance of the steady advances recorded in those areas since 1940.

The post-depression advance in bank debits reached its peak in 1936, followed by a reaction in 1937 and 1938. The increase in cheques cashed during the war and post-war years was extraordinary, nine consecutive advances being recorded between 1939 and 1947 for a cumulative advance which amounted to almost 141 p.c.

15.—Cheques Cashed at Individual Clearing-House Centres, 1943-47

NOTE.—Figures for earlier years will be found in the corresponding table in previous Year Books.

Clearing-House Centre	1943	1944	1945	1946	1947
	$	$	$	$	$
Maritime Provinces—					
Halifax	672,762,400	707,345,558	850,393,003	870,735,782	932,830,407
Moncton	207,076,041	231,547,502	257,723,155	276,711,273	310,451,042
Saint John	363,924,420	388,767,904	445,474,600	456,571,211	507,373,274
Totals, Maritime Provinces	1,243,762,861	1,327,660,964	1,553,590,758	1,604,018,266	1,750,654,723
Quebec—					
Montreal	13,761,657,086	15,441,044,068	17,486,992,168	18,828,185,425	20,611,366,139
Quebec	1,476,503,724	1,633,078,085	1,648,626,349	1,722,532,681	2,077,761,098
Sherbrooke	135,720,215	148,165,207	173,714,466	198,641,707	230,782,121
Totals, Quebec	15,373,881,025	17,222,287,360	19,309,332,983	20,749,359,813	22,919,909,358
Ontario—					
Brantford	232,033,285	239,304,256	253,506,245	269,742,168	321,206,951
Chatham	132,107,887	144,553,172	171,783,508	185,640,451	244,616,255
Fort William	131,640,784	168,928,365	171,655,637	185,151,376	209,576,526
Hamilton	1,331,492,619	1,375,804,380	1,360,759,670	1,460,388,257	1,735,130,215
Kingston	155,048,257	166,553,903	179,185,124	205,647,350	213,911,998
Kitchener	277,983,952	288,161,663	324,490,838	363,577,527	435,651,884
London	594,565,226	667,833,039	819,218,952	871,610,947	1,013,241,572
Ottawa	7,041,856,827	7,702,608,563	7,810,891,068	5,170,462,037	3,919,695,689
Peterborough	148,557,997	149,188,780	166,315,914	197,282,253	231,700,861
St. Catharines	263,819,718	246,493,553	241,951,191	253,814,244	307,934,247
Sarnia	164,342,335	185,769,583	231,195,323	244,695,664	267,231,455
Sudbury	103,585,400	112,651,722	127,466,405	153,372,708	191,809,314
Toronto	13,091,307,830	14,445,952,616	18,760,599,503	19,907,026,302	20,210,585,424
Windsor	1,013,360,025	1,009,140,966	924,342,237	933,544,600	1,131,583,994
Totals, Ontario	24,681,702,142	26,902,944,561	31,543,361,615	30,401,955,884	30,433,876,385

15.—Cheques Cashed at Individual Clearing-House Centres, 1943-47—concluded

Clearing-House Centre	1943	1944	1945	1946	1947
	$	$	$	$	$
Prairie Provinces—					
Brandon	78,328,898	90,136,926	90,943,819	104,139,525	114,364,031
Calgary	1,201,421,721	1,498,387,721	1,523,535,631	1,602,017,603	1,779,369,851
Edmonton	988,229,423	1,060,248,757	1,165,857,185	1,213,183,915	1,313,138,121
Lethbridge	95,167,384	116,810,111	118,733,308	146,971,392	168,987,463
Medicine Hat	59,430,281	66,030,272	65,280,363	74,791,412	98,231,596
Moose Jaw	140,275,534	169,470,394	173,806,127	185,849,046	207,671,843
Prince Albert	59,218,070	81,775,325	84,699,682	104,869,722	108,770,342
Regina	776,839,850	1,155,130,243	1,111,542,712	977,251,230	1,286,895,569
Saskatoon	208,744,991	264,083,618	291,705,073	349,200,751	394,914,872
Winnipeg	5,592,307,440	6,986,366,445	6,936,060,331	6,366,405,086	7,381,392,595
Totals, Prairie Provinces	9,199,963,592	11,488,439,812	11,562,164,231	11,124,679,682	12,853,736,283
British Columbia—					
New Westminster	153,522,022	175,523,212	199,961,938	226,075,659	289,113,363
Vancouver	2,636,094,977	3,059,154,952	3,615,095,540	4,354,229,708	5,321,162,167
Victoria	507,788,108	500,943,546	601,306,096	787,288,421	929,640,699
Totals, British Columbia	3,297,405,107	3,735,621,710	4,416,363,574	5,367,593,788	6,539,916,229
Grand Totals	**53,796,714,727**	**60,676,954,407**	**68,384,813,161**	**69,247,607,433**	**74,498,092,978**

Subsection 3.—Statistics of Individual Chartered Banks

Assets and Liabilities.—Cash reserves against deposits as shown in Table 16 for the years 1944-47 comprise the total of Bank of Canada notes in the possession of the chartered banks together with their deposits at the Bank of Canada. Before the establishment of the Bank of Canada in 1935, the figures comprised the totals of the banks' holdings of gold and coin in Canada, Dominion notes, and that part of their deposits in the Central Gold Reserve not required against their note issues.

16.—Principal and Total Assets of Individual Chartered Banks, 1944-47

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year. Figures for earlier years will be found in the corresponding table in previous Year Books.

Bank	Year	Cash Reserve Against Canadian Deposits[1]	Total Securities	Total Loans	Total Assets
		$	$	$	$
Bank of Montreal	1944	152,163,000	888,358,483	288,739,608	1,463,971,405
	1945	155,694,000	1,028,777,079	320,982,087	1,647,636,170
	1946	190,383,638	1,119,635,649	347,356,037	1,796,990,122
	1947	178,735,541	1,104,384,289	431,682,205	1,874,722,682
Bank of Nova Scotia	1944	35,408,000	239,209,902	135,997,990	522,964,177
	1945	39,710,000	281,311,595	159,462,363	594,926,370
	1946	47,688,633	340,502,098	171,571,301	667,529,926
	1947	49,967,010	307,005,937	235,368,583	698,656,459
Bank of Toronto	1944	31,218,000	160,907,662	58,691,985	271,215,993
	1945	34,394,000	190,060,578	66,689,428	314,191,547
	1946	35,646,203	204,806,135	77,910,256	345,568,053
	1947	38,125,329	196,664,385	105,737,917	376,840,923
Provincial Bank of Canada	1944	10,458,000	64,291,106	19,559,042	103,246,904
	1945	13,047,000	75,306,666	23,220,529	120,548,822
	1946	14,898,961	85,751,626	27,163,002	137,328,250
	1947	14,879,988	83,469,477	35,077,054	144,089,266
Canadian Bank of Commerce	1944	99,250,000	626,705,008	275,643,982	1,125,254,661
	1945	116,870,000	725,688,510	290,846,428	1,252,362,957
	1946	130,366,047	822,897,644	294,863,669	1,377,251,874
	1947	124,391,358	782,280,146	369,379,307	1,415,292,575

For footnote, see end of table, p. 1042.

16.—Principal and Total Assets of Individual Chartered Banks, 1944-47—concluded

Bank	Year	Cash Reserve Against Canadian Deposits[1]	Total Securities	Total Loans	Total Assets
		$	$	$	$
Royal Bank of Canada	1944	118,133,000	882,252,832	359,279,825	1,634,474,340
	1945	134,605,000	993,034,484	399,083,314	1,811,296,321
	1946	146,660,814	1,104,740,478	431,800,548	1,995,398,750
	1947	147,566,895	1,084,949,594	540,365,479	2,118,197,065
Dominion Bank	1944	25,076,000	136,092,959	69,123,864	258,058,097
	1945	30,014,000	160,663,455	75,842,878	296,836,249
	1946	32,736,010	176,992,982	89,038,551	332,271,132
	1947	35,421,016	159,404,148	121,986,102	355,193,069
Banque Canadienne Nationale	1944	24,652,000	169,260,772	54,475,871	270,164,970
	1945	32,092,000	190,293,060	69,077,946	313,284,691
	1946	34,686,416	204,576,423	89,386,811	352,811,873
	1947	37,873,976	189,986,112	126,880,830	382,157,076
Imperial Bank of Canada	1944	28,096,000	173,510,623	77,531,437	309,868,975
	1945	33,346,000	195,306,534	96,288,029	358,043,504
	1946	37,003,289	207,917,098	110,364,934	391,019,769
	1947	34,685,413	179,823,529	155,432,046	410,446,539
Barclays Bank (Canada)	1944	2,421,000	12,670,389	4,894,760	31,191,365
	1945	3,095,000	17,092,929	3,546,331	34,090,503
	1946	2,692,756	19,182,577	3,063,957	33,438,280
	1947	3,071,374	20,473,541	3,672,918	35,318,321
Totals	**1944**	**526,875,000**	**3,353,259,736**	**1,343,938,364**	**5,990,410,887**
	1945	**592,867,000**	**3,857,534,890**	**1,505,039,333**	**6,743,217,134**
	1946	**672,762,767**	**4,287,002,710**	**1,642,519,066**	**7,429,608,029**
	1947	**664,717,900**	**4,108,441,158**	**2,125,582,441**	**7,810,913,975**

[1] Excluding minor amounts of gold carried in such reserves. See also text immediately preceding this table.

17.—Principal and Total Liabilities of Individual Chartered Banks, 1944-47

NOTE.—The statistics in this table are averages computed from the twelve monthly returns in each year. Figures for earlier years will be found in the corresponding table in previous Year Books.

Bank	Year	Notes in Circulation	Deposit Liabilities			Liabilities to Shareholders	Total Liabilities
			Government	Public	Inter-Bank		
		$	$	$	$	$	$
Bank of Montreal	1944	8,770,833	167,328,192	1,155,761,450	35,777,518	75,000,000	1,461,056,947
	1945	7,067,683	193,298,719	1,312,621,038	38,841,363	75,000,000	1,644,374,047
	1946	5,819,690	159,989,224	1,490,593,250	41,424,119	75,750,000	1,794,284,674
	1947	5,014,146	132,565,145	1,587,909,440	42,717,117	78,500,000	1,873,510,575
Bank of Nova Scotia	1944	3,379,190	38,327,952	405,864,414	11,155,101	36,000,000	521,267,098
	1945	2,627,777	44,765,397	470,370,278	10,334,321	36,000,000	592,507,194
	1946	2,162,317	30,626,724	550,437,110	12,574,082	36,000,000	665,988,178
	1947	1,932,413	25,702,906	587,577,342	12,426,171	36,000,000	696,880,300
Bank of Toronto	1944	1,132,064	28,402,924	218,537,714	2,329,809	18,000,000	269,995,667
	1945	931,104	33,437,709	255,562,266	2,644,258	18,000,000	312,461,945
	1946	788,718	20,790,083	296,799,564	3,804,811	18,333,333	344,000,563
	1947	696,467	17,051,657	324,308,066	5,317,181	20,000,000	376,466,757
Provincial Bank of Canada	1944	977,137	5,867,589	90,631,964	41,155	5,000,000	102,674,119
	1945	664,250	7,023,998	106,912,715	72,055	5,000,000	119,828,249
	1946	493,212	4,461,904	126,364,229	89,758	5,166,667	137,051,857
	1947	384,708	3,011,102	133,264,087	94,608	6,000,000	143,775,718
Canadian Bank of Commerce	1944	7,483,844	95,035,197	925,337,039	18,866,975	50,000,000	1,120,756,466
	1945	5,951,853	108,869,350	1,037,577,161	21,031,368	50,000,000	1,247,138,372
	1946	4,865,235	83,533,919	1,176,811,329	23,828,070	52,500,000	1,375,343,222
	1947	4,099,159	68,773,283	1,215,893,902	19,689,013	60,000,000	1,412,882,716

17.—Principal and Total Liabilities of Individual Chartered Banks, 1944-47—concluded

Bank	Year	Notes in Circulation	Deposit Liabilities			Liabilities to Shareholders	Total Liabilities
			Government	Public	Inter-Bank		
		$	$	$	$	$	$
Royal Bank of Canada	1944	10,252,560	130,358,216	1,369,275,745	25,292,090	55,000,000	1,630,586,822
	1945	7,742,985	147,554,397	1,525,668,270	25,446,212	55,000,000	1,806,882,175
	1946	6,154,119	103,365,942	1,709,606,112	42,960,011	58,333,334	1,990,782,082
	1947	5,098,648	84,222,561	1,816,826,776	54,770,577	75,000,000	2,116,395,179
Dominion Bank	1944	1,394,166	24,601,509	207,799,067	3,554,833	14,000,000	256,941,539
	1945	1,082,521	26,596,644	239,763,242	6,339,955	14,000,000	295,590,782
	1946	851,661	20,852,310	278,694,006	6,859,378	14,500,000	331,057,224
	1947	713,331	19,081,958	300,609,534	5,920,544	16,250,000	354,014,415
Banque Canadienne Nationale	1944	1,751,239	18,186,869	233,807,035	2,775,445	12,000,000	269,063,320
	1945	1,127,306	24,563,045	270,067,618	3,453,767	12,000,000	311,954,331
	1946	863,453	15,478,088	318,262,723	3,977,782	12,333,333	352,389,538
	1947	726,021	10,963,421	349,373,975	5,082,650	14,000,000	381,717,338
Imperial Bank of Canada	1944	1,513,474	56,797,922	227,432,798	4,476,631	15,000,000	308,214,905
	1945	1,238,610	62,002,499	267,764,839	5,388,189	15,000,000	356,125,943
	1946	1,046,999	40,674,465	319,223,972	7,334,188	15,000,000	389,891,738
	1947	916,549	38,557,586	335,925,845	8,906,301	15,500,000	409,270,368
Barclays Bank (Canada)	1944	401,680	4,761,778	18,187,604	4,224,173	2,250,000	31,136,212
	1945	202,085	4,536,331	21,042,460	4,529,209	2,250,000	34,004,638
	1946	127,313	3,549,553	21,440,646	4,447,088	2,250,000	33,357,008
	1947	94,552	4,111,656	19,625,642	6,876,702	2,250,000	35,214,083
Totals	**1944**	**37,056,187**	**569,668,148**	**4,852,634,830**	**108,493,730**	**282,250,000**	**5,971,693,095**
	1945	**28,636,174**	**652,648,089**	**5,507,349,887**	**118,080,697**	**282,250,000**	**6,720,867,676**
	1946	**23,172,717**	**483,322,212**	**6,288,232,941**	**147,299,287**	**290,166,667**	**7,414,146,084**
	1947	**19,675,994**	**404,041,275**	**6,671,314,609**	**161,800,864**	**323,500,000**	**7,800,127,449**

Earnings of Chartered Banks.—The chartered banks of Canada are for the most part Dominion-wide institutions, doing business in all parts of the country. Their earnings, therefore, reflect with very considerable accuracy the fluctuations of general business.

18.—Net Profits of Chartered Banks and Rates of Dividend Paid, for Their Business Years Ended 1942-47

Bank	1942		1943		1944	
	Net Profits	Dividend Rate	Net Profits	Dividend Rate	Net Profits	Dividend Rate
	$	p.c.	$	p.c.	$	p.c.
Bank of Montreal	2,783,018	8-6	2,802,834	6	2,694,300	6
Bank of Nova Scotia	1,400,262	12-10	1,252,962	10	1,045,420[1]	10
Bank of Toronto	964,729	10	829,807	10	996,271	10
Provincial Bank of Canada	231,013	6-5	210,069	5	208,542	5
Canadian Bank of Commerce	2,327,348	8-6	2,044,334	6	2,046,972	6
Royal Bank of Canada	2,675,123	8-6	2,656,289	6	2,532,183	6
Dominion Bank	665,990	10-8	659,249	8	665,974	8
Banque Canadienne Nationale	651,815	8-6	601,266	6	471,027	6
Imperial Bank of Canada	686,149	10-8	686,934	8	695,336	8
Barclays Bank (Canada)	[2]	–	[2]	–	[2]	–
Totals, Net Profits	**12,385,447**	–	**11,743,744**	–	**11,356,025**	–

For footnotes, see end of table, p. 1044.

18.—Net Profits of Chartered Banks and Rates of Dividend Paid, for Their Business Years Ended 1942-47—concluded

Bank	1945		1946		1947	
	Net Profits	Dividend Rate	Net Profits	Dividend Rate	Net Profits	Dividend Rate
	$	p.c.	$	p.c.	$	p.c.
Bank of Montreal	2,934,681	6	4,487,782	8[3]	5,423,285	8
Bank of Nova Scotia	1,304,497	10	1,588,455	10–12[4]	1,992,277	12[5]
Bank of Toronto	935,137	10	1,194,458	12	1,187,762	12
Provincial Bank of Canada	239,960	5	246,284	5–6[4]	321,507	6–7[4]
Canadian Bank of Commerce	2,195,527	6	2,851,240	6–8[4]	3,201,108	8[5]
Royal Bank of Canada	3,098,847	6	4,020,895	8	4,981,832	8–10[4]
Dominion Bank	653,241	8	860,768	8–10[4]	971,678	8–10[4]
Banque Canadienne Nationale	478,073	6	506,590	7	528,970	7–8[4]
Imperial Bank of Canada	701,445	8	717,300	10	840,659	10
Barclays Bank (Canada)	[2]	–	[2]	–	[2]	–
Totals, Net Profits	**12,541,408**	–	**16,473,772**	–	**19,449,078**	–

[1] Ten months only, due to change in Bank's fiscal year end. [2] Not reported. [3] Includes extra distribution of 15 cents a share. [4] Increased. [5] Exclusive of extra dividend of 20 cents a share.

Branches of Chartered Banks.—During the period from 1881 to 1901, the number of chartered banks doing business in Canada under the Bank Act remained almost the same (36 in 1881 and 1891, and 34 in 1901), but during the present century there has been in banking, as in industry, an era of amalgamations, the number of banks having dropped to 25 in 1913 and to 10 in 1931. That this has been far from involving a curtailment of banking facilities is seen in Table 9, which shows the development of the banking business since 1933, and in Table 19, which compares the number of branch banks existing in Canada at different periods, and indicates a growth from 123 in 1868 to 4,676, inclusive of sub-agencies, at Dec. 31, 1920. As at Dec. 31, 1944, the total stood at 3,087 (exclusive of 132 branches and 3 sub-agencies in other countries) the reduction having resulted from the closing of some unprofitable branches, and also from contractions brought about by war-time conditions. By Dec. 31, 1947, the total had increased to 3,323 (excluding 136 branches and four sub-agencies outside Canada).

19.—Branches of Chartered Banks in Canada, by Provinces, as at Dec. 31, 1868, 1902, 1905, 1920, 1926, 1930, 1940 and 1943-47

Province	1868	1902	1905	1920[1]	1926[1]	1930[1]	1940[1]	1943[1]	1944[1]	1945[1]	1946[1]	1947[1]
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Prince Edward Island	Nil	9	10	41	28	28	25	23	23	23	23	23
Nova Scotia	5	89	101	169	134	138	134	126	126	126	127	128
New Brunswick	4	35	49	121	101	102	97	93	93	94	96	96
Quebec	12	137	196	1,150	1,072	1,183	1,083	1,041	1,042	1,045	1,067	1,091
Ontario	100	349	549	1,586	1,326	1,409	1,208	1,092	1,091	1,098	1,117	1,156
Manitoba	Nil	52	95	349	224	239	162	148	148	148	151	153
Saskatchewan	"	30	87	591	427	447	233	213	213	214	226	231
Alberta				424	269	304	172	163	164	168	190	202
British Columbia	2	46	55	242	186	229	192	180	180	184	216	237
Yukon and N.W.T.	Nil	Nil	3	3	3	4	5	5	7	6	6	6
Totals	**123**	**747**	**1,145**	**4,676**	**3,770**	**4,083**	**3,311**	**3,084**	**3,087**	**3,106**	**3,219**	**3,323**

[1] Includes sub-agencies for receiving deposits for the banks employing them.

20.—Branches of Individual Canadian Chartered Banks in Each Province and Outside Canada, as at Dec. 31, 1947

NOTE.—This table does not include sub-agencies which numbered 652 in 1947, including four outside Canada.

Bank	P.E. Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba
	No.	No.	No.	No.	No.	No.
Bank of Montreal	1	12	14	105	175	25
Bank of Nova Scotia	8	37	35	22	118	6
Bank of Toronto	Nil	Nil	Nil	16	121	13
Provincial Bank of Canada	2	"	10	107	12	Nil
Canadian Bank of Commerce	6	16	7	61	209	32
Royal Bank of Canada	5	61	21	79	196	52
Dominion Bank	Nil	Nil	1	10	93	12
Banque Canadienne Nationale	"	"	Nil	210	10	3
Imperial Bank of Canada	"	"	"	4	108	6
Barclays Bank (Canada)	"	"	"	1	1	Nil
Totals	**22**	**126**	**88**	**615**	**1,043**	**149**

Bank	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.	Outside Canada	Total
	No.	No.	No.	No.	No.	No.
Bank of Montreal	35	45	49	1	11	473
Bank of Nova Scotia	19	10	20	Nil	38	313
Bank of Toronto	24	12	13	1	Nil	200
Provincial Bank of Canada	Nil	Nil	Nil	Nil	"	131
Canadian Bank of Commerce	45	43	61	3	13	496
Royal Bank of Canada	73	49	52	Nil	71	659
Dominion Bank	5	5	4	"	2	132
Banque Canadienne Nationale	1	Nil	Nil	"	1	225
Imperial Bank of Canada	23	21	16	1	Nil	179
Barclays Bank (Canada)	Nil	Nil	1	Nil	"	3
Totals	**225**	**185**	**216**	**6**	**136**	**2,811**

The number of branches of Canadian banks doing business outside Canada increased rapidly during the First World War and the early post-war period, rising to a total of 206 in 1921. The number has gradually declined to 136 in 1947.

21.—Branches of Individual Canadian Chartered Banks Outside Canada, with their Locations, as at Dec. 31, 1946 and 1947

Bank and Location	1946	1947	Bank and Location	1946	1947
	No.	No.		No.	No.
Bank of Montreal—			Royal Bank of Canada—		
Newfoundland	6[1]	6[2]	Newfoundland	8	8
England	2	2	England	2	2
United States	3	3	British West Indies	11	12
Bank of Nova Scotia—			United States	1	1
Newfoundland	14	14	Cuba	17	17
England	1	1	Puerto Rico	3	3
British West Indies	11[3]	12[3]	Central and South America	21	21
Dominican Republic	1	1	Haiti	1	1
United States	1	1	Dominican Republic	5	5
Cuba	7	7	France	1	1
Puerto Rico	2	2	Dominion Bank—		
Canadian Bank of Commerce—			England	1	1
Newfoundland	2	3	United States	1	1
England	1	1	Banque Canadienne Nationale—		
British West Indies	4	4	France	1	1
United States	5	5			
			Totals	**133[2]**	**136[4]**

[1] Exclusive of two sub-agencies. [2] Exclusive of three sub-agencies. [3] Exclusive of one sub-agency. [4] Exclusive of four sub-agencies.

Section 6.—Government and Other Savings Banks

There are three distinct types of savings bank in Canada in addition to the savings departments of the chartered banks and of trust and loan companies. First there is the Post Office Savings Bank, in which the deposits are a direct obligation of the Federal Government. Secondly, there are Provincial Government savings banking institutions in Ontario and in Alberta, where the depositor becomes a direct creditor of the province. Thirdly, there are, in the Province of Quebec, two important savings banks, the Montreal City and District Savings Bank and La Banque d'Economie de Québec, established under Federal legislation and reporting monthly to the Department of Finance. Other agencies for the promotion of thrift are the co-operative credit unions, which encourage the regular saving of amounts too small to deposit in a bank.

Post Office Savings Bank.—The Post Office Savings Bank was established under the Post Office Act of 1867 (31 Vict., c. 10) in order to "enlarge the facilities now available for the deposit of small savings, to make the Post Office available for that purpose, and to give the direct security of the Dominion to every depositor for repayment of all money deposited by him together with the interest due thereon". Branches of the Federal Government Savings Bank under the Department of Finance were gradually amalgamated with this Bank over a period of 50 years, the amalgamation being completed in March, 1929.

22.—Financial Business of the Post Office Savings Bank, as at Mar. 31, 1942-47

NOTE.—Figures of total deposits for 1868-1917 will be found at pp. 833-834 of the 1926 Year Book and for 1918-41 at p. 978 of the 1946 edition.

Item	1942	1943	1944	1945	1946	1947
	$	$	$	$	$	$
Deposits—						
Total	21,671,413	24,373,991	28,296,208	33,468,799	35,537,154	35,764,512
Made during year	5,050,677	8,386,979	13,844,802	18,568,005	18,686,476	13,834,474
Interest on deposits	423,762	438,910	499,570	581,472	656,456	681,694
Totals, cash and interest	5,474,439	8,825,889	14,344,372	19,149,477	19,342,932	14,516,168
Withdrawals	5,979,658	6,123,311	10,422,155	13,977,025	17,274,578	14,288,809

Provincial Government Savings Banks.—Institutions for the deposit of savings are operated by the Provincial Governments of Ontario and Alberta. A similar institution was in operation in Manitoba from 1924 to 1932, when the depositors' accounts were taken over by the chartered banks.

Ontario.—The establishment of the Province of Ontario Savings Office was authorized by the Ontario Legislature at the 1921 session and in March, 1922, the first branches were opened. Interest at the rate of 1 and 1½ p.c. per annum compounded half-yearly is paid on accounts. The deposits are repayable on demand. Total deposits on Mar. 31, 1948, were $63,489,000, and the number of depositors at that date was approximately 100,000. Twenty-two branches are in operation throughout the Province.

Alberta.—In Alberta, the Provincial Treasury receives savings deposits and issues demand savings certificates bearing interest at 1½ p.c., or term certificates for one, two, three, four or five years, in denominations of $25 and upwards, bearing

interest at 2 p.c. for one or two years, 2¼ p.c. for three or four years and 2½ p.c. for five years. The total amount in savings certificates on Dec. 31, 1947, was $1,029,477 made up of $204,137 in demand certificates and $825,340 in term certificates.

In addition, savings deposits are accepted at 44 Provincial Treasury Branches throughout the Province. The total of these deposits at Dec. 31, 1947, was $12,044,252 made up of $8,036,003 bearing interest at ½ of 1 p.c. to 1½ p.c. and payable on demand, and $4,008,249 bearing interest at 1 p.c. to 2 p.c. and payable one year after deposit.

Penny Banks.—Provision was made by the Penny Bank Act (R.S.C., 1927, c. 13) for the institution of banks designed to encourage small savings by school children, although their facilities are not confined to children. The only bank established under this statute was the Penny Bank of Ontario but its operations were suspended in February, 1943, in order that the school children might concentrate on the purchase of War Savings Stamps and Certificates. At the end of April, 1948, a measure was introduced in the Federal Legislature to provide for the winding-up of the Bank and the repeal of the Penny Bank Act.

Other Savings Banks.—The Montreal City and District Savings Bank, founded in 1846 and now operating under a charter of 1871, had on Mar. 31, 1948, a paid-up capital and reserve of $6,000,000, savings deposits of $147,837,937, and total liabilities of $155,013,575. Total assets amounted to $154,955,395, including about $125,000,000 of Federal, provincial and municipal securities. La Banque d'Economie de Québec, founded in 1848 (as La Caisse d'Economie de Notre-Dame de Québec) under the auspices of the St. Vincent de Paul Society, incorporated by Act of the Canadian Legislature in 1855, and given a Dominion charter by 34 Vict., c. 7, had on Mar. 31, 1948, savings deposits of $22,265,849, a paid-up capital and reserve of $3,000,000, and total assets of $26,856,548.

Table 23 shows the savings deposits in the Montreal City and District Savings Bank and La Banque d'Economie de Québec for the years ended Mar. 31, 1934-48.

23.—Deposits in the Montreal City and District Savings Bank and La Banque d'Economie de Québec, Years Ended Mar. 31, 1934-48

NOTE.—Figures for the years 1868-1926 appear at pp. 833-834 of the 1926 Year Book; for the years 1927-33 at p. 980 of the 1946 edition.

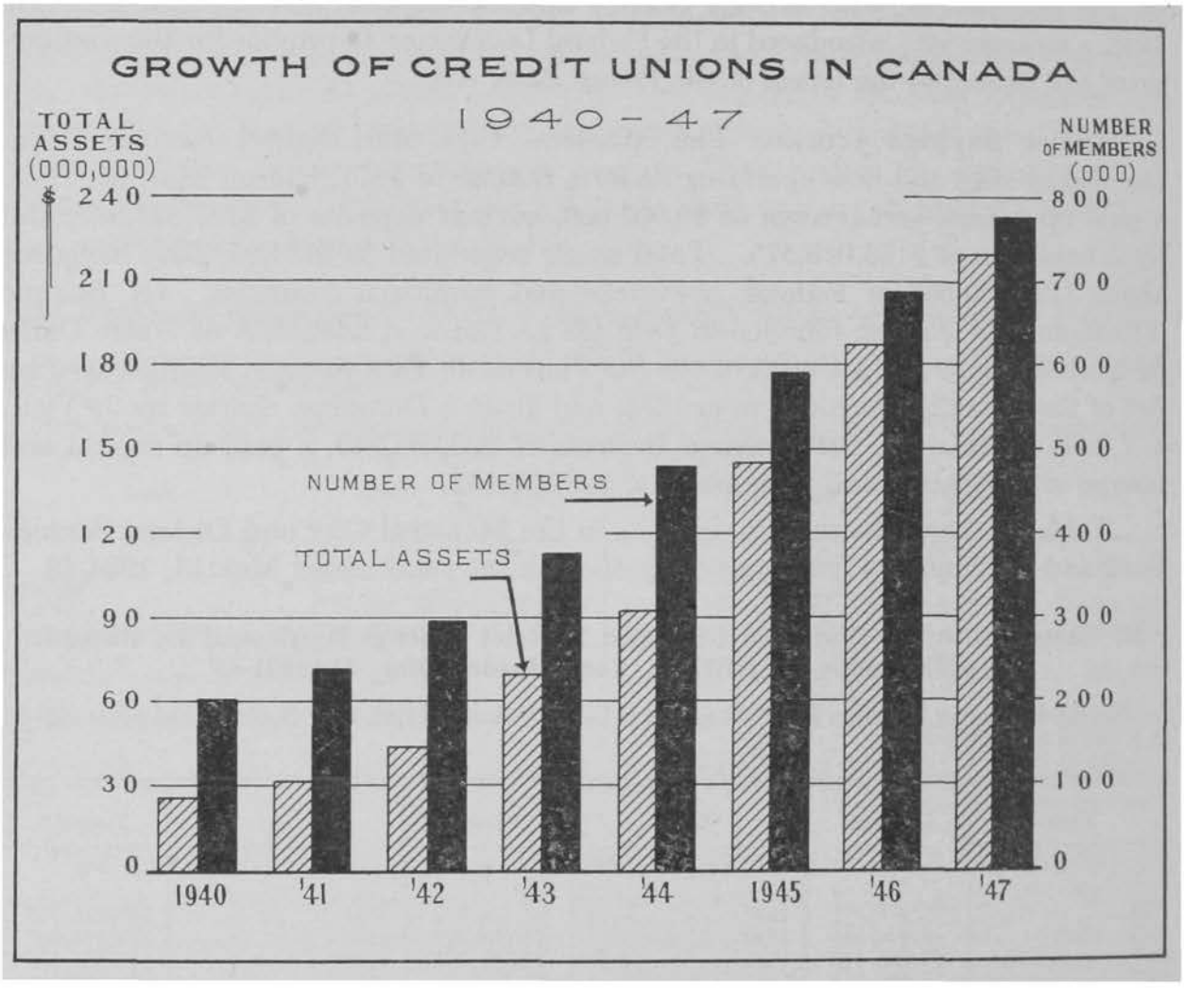
Year	Deposits	Year	Deposits	Year	Deposits
	$		$		$
1934	66,673,219	1939	81,566,754	1944	103,276,757
1935	66,496,595	1940	79,838,963	1945	122,574,607
1936	69,665,415	1941	76,391,775	1946	140,584,525
1937	73,450,133	1942	74,386,412	1947	153,137,545
1938	77,260,433	1943	84,023,772	1948	170,103,786

Credit Unions.*—The idea of co-operative credit was introduced in North America in 1900 when Alphonse Desjardins established the first "People's Bank" or "Caisse Populaire" at Lévis in the Province of Quebec. In this Province the credit union movement is strongest and in 1947 there were 1,030 such groups operating. Some credit unions were organized in Ontario shortly after the first Quebec groups were organized, but not until 1922 was there any legislation in

* Prepared by J. E. O'Meara, Economics Division, Department of Agriculture, Ottawa.

Ontario providing for their incorporation. Credit unions were unknown in other provinces until they were organized and sanctioned by legislation in Nova Scotia in 1935. From that year on the idea spread quite rapidly to all the provinces, and by 1939 all Provincial Governments had enacted legislation providing for the incorporation or registration of credit unions.

Since 1940 the number of credit unions in Canada has increased by 1,379. Membership has increased by over 500,000 and total assets by almost $200,000,000. As yet there is little indication of any falling off in the rate of increase in members and assets although in most provinces the number of new credit unions seems to be slowing down. The particularly rapid increase in assets has resulted in an advance in the average share investment and average equity in assets per member. Strengthening of the financial and membership figures seems to be continuing in every province.



Total deposits at the end of 1947 were about $175,000,000 compared with $151,000,000 in 1946. Total assets in 1947 were about $220,500,000 which is an increase of approximately $33,000,000 over 1946. Membership also continued to increase until in 1947 there were over 775,100 members in Canada compared with 688,600 reported in 1946.

In 1946 Prince Edward Island reported having lent nearly $1,500,000 in the ten years since the first credit union was organized. Uncollectable loans charged off amounted to $1,041, a loss of one-fourteenth of one per cent. Ontario experienced a sharp rise in the amount of bad loans written off, but this was attributed to a

closing out of long-standing uncollectable loans. New Brunswick reported loans written off since inception of $2,116, or one-fortieth of one per cent of a total of over $8,000,000. Manitoba credit unions wrote off $1,143 in uncollectable loans, a sharp increase over 1945. British Columbia reported 17 loans written off to the amount of $426. Other provinces report small losses over the years.

Leagues and Federations.—In every province of Canada, credit unions are organized into groups known as federations or leagues. Quebec has two federations and one league. In 1946 there was incorporated in Ontario a regional league known as La Fédération des Caisses Populaires Ottawa et Districts, Limitée, and in 1947 another regional league located in the north-eastern part of the Province was incorporated. These organizations are in addition to the already established Ontario Credit Union League, Limited.

During 1946 the legislature of New Brunswick passed an Act respecting the incorporation of credit union federations which is to be known as the Credit Union Federations Act.

Mainly, the objects of these leagues and federations are to encourage and assist in educational and advisory work regarding credit unions, to assist in management, bookkeeping and accounting and to arrange for group bonding and the purchase of supplies. In some provinces magazines or newspapers have been established to assist in carrying out these objectives. Among these are the *Revue Desjardins* in Quebec, *The Ontario Credit Union News* in Ontario, *The Credit Union Way* in Saskatchewan and the *B.C. Credit Unionist* in the coast province. Bookkeeping manuals have been prepared and published in some provinces and have proven of great assistance in uniform operation and accounting and simplified to some extent the work of the supervisors and inspectors.

Some leagues operate a central loan department where credit unions—and in some provinces, co-operative associations—may deposit surplus funds to be lent to other credit unions or co-operatives.

In British Columbia a central credit union is incorporated under the Credit Unions Act. In Alberta the League operates a Deposit and Loan Department, and is planning a central credit union as a result of certain amendments to existing legislation.

Saskatchewan operates a central credit union known as the Saskatchewan Co-operative Credit Society, Limited. In 1946 this society, whose membership is open to credit unions and co-operative associations, reported 253 members, assets of $1,755,733 and loans of $4,546,000.

Manitoba has a central credit union in connection with the provincial federation and these two bodies have a joint manager.

The Ontario Credit Union League operates a central credit department. The new federations in Ontario are permitted to receive moneys from and make loans to member credit unions.

Because of the large number of credit unions or caisses populaires operating in the Province of Quebec there are eight regional credit unions in the province with assets of over $21,000,000 in 1947. They are situated at Three Rivers, Quebec, Gaspe, Montreal, Sherbrooke, Rimouski, Western Quebec and Joliette. The Montreal Federation of Caisses Desjardins also has a caisse centrale and reported total assets of nearly $500,000 in 1947. The Quebec Credit Union League

comprises the English-speaking credit unions on the Island of Montreal and has the power to do loan business with its member credit unions, though it has not done so as yet.

During 1946 the league in New Brunswick was in the process of reorganization as a result of the new Credit Union Federations Act and accordingly was not very active.

The Prince Edward Island Credit Union League, Limited, is also authorized to establish a share and loan department in which any credit union or incorporated co-operative association may be admitted to membership.

In Nova Scotia the League has the power to receive moneys on deposit from credit unions and to make loans to members. Thus the league operates a Deposit and Loan Department which reported assets at Nov. 30, 1946, of $634,935.

Through their affiliation with the Credit Union National Association in the United States (see International Developments below) many credit unions in Canada insure their savings and loans. Bonding of treasurers is also available.

In Quebec, through the Fédération des Caisses Populaires Desjardins, loans to members are insured if the individual caisse so desires. Bonding of treasurers has been in effect for some time and lately "La Société d'Assurance des Caisses Populaires" has bonded managers and also insured the caisses against theft or burglary and also fire.

International Developments.—Most provincial leagues are affiliated with the Credit Union National Association (CUNA), in the United States. This Association maintains a Canadian office at Hamilton, Ont., to look after savings and loan insurance of affiliated credit unions. The Canadian Credit Union Federation was dissolved in May, 1947, mainly because it was felt that this Federation was a duplication of CUNA services and also a duplication of the services of the Co-operative Union of Canada to which many leagues belong through membership in their own provincial Co-operative Union.

Developments in 1946.—During the year 1946 an arrangement was made in Prince Edward Island whereby the Provincial Government passed over to the Provincial Credit Union League the responsibility for the administration, inspection and general supervision of credit unions in the Province. A similar agreement exists in the Province of Quebec whereby federations organized under Sect. 49 of the Syndicates Act have the responsibility for promotion and general supervision of the individual caisses belonging to the federations or leagues.

Credit unions were incorporated under a Section of the Companies Act but on May 15, 1946, a new Credit Union Act came into force in Manitoba. Under the new Act the main amendment concerned the disposition of earnings. Credit unions now file their annual returns with the Supervisor of Credit Unions instead of with the Provincial Secretary.

During 1947 preliminary study of the possibility of the organization of a credit union on a national basis was begun. The main idea is to organize a national co-operative credit society which would act as a central credit union for the various provincial credit societies. A committee of the Co-operative Union of Canada is conducting the preliminary work and two provinces which now have loan departments of their leagues are planning to incorporate these loan departments as separate central credit unions.

24.—Growth of Credit Unions in Canada, 1915-47

Year	Provinces in Which Unions Exist	Credit Unions	Members	Assets
	No.	No.	No.	$
1915	1[1]	91	23,614	2,027,728
1920	1[1]	113	31,752	6,306,965
1925	1[1]	122	33,279	8,261,515
1930	2[2]	179	45,767	11,178,810
1935	3[3]	277	52,045	10,173,997
1937	7[4]	441	77,177	13,759,468
1939	9	844	151,554	20,680,594
1940	9	1,167	201,137	25,069,685
1941	9	1,314	238,463	31,230,813
1942	9	1,486	295,984	43,971,925
1943	9	1,780	374,069	69,219,654
1944	9	2,051	478,841	92,574,440
1945	9	2,219	590,794	145,890,889
1946	9	2,422	688,739	187,507,303
1947	9	2,546	775,129	220,493,199

[1] Quebec. [2] Quebec and Ontario. [3] Quebec, Ontario and Nova Scotia. [4] Quebec, Ontario, Nova Scotia, Prince Edward Island, New Brunswick, Manitoba and Saskatchewan.

25.—Statistical Summary of Credit Unions, by Provinces, 1946 and 1947

NOTE.—The credit union fiscal year in P.E.I., N.S. and N.B. ends Sept. 30; in the other provinces it ends Dec. 31.

Province	Credit Unions Chartered	Credit Unions Reporting	Members	Assets	Shares	Deposits	Loans to Members During Year	Total Loans Since Inception
1946	No.	No.	No.	$	$	$	$	$
P.E.I.	52	52	9,023	582,917	423,254	128,158	355,985	1,437,700
N.S.	219	219	35,879	3,160,801	2,848,164	91,004	2,395,733	12,160,025
N.B.	160	155	35,674	3,509,370	3,047,208	150,300	2,368,609	8,443,019
Que.—								
Desjardins	986	978	437,764	152,176,133[1]	9,076,131[1]	136,896,680[1]	30,000,000[2]	239,735,698[3]
Que. League[4]	–	–	–	–	–	–	–	–
Montreal Fed.	9	9	13,051	6,963,392	572,715	6,069,550	1,781,022	10,921,061
Ont.	304	281	63,817	9,305,881	4,010,194	4,472,475	6,431,716	31,076,171
Man.	112	104	20,023	2,077,772	876,915	1,102,484	1,798,162	4,992,634
Sask.	185	185	30,250	5,024,272	3,041,695	1,544,736	3,627,771	9,688,380
Alta.	195	182	20,766	1,997,187	1,538,544	300,918	1,955,559	6,064,596
B.C.	200	161	22,392	2,709,578	2,210,812	302,972	2,504,862	6,135,467
Totals, 1946	**2,422**	**2,326**	**688,639**	**187,507,303**	**27,645,632**	**151,059,277**	**53,219,419**	**330,654,751**
1947								
P.E.I.	52	52	9,397	631,945	456,208	105,594	423,236	1,860,778
N.S.	219	219	36,216	3,441,580	2,925,325	72,074	2,255,584	14,415,609
N.B.	168	151	39,666	4,049,421	3,568,810	128,434	2,942,076	11,410,030
Que.—								
Desjardins	1,021	1,011	486,836	176,372,026	10,980,964	157,500,068	50,000,000[2]	271,024,709
Que. League[4]	–	–	–	–	–	–	–	–
Montreal Fed.	9	9	14,437	7,955,855	653,852	6,965,736	1,810,984	12,732,045
Ont.	333	293	76,081	12,253,285	5,742,630	5,301,223	9,372,635	39,626,070
Man.	122	109	22,493	2,890,456	1,292,967	1,406,531	2,802,287	8,073,642
Sask.	194	194	34,020	6,277,607	3,980,363	1,752,962	4,649,149	14,317,818
Alta.	208	190	22,758	2,468,563	1,939,951	305,833	2,307,186	8,371,781
B.C.	220	174	33,225	4,152,461	3,271,271	517,477	3,646,895	8,950,905
Totals, 1947	**2,546**	**2,402**	**775,129**	**220,493,199**	**34,812,341**	**174,055,932**	**80,210,032**	**390,783,387**

[1] Assets, shares and deposits of the caisses regionales are not included. [2] Estimate. [3] Excludes investment loans since 1935. [4] No report received.

Section 7.—Foreign Exchange

Subsection 1.—Exchange Rates

The Canadian dollar, adopted as Canada's currency in 1857, was equivalent to 15/73 of the pound sterling; in other words, the pound was equal to $4·866 in Canadian currency at par, and remained so, with minor variations between the import and export gold points representing the cost of shipping gold in either direction, until the outbreak of the First World War. During the first eleven years after Confederation, the Canadian dollar was at a premium in the United States, as the United States dollar was not, after the Civil War, redeemable in gold until 1878. From the latter date, the dollar in the two countries was equivalent at par, and variation was only between the import and export gold points or under $2 per $1,000.

At the outbreak of the First World War, both the pound sterling and the Canadian dollar were removed from the gold standard, and fell to a discount in New York. However, this discount was 'pegged' or kept at a moderate percentage by sales of United States securities previously held in the United Kingdom, by borrowing in the United States and, after the United States entered the War, by arrangement with the United States Government. After the War, when the exchanges were 'unpegged' about November, 1920, the British pound went as low as $3·18 and the Canadian dollar as low as 82 cents in New York. In the course of the next year or two, exchange returned practically to par, and the United Kingdom resumed gold payments in April, 1925, and Canada on July 1, 1926. From then until 1928 the exchanges were within the gold points, but in 1929 the Canadian dollar again fell to a moderate discount in New York. The dislocation of exchange persisted, with the exception of a few months in the latter half of 1930, into 1931. Dollar rates were below the gold export points, however, only for a few scattered intervals.

The 1942 Year Book at pp. 829-830 deals with the pre-war position of Canadian exchange from September, 1931, to the outbreak of war.

At the beginning of the Second World War sterling and Canadian funds, like those of the other initial belligerents, fell to a discount at New York. The pegged official rates remained unchanged throughout the War. On July 5, 1946, the Canadian Government devalued the United States dollar in relation to the Canadian dollar bringing it to parity with the former. A corresponding adjustment was made to sterling, the rate being established at $4·02 to the pound. This relationship remained unchanged at the beginning of 1948.

Subsection 2.—The Foreign Exchange Control Board*

Wartime controls exercised by the Foreign Exchange Control Board are dealt with at pp. 833-835 of the 1941 Year Book and at pp. 830-833 of the 1942 edition. In March, 1946, the Board published a report covering the main aspects of the operations from September, 1939, to the end of 1945, a summary of which may be found at pp. 981-983 of the 1946 Year Book. In April, 1947, the Board published a report of its operations in 1946, a summary of which may be found at pp. 1044-1047 of the 1947 Year Book. The following paragraphs are based on the Board's report for 1947, published in April, 1948.

* Prepared by R. H. Tarr, Secretary, Foreign Exchange Control Board, Ottawa.

Decline in Foreign Exchange Reserves.—During 1947 Canada's holdings of gold and United States dollars dropped from $1,245,000,000 at the beginning of the year to $502,000,000 at the end.* This decline was the result of the balance of international payments for 1947, which is dealt with in detail in the Foreign Trade Chapter at pp. 932-936. In brief, the outstanding developments during the year in Canada's balance of payments were a reduction in the over-all current account surplus (from $357,000,000 in 1946 to $47,000,000 in 1947) and an increase in the bilateral disequilibrium, i.e., an increase in the current surplus with the United Kingdom and Western Europe and in the current deficit with the United States. In 1947, as in 1946, Canada's large export surplus with the Sterling Area and with other overseas countries resulted in a serious financing problem. The Canadian dollar deficit of each group was met in approximately equal parts by transfers of convertible exchange to Canada and by loans extended by the Canadian Government. These loans totalled $563,000,000. All Canada's imports during the year were paid for in cash, and since total imports and exports were almost in balance, sales on credit resulted in a nearly equivalent drain on Canada's exchange reserves.

Changes in Control During 1947.—The operations of exchange control throughout 1947 were governed by the Foreign Exchange Control Act and by the Regulations thereunder passed by the Governor in Council. Various changes were made in the Regulations and in administrative policy during the year, which, for the most part, represented a tightening of the control. However, the major steps taken to deal with the severe exchange losses in 1947 were measures of Government policy other than exchange control measures.

In March, 1947, the exemption was eliminated from permit for purchases of United States currency from banks to an amount not exceeding $100. In May, 1947, the Regulations were further amended to reduce from $100 to $10 the amount of United States banknotes and coin that a resident may hold without special permission and at the same time the exemption from permit for the export of currency by Canadian travellers was reduced to $10 in United States currency and a total of $25 in both United States and Canadian currency. In November, 1947, as part of the Government's program to conserve United States dollar resources, the Board was instructed to limit the amount of United States dollars made available to Canadian residents for travel purposes to an annual ration of $150, except where the travel is for genuine business, health or educational purposes.

At the same time as the introduction of the United States dollar travel ration, the maximum amount of funds which a resident of Canada who moves to the United States Dollar Area is permitted to transfer from Canada during the first year was reduced from $25,000 to $12,500. As in the past, United States dollars are not made available at the official rate for these transfers of capital. The transfers may, however, be made through free markets in the United States.

Since April, 1947, the Board has been approving certain types of capital payments by residents to non-residents only on condition that the non-residents concerned simultaneously reinvest Canadian dollars thus received in certain types of Canadian domestic securities. The principal payments affected by this change are payments of balances due on those inter-company accounts that represent capital

* At the end of 1948 Canada's holdings of gold and United States dollars had risen to $998,000,000. This figure includes $150,000,000 borrowed by the Canadian Government in the United States. Other factors contributing to the increase in reserves during 1948 will be discussed in the Board's report of its operations in 1948.

employed in Canada since before the Second World War, distributions on the winding-up, liquidation or reduction of capital of Canadian companies, payments of dividends in excess of current earnings, and payments of the proceeds of sales of real estate held as investments by non-residents.

The exchange control arrangements of the United Kingdom made it possible, commencing Jan. 1, 1947, for Canadian exporters and importers to trade on a sterling basis, as an alternative to United States dollars, with a number of Non-Sterling Area countries in addition to countries in the Sterling Area. The list of Non-Sterling Area countries covered by these arrangements was added to from time to time and by July 15, 1947, the United Kingdom had, for practical purposes, made the current sterling receipts of all other countries freely available for expenditure anywhere. On Aug. 19, 1947, the United Kingdom announced that it would be necessary to reimpose certain limitations on the transferability of sterling held by Non-Sterling Area countries because of the heavy drain on the United Kingdom's dollar resources. As a result, Canadian exporters could no longer obtain payment in sterling from Non-Sterling Area countries and Canadian importers could no longer pay sterling for imports from those countries. In consequence of the limitations imposed on the use of sterling, it was necessary for the Foreign Exchange Control Board to limit Canadian expenditures in the Sterling Area to sterling or Canadian dollars and the provision of United States dollars for that purpose in certain cases was accordingly discontinued. The end of sterling convertibility did not affect in any material way transactions between Canada and Sterling Area countries. Canadian exporters, as in the past, accepted payment in sterling for exports to the Sterling Area. Similarly, Canadian importers pay sterling to the Sterling Area for imports from Sterling Area countries.

In the course of the year, United States dollars ceased to be made available for the commencement of new operations outside Canada by Canadian residents, except where the new operations will be important as export outlets or as sources of necessary imports. Where in these cases large amounts are involved the stipulation may be made that the applicant obtain the funds required from sources outside Canada, for example by borrowing or issuing stock in the United States.

In September, 1947, the Board revised and standardized the method under which remittances of earnings by Canadian subsidiaries and branches of foreign companies would be approved. Applications for such remittances may be submitted three months after the close of the fiscal year to which they relate, and companies with accumulations of earnings are given the choice of remitting the amount of the earnings represented by either the first or last year of the accumulations. Calculation of the amount payable is also subject to adjustment for capital profits, the customary allowances for tax purposes, depreciation, reserves, etc., and consideration is given also as to whether or not special financing is required to make the remittance.

As a means of enabling the Board to give more careful scrutiny to applications for United States dollars, the Regulations were amended in October, 1947, to reduce from $100 to $25 the exemption from completion of a permit form for applications for United States dollars in forms other than currency. At the same time the authority of banks and the Post Office to sell United States dollars for benevolent remittances was reduced from $100 to $25 per applicant per month*. Larger applications are reviewed by the Board.

* In May, 1948, the authority of banks and the Post Office to sell United States dollars for benevolent remittances was reduced to $10 per applicant per month.

PART II.—MISCELLANEOUS COMMERCIAL FINANCE

Section 1.—Loan and Trust Companies*

The 1934-35 Year Book presents at p. 993 an outline of the development of loan and trust companies in Canada from 1844 to 1913.

The laws relating to loan and trust companies were revised by the Loan and Trust Companies Acts of 1914 (4-5 Geo. V, cc. 40 and 55), with the result that the statistics of provincially incorporated loan and trust companies ceased to be collected. However, summary statistics of provincial companies for 1945 and 1946 have been supplied by those companies and are included in Table 1 in order to complete the statistics for loan and trust companies throughout Canada. It is estimated that more than 90 p.c. of the business of provincial companies is represented in the figures, so that they may be accepted as fairly inclusive and representative of the volume of business transacted as compared with Dominion registered companies. The statistics of Tables 2 and 3 refer only to those companies operating under Dominion charter, except that, beginning with 1925, the statistics of loan companies and trust companies incorporated by the Province of Nova Scotia and brought by the laws of that Province under the examination of the Dominion Department of Insurance, have been included in Tables 2 and 3 as well as those for trust companies in New Brunswick since 1934 and in Manitoba since 1938. In 1920, the Dominion Department of Insurance took over from the Department of Finance the administration of the legislation concerning Dominion loan and trust companies.

The progress of the aggregate of loan company business in Canada is indicated by the increase in the book value of the assets of all loan companies from $188,637,298 in 1922 to $213,649,794 in 1931, and to $215,362,414 in 1946. The assets of trust companies (not including estates, trust and agency funds, which cannot be regarded as assets in the same sense as company and guaranteed funds) increased from $154,202,165 in 1928 to $305,368,533 in 1946. In the former year, the total of estates, trust and agency funds administered amounted to $1,077,953,643 and in 1946 to $3,150,872,594.

Functions of Loan Companies.—The principal function of loan companies is the lending of funds on first-mortgage security, the money thus made available for development purposes being secured mainly by the sale of debentures to the investing public and by savings-department deposits. In the war years from 1939 to 1945 the amount invested in mortgages declined by almost $27,000,000, which was practically all accounted for by an increase in the amount of bonds and stocks held. The 1946 figure of $73,000,000 was slightly higher than that for 1945. Of the loan companies operating under provincial charters, the majority conduct loan, savings and mortgage business, generally, in the more prosperous farming communities.

Functions of Trust Companies.—Trust companies act as executors, trustees and administrators under wills or by appointment, as trustees under marriage or other settlements, as agents or attorneys in the management of the estates of the

* Revised under the direction of R. W. Warwick, Superintendent of Insurance, Department of Insurance, Ottawa.

living, as guardians of minor or incapable persons, as financial agents for municipalities and companies and, where so appointed, as authorized trustees in bankruptcy. Such companies receive deposits for investment, but both the investing and lending of such deposits and of actual trust funds are restricted by law.

Statistics of Loan and Trust Companies.—The figures in Table 1 are of particular interest in the case of trust companies. On account of the nature of their functions, they are mainly provincial institutions, their chief duties being intimately connected with the matter of probate, which lies within the sole jurisdiction of the provinces.

1.—Operations of Provincial and Dominion Loan and Trust Companies as at Dec. 31, 1945 and 1946

Item	1945			1946		
	Provincial Companies[1]	Dominion Companies	Total	Provincial Companies[1]	Dominion Companies	Total
	$	$	$	$	$	$
Loan Companies—						
Assets (book values)	63,680,642	133,774,429	197,455,071	70,345,417	145,016,997	215,362,414
Liabilities to the public	38,305,320	102,665,372	140,970,692	44,343,248	113,605,949	157,949,197
Capital Stock—						
Authorized	27,393,545	56,000,000	83,393,545	26,683,425	56,000,000	82,683,425
Subscribed	16,430,440	21,208,600	37,639,040	15,871,620	21,364,000	37,235,620
Paid-up	14,766,356	17,546,687	32,313,043	14,512,425	17,584,586	32,097,011
Reserve and contingency funds	8,564,267	12,379,195	20,943,462	9,100,231	12,652,844	21,753,075
Other liabilities to shareholders	2,044,699	1,183,175	3,227,874	2,389,513	1,173,618	3,563,131
Total liabilities to shareholders	25,375,322	31,109,057	56,484,379	26,002,169	31,411,048	57,413,217
Net profits realized during year	1,174,261	651,448	1,825,709	1,283,081	1,153,125	2,436,206
Trust Companies—						
Assets (book values)						
Company funds	67,028,647	22,475,024	89,503,671	65,268,327	23,699,397	88,967,724
Guaranteed funds	136,074,768	53,149,577	189,224,345	154,216,706	62,184,103	216,400,809
Totals, Assets	203,103,415	75,624,601	278,728,016	219,485,033	85,883,500	305,368,533
Estates, trust, and agency funds	*2,754,475,732*	*363,332,677*	*3,117,808,409*	*2,758,442,016*	*392,430,578*	*3,150,872,594*
Capital Stock—						
Authorized	56,987,800	25,050,000	82,037,800	48,705,000	27,750,000	76,455,000
Subscribed	26,223,510	13,458,570	39,682,080	25,232,085	14,369,170	39,601,255
Paid-up	25,050,301	12,806,849	37,857,150	24,077,401	13,666,595	37,743,996
Reserve and contingency funds	21,434,632	6,932,540	28,367,172	22,139,978	7,396,948	29,536,926
Unappropriated surpluses	4,374,392	1,266,391	5,640,783	4,678,478	1,198,576	5,877,054
Net profits realized during year	2,693,109	1,034,174	3,727,283	3,009,779	1,290,478	4,300,257

[1] Excludes one loan company incorporated under the laws of Quebec whose capital stock and debentures have been issued largely outside of Canada.

2.—Assets and Liabilities of Loan Companies Chartered by or Supervised by the Federal Government, as at Dec. 31, 1937-46

NOTE.—For the years 1914-24, see p. 913 of the 1937 Year Book. Figures comparable to those shown below for the years 1925-36 are given at p. 985 of the 1946 edition. The figures appearing here include loan companies chartered by the Government of Nova Scotia, but inspected by the Dominion Department of Insurance. Figures given in this table do not include small loans companies (see Sect. 2, pp. 1059-1060).

Year	ASSETS						
	Real Estate[1]	Mortgages on Real Estate	Collateral Loans	Bonds, Debentures, Stocks, and Other Company Property	Cash on Hand and in Banks	Interest, Rents, etc., Due and Accrued	Total[2]
	$	$	$	$	$	$	$
1937	10,593,241	97,050,041	134,333	20,371,285	3,303,863	3,891,070	136,262,516
1938	10,436,985	97,104,591	112,270	20,204,905	3,714,627	3,669,841	136,139,642
1939	10,310,781	96,342,441	103,298	19,955,311	5,184,020	3,604,690	136,358,786
1940	10,256,835	93,618,467	83,334	20,295,836	4,862,808	3,750,882	133,713,412
1941	9,585,580	90,359,176	69,759	20,826,112	5,611,182	3,566,036	130,795,391
1942	9,078,029	86,545,342	344,072	21,723,698	5,023,723	3,244,175	126,662,960
1943	8,693,127	80,043,044	211,535	29,790,718	5,328,898	2,259,608	126,943,566
1944	7,326,593	73,668,635	216,488	41,864,820	6,301,334	1,311,945	130,945,859
1945	5,933,122	69,389,403	322,607	52,328,370	4,781,357	942,041	133,774,431
1946	5,210,385	73,238,639	119,989	59,223,096	6,287,779	875,744	145,016,997

Year	LIABILITIES							
	Liabilities to Shareholders			Liabilities to the Public				
	Capital Paid Up	Reserve Funds	Total[3]	Debentures and Debenture Stock		Deposits	Interest Due and Accrued	Total[4]
				Canada	Elsewhere and Sundries			
	$	$	$	$	$	$	$	$
1937	19,352,276	15,048,254	35,771,946	57,506,233	14,977,437	26,966,644	765,435	100,478,054
1938	19,340,788	14,757,224	35,478,233	57,073,555	14,959,522	27,668,490	705,622	100,655,486
1939	19,284,714	14,766,473	35,469,842	57,418,689	13,390,796	29,132,700	693,353	100,881,760
1940	19,145,919	14,262,422	34,711,441	57,579,361	12,074,573	28,276,323	678,528	98,988,451
1941	19,082,481	13,752,103	34,043,232	56,959,420	10,151,953	28,571,361	633,937	96,743,884
1942	19,038,552	13,258,225	33,524,916	55,746,073	8,269,161	27,966,674	629,124	92,976,410
1943	18,885,241	12,966,837	33,141,255	55,493,449	5,982,012	31,239,958	616,502	93,777,693
1944	18,848,684	12,834,013	33,096,778	54,350,562	3,732,950	38,749,273	648,751	97,780,572
1945	17,546,686	12,386,521	31,109,057	55,300,566	2,491,347	43,863,246	685,696	102,665,372
1946	17,584,585	12,652,845	31,411,048	56,519,776	1,918,814	54,047,133	724,062	113,605,949

[1] Book value of real estate for company use and other real estate. [2] Includes other assets.
[3] Includes other liabilities to shareholders. [4] Includes other liabilities to the public.

3.—Assets and Liabilities of Trust Companies Chartered by or Supervised by the Federal Government, as at Dec. 31, 1937-46

NOTE.—Figures for the years 1914-24 appear at pp. 914-915 of the 1937 Year Book. Figures comparable to those shown below for the years 1925-36 are given at pp. 986-987 of the 1946 edition. The figures of this table include statistics of trust companies chartered by the following Provincial Governments but brought, in the stated years, under the inspection of the Dominion Department of Insurance: Nova Scotia, 1925; New Brunswick, 1934; and Manitoba, 1938.

COMPANY FUNDS — ASSETS

Year	Loans		Real Estate[1]	Government, Municipal, School and Other Securities Owned	Stocks	Cash on Hand and in Banks	All Other Assets Belonging to the Companies	Total Assets of the Companies
	On Real Estate	On Stocks and Securities						
	$	$	$	$	$	$	$	$
1937	5,411,003	971,560	3,734,913	4,008,247	657,507	724,846	1,900,231	17,408,307
1938	6,116,342	901,935	4,518,886	4,423,228	1,103,090	1,020,266	2,163,727	20,247,474
1939	6,269,736	816,795	4,421,183	4,402,444	1,180,163	1,025,731	2,060,366	20,176,418
1940	6,714,158	677,384	4,206,914	4,662,449	1,221,470	951,975	1,775,209	20,209,559
1941	6,783,918	554,609	3,952,899	5,253,427	1,344,468	1,143,134	1,564,326	20,596,781
1942	6,599,744	556,527	3,466,296	5,723,054	1,416,195	1,051,448	1,377,664	20,190,928
1943	6,467,018	413,860	3,033,478	6,636,500	1,687,295	1,152,881	1,178,755	20,569,787
1944	6,056,591	438,388	2,518,320	7,732,823	2,271,356	1,263,031	1,004,146	21,284,655
1945	5,455,703	629,592	1,828,272	9,741,423	2,558,221	1,318,143	943,670	22,475,024
1946	5,208,488	1,160,996	1,571,466	9,560,785	3,479,892	1,687,568	1,030,202	23,699,397

GUARANTEED FUNDS — ASSETS

Year	Loans		Government, Municipal, School, and Other Securities Owned	Stocks	Cash on Hand and in Banks	All Other Assets	Total Assets Held Against Guaranteed Funds
	On Real Estate	On Stocks and Securities					
	$	$	$	$	$	$	$
1937	21,926,852	3,172,609	8,525,407	Nil	1,486,606	673,202	35,784,676
1938	21,452,863	4,025,109	9,573,096	"	1,353,753	611,322	37,016,143
1939	21,235,726	2,277,963	10,731,590	"	1,219,212	536,509	36,001,000
1940	20,325,502	2,122,552	10,907,161	"	1,618,430	508,554	35,482,199
1941	19,467,940	2,282,042	12,878,023	"	3,462,842	480,008	38,570,855
1942	18,746,799	2,082,970	14,799,546	"	1,714,675	499,783	37,843,773
1943	17,077,122	2,631,787	18,821,725	326,037	2,166,930	480,590	41,504,191
1944	16,710,530	3,483,691	23,978,699	332,430	2,772,583	463,997	47,741,930
1945	16,836,677	3,926,532	28,823,159	340,099	2,751,837	471,274	53,149,578
1946	20,193,684	6,091,690	32,063,319	712,104	2,632,067	491,239	62,184,103

LIABILITIES

Year	Company Funds						Guaranteed Funds	
	Liabilities to Shareholders				Liabilities to the Public	Total	Principal	Total
	Capital Paid Up	Reserve Funds	Other Liabilities	Total	Taxes, Borrowed Money, etc.			
	$	$	$	$	$	$	$	$
1937	10,357,757	5,311,158	542,708	16,211,623	359,026	16,570,649	35,784,676	35,784,676
1938	11,949,775	5,946,939	584,149	18,480,863	974,982	19,455,845	37,016,143	37,016,143
1939	11,789,264	6,002,488	951,071	18,742,823	609,016	19,351,839	36,001,000	36,001,000
1940	11,867,224	5,902,904	1,044,205	18,814,333	706,849	19,521,182	35,482,198	35,482,198
1941	12,253,038	6,138,528	1,000,768	19,392,334	694,442	20,086,776	38,570,855	38,570,855
1942	12,128,931	5,570,759	983,088	18,682,778	581,153	19,263,931	37,843,773	37,843,773
1943	12,171,035	6,221,929	1,297,669	19,690,633	477,717	20,168,350	41,504,191	41,504,191
1944	12,311,457	7,037,955	1,219,898	20,569,310	507,288	21,076,598	47,741,929	47,741,929
1945	12,806,849	6,932,540	1,406,667	21,146,056	1,165,706	22,311,762	53,149,577	53,149,577
1946	13,666,595	7,396,948	1,399,378	22,462,921	876,866	23,339,787	62,184,103	62,184,103

[1] Book value of real estate for company use and other real estate.

4.—Amount of Estates, Trust, and Agency Funds of Trust Companies Chartered by or Supervised by the Federal Government, as at Dec. 31, 1937-46

NOTE.—Figures for the years 1914-24, are given at p. 915 of the 1937 Year Book; those for the years 1925-36 at p. 987 of the 1946 edition. Headnote to Table 3 applies also to the figures of this table.

Year	Estates, Trust, and Agency Funds	Year	Estates, Trust, and Agency Funds
	$		$
1937	228,155,009	1942	290,630,617
1938	236,467,735	1943	313,457,551
1939	242,369,850	1944	338,978,141
1940	256,781,691	1945	363,332,677
1941	268,596,524	1946	392,430,578

Section 2.—Licensed Small Loans Companies and Licensed Money-Lenders

There have been incorporated in recent years, by the Parliament of Canada, three companies that make small loans, usually not exceeding $500 each, on the promissory notes of the borrowers and additionally secured in most cases by endorsements or chattel mortgages. While these companies, under their original charter powers, were permitted to make loans on the security of real estate, that power was withdrawn by the Small Loans Act, 1939.

On Jan. 1, 1940, the Small Loans Act, 1939 (3 Geo. VI, c. 23), came into force, by which the above-mentioned small loans companies and money-lenders licensed thereunder making personal loans of $500 or less, are limited to a rate of cost of loan not in excess of 2 p.c. per month on outstanding balances, and unlicensed lenders to a rate of 12 p.c. per annum, including interest and charges of every description.

5.—Assets and Liabilities of Small Loans Companies Chartered by the Federal Government, as at Dec. 31, 1937-46

NOTE.—Figures for the years 1928-32 will be found at p. 838 of the 1942 Year Book and for the years 1933-36 at p. 988 of the 1946 edition.

Year	ASSETS			
	Loans Receivable	Cash on Hand and in Banks	Other	Total
	$	$	$	$
1937	4,875,596	261,864	37,092	5,174,552
1938	4,764,032	412,594	32,182	5,208,808
1939	5,081,320	342,578	42,781	5,466,679
1940[1]	6,266,336[2]	381,061	181,806	6,829,203
1941	7,557,414	269,943	91,569	7,918,926
1942	8,485,590	246,629	328,043[3]	9,060,262
1943	9,768,506	412,429	415,431[4]	10,596,366
1944	11,548,308	542,359	507,179[4]	12,597,846
1945	13,354,915	734,583	1,911,332[5]	16,000,830
1946	20,307,530	377,813	4,232,126[6]	24,917,469

For footnotes, see end of table, p. 1060.

5.—Assets and Liabilities of Small Loans Companies Chartered by the Federal Government, as at Dec. 31, 1937-46—concluded

Year	LIABILITIES									
	Liabilities to Shareholders					Liabilities to the Public				Total Liabilities
	General Reserve	Reserve for Losses	Capital Paid Up	Other Liabilities	Total	Borrowed Money	Unearned Income	Other Liabilities[7]	Total	
	$	$	$	$	$	$	$	$	$	$
1937...	300,000	220,308	1,001,750	237,643	1,759,701	2,920,840	361,315	95,904	3,378,059	5,137,760
1938...	318,000	295,361	1,001,750	441,718	2,056,829	2,653,334	348,355	118,108	3,119,797	5,176,626
1939...	318,000	351,850	1,234,250	749,666	2,653,766	2,265,834	369,723	134,724	2,770,281	5,424,047
1940[1]...	18,000	421,488	1,234,250	1,233,841	2,907,579	3,708,366	Nil[8]	213,258	3,921,624	6,829,203
1941...	18,000	517,986[9]	1,234,250	1,590,941	3,361,177	4,258,853	"	298,896	4,557,749	7,918,926
1942...	18,000	576,589[9]	3,734,250	1,920,499	6,249,338	2,572,615	"	238,309	2,810,924	9,060,262
1943...	18,000	565,110[9]	3,735,000	2,393,312	6,711,422	3,570,695	"	314,249	3,884,944	10,596,366
1944...	18,000	579,270[9]	3,805,000	2,970,071	7,372,341	4,819,254	"	406,251	5,225,505	12,597,846
1945...	18,000	586,428[9]	3,965,000	4,083,179	8,652,607	7,077,840	"	270,383	7,348,223	16,000,830
1946...	18,000	915,290[9]	4,155,000	4,560,862	9,649,152	15,007,689	"	260,629	15,268,318	24,917,469

[1] First year Small Loans Act in operation. [2] Not including balances other than small loans. [3] Includes $200,000 bonds, debentures and stock. [4] Includes $250,000 bonds. [5] Includes $250,000 bonds and $1,534,756 balances of loans made in amounts greater than $500. [6] Includes $4,046,210 balances of loans in amounts greater than $500. [7] Includes taxes. [8] No unearned income, since from 1940 small loans have been on an earned basis. [9] Includes business other than small loans.

The Small Loans Companies chartered by the Federal Government show a substantial increase in business for 1946 as compared with the previous year. The number of loans made to the public during the year increased from 180,781 to 245,887 or by 36 p.c. and the amount of such loans rose from $27,767,766 to $40,188,730. The average loan was approximately $163 compared with $154 in 1945. At the end of 1946, the loans outstanding were 159,651 to an amount of $20,307,529 or an average of $127 per loan.

Licensed Money-Lenders.—In addition to the above-mentioned small loans companies, 51 licensed money-lenders furnished annual statements of their business, showing, for 1946, total assets of $18,237,930, of which balances of small loans amounted to $9,309,370, other balances to $7,369,577, bonds, debentures and stocks to $520,926, real estate to $219,119, cash to $291,413, and other assets to $527,525. Liabilities amounted to $18,237,931, of which borrowed money accounted for $11,994,838 and paid shares and partnership capital for $3,235,257. Loans made in 1946 numbered 105,991, totalling $18,193,481 and averaging almost $172, an increase of 26·0 p.c. in number and 28·8 p.c. in the gross amount; at the end of the year there were 73,345 loans outstanding with a total of $9,309,370 averaging $127. About 41 p.c. of the loans made in 1946 were between $100 and $200. Further details of this type of business are given in the 1946 report "Small Loans Companies and Money-Lenders Licensed under The Small Loans Act, 1939", published by the Dominion Department of Insurance.

Section 3.—Sales of Canadian Bonds*

Previous editions of the Year Book have traced the sales of Canadian bonds through the interesting period covered by the First World War and the intervening years to the outbreak of hostilities in 1939. In 1940, the first complete year of the Second World War, total sales were far greater than in any previous year. There

* Revised from information supplied by E. C. Gould, the *Monetary Times*.

was a slight decrease in 1941, but in each of the years 1942 to 1945, sales were successively higher. The 1946 total, however, was 27·8 p.c. lower and the 1947 total 41·8 p.c. lower than that of 1945.

Sales of Dominion and guaranteed bonds in 1947 showed a marked decline at $3,852,975,850 compared with $4,974,223,850 in 1946 and $7,747,691,000 in the peak year 1945. While buoyant Federal Government revenues and curtailed expenditures accounted for this decrease, the second issue of Canada Savings Bonds encouraged the continuation of regular savings habits developed by the Victory Loan campaigns. During 1947, the Federal Government's fiscal position did not necessitate any early large-scale public borrowings. Treasury Bills outstanding remained at a fairly constant level while the cash resources of the Government permitted a substantial decrease in the outstanding amount of deposit certificates.

As contrasted with Federal financing, the total of provincial and guaranteed issues in 1947 at $229,562,000 was greater than in any previous year and more than double the 1946 figure of $114,296,800. Municipal financing also increased to $238,887,410 as compared with $140,815,491 in 1946. On the other hand, in the field of corporate bond financing, the aggregate for 1947 of $379,674,500 was much lower than that of $581,499,188 for 1946. While industrial and railway bond sales maintained levels approximately the same as those for 1946, the public utility aggregate was less than one-half that of the preceding year.

In retrospect, 1947 was an important year in the Canadian bond market. While new issues were generally well absorbed by institutions and individual investors, the year witnessed a gradual firming in interest rates. This trend culminated with the withdrawal of the Bank of Canada from supported pegged markets, immediately after the close of the year. With this change in central bank policy, bond markets are now freer to reflect the judgment of the investing public than they have been for several years.

6.—Sales of and Applications for Federal Government Bonds, Feb. 1, 1940, to Nov. 1, 1947

Date	Purchases by Individuals	Purchases by Corporations	Total Cash Sales	Applications
	$'000	$'000	$'000	No.
War Loans—				
Feb. 1, 1940	132,000	68,000	200,000	178,363
Oct. 1, 1940	113,000	187,000	300,000	150,890
Victory Loans—				
June 15, 1941	279,500	450,900	730,400	968,259
Mar. 1, 1942	335,600	507,500	843,100	1,681,267
Nov. 1, 1942	374,600	616,800	991,400	2,032,154
May 1, 1943	529,500	779,200	1,308,700	2,668,420
Nov. 1, 1943	599,700	775,300	1,375,000	3,033,051
May 1, 1944	641,500	763,500	1,405,000	3,077,123
Nov. 1, 1944	766,400	751,200	1,517,600	3,327,315
May 1, 1945	836,300	732,600	1,563,619[1]	3,178,275
Nov. 1, 1945	1,221,342	801,132	2,027,487[1]	2,947,636[1]
Savings Loan—[2]				
Nov. 1, 1946	416,963[3]	Nil	416,963[3]	1,266,000[4]
Nov. 1, 1947	256,014[3]	"	256,014[3]	861,878[4]

[1] Department of Finance figure. [2] Total subscriptions were limited to $2,000 for any one individual for the 1946 issue and to $1,000 for the 1947 issue. [3] As at Dec. 31, 1947. [4] Approximate.

7.—Sales of Canadian Bonds, by Class of Bond and Country of Sale, 1938-47

(From the *Monetary Times Annual*)

NOTE.—Figures for the years 1904-25, inclusive, are given at p. 921 of the 1933 Year Book and for 1926-37 at pp. 990-991 of the 1946 edition. Since 1936 much of the borrowing for the Canadian National Railways has been done directly by the Dominion and since the War the Federal Government has advanced money to both the Canadian National and Canadian Pacific Railways for the purchase of equipment. For this reason such small bond issues as have been made by the Canadian Pacific Railway are included under "Corporation".

Year	CLASS OF BOND					
	Dominion[1]	Provincial	Municipal	Parochial and Miscellaneous	Corporation	Total
	$	$	$	$	$	$
1938	903,491,667	118,792,000	35,154,344	–	75,442,500	1,132,880,511
1939	1,024,585,000	154,059,900	26,897,689	–	242,708,600	1,448,251,189
1940	2,080,642,200	168,820,000	25,211,093	–	25,777,000	2,300,450,293
1941	1,996,820,250	69,736,000	15,378,095	–	16,081,000	2,098,015,345
1942	4,156,074,400	96,860,000	23,563,905	–	13,988,350	4,290,486,655
1943	6,770,028,200	97,632,000	14,228,986	20,406,300	53,055,500	6,955,350,986
1944	7,319,963,900	67,153,500	113,225,635	10,612,100	92,063,900	7,603,019,035
1945	7,747,691,000	162,002,084	30,430,210	10,952,500	153,900,000	8,104,975,794
1946	4,974,223,850	114,296,800	140,815,491	43,155,800	581,499,188	5,853,991,129
1947	3,852,975,850	229,562,000	238,887,410	14,968,600	379,674,500	4,716,068,360

Year	DISTRIBUTION OF SALES, BY COUNTRIES			
	Sold in Canada	Sold in United States	Sold in United Kingdom	Total
	$	$	$	$
1938	1,044,038,844	40,175,000	48,666,667	1,132,880,511
1939	1,316,651,189	127,500,000	100,000	1,448,251,189[2]
1940	2,300,075,293	375,000	Nil	2,300,450,293
1941	2,087,349,345	10,666,000	"	2,098,015,345
1942	4,274,748,655	15,738,000	"	4,290,486,655
1943	6,829,229,986	126,121,000	"	6,955,350,986
1944	7,548,004,035	55,015,000[3]	"	7,603,019,035
1945	8,024,957,794	80,018,000	"	8,104,975,794
1946	5,790,339,129	63,652,000	"	5,853,991,129
1947	4,627,757,360	88,311,000	"	4,716,068,360

[1] Includes treasury-bill financing. [2] Includes $4,000,000 distributed elsewhere. [3] Not including bonds purchased by Canadian dealers and later sold in the United States.

CHAPTER XXV.—INSURANCE*

CONSPECTUS

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Insurance, for the purpose of statistical analysis, is usually classified as fire, life and casualty. Most companies operate under Dominion registration although some have provincial licences only. Many fraternal orders and societies, too, are engaged in this kind of business. An extended treatment of the salient features of the legislation covering insurance in general and the fields of Dominion and provincial jurisdiction will be found in the 1941 Year Book at pp. 844-846. The 1942 Year Book, at pp. 842-846, contains a special article on the developments in fire and casualty insurance in Canada between 1931 and 1940, consequent upon the enactment of the three Insurance Acts of 1932, while an article on insurance as it affects the balance of international payments appears at pp. 870-871 of the same edition. The 1947 Year Book, at pp. 1064-1074, includes an article on insurance in Canada during the depression and war periods.

Section 1.—Fire Insurance

In Canada, fire insurance began with the establishment of agencies by British fire insurance companies. These were usually situated at the seaports and operated by local merchants. The oldest existing agency of such a company commenced business at Montreal in 1804. The first Canadian company dates from 1809 and the first United States company to operate in Canada commenced business in 1821. A short account of the inception of fire insurance in Canada is given at pp. 846-847 of the 1941 Year Book.

The report of the Superintendent of Insurance for the year ended Dec. 31, 1946, shows that at that date there were 270 fire insurance companies under Dominion registration; of these, 59 were Canadian, 73 were British, and 138 were foreign companies. In 1875, the first year for which authentic records were collected by the Department of Insurance, 27 companies operated in Canada—11 Canadian, 13 British and 3 United States. The proportionate increase in the number of British and foreign companies from 59 p.c. to 78 p.c. of the total number is a very marked point of difference between the fire and life insurance businesses in Canada, the latter being carried on very largely by Canadian companies.

Subsection 1.—Grand Total of Fire Insurance in Canada

Of the total amount of insurance effected in Canada during each year, a part is sold by the companies holding provincial licences and permits. Such companies generally confine their operations to the province of incorporation, but may be allowed to sell insurance in other provinces.

* Material in this Chapter has been revised under the direction of R. W. Warwick, Superintendent of Insurance, Department of Insurance, Ottawa.

In the more detailed analyses of fire insurance dealt with in Table 2, the statistics cover only the operations of companies with Dominion registration; as shown in Table 1, such companies account for approximately 90 p.c. of the insurance in force.

1.—Fire Insurance in Canada, 1946

Item	Gross Insurance Written	Net in Force at End of Year	Net Premiums Written	Net Claims Incurred
	$	$	$	$
Dominion Licensees	16,783,391,679	17,376,429,865	68,825,470	35,379,627
Provincial Licensees—				
(a) Provincial companies within provinces by which they are incorporated	859,583,318	1,548,452,588	6,315,660	3,338,565
(b) Provincial companies within provinces other than those by which they are incorporated	154,257,648	151,097,642	1,038,831	550,620
Totals, Provincial Licensees	1,013,840,966	1,699,550,230	7,354,491	3,889,185
Lloyds, London	222,031,733	248,241,211	1,575,942	906,394
Grand Totals	**18,019,264,378**	**19,324,221,306**	**77,755,903**	**40,175,206**

Subsection 2.—Operational Statistics of Dominion Registered Fire Insurance Companies

The trend in the average rate payable for fire insurance has been generally downward, although the increases in fire losses experienced in the years from 1941 to 1946 have had the effect of checking that tendency. The increase in value of insurable buildings and their contents tends to increase fire insurance premiums in spite of the trend of the average rate.

2.—Fire Insurance, by Companies Operating under Dominion Registration, 1880-1947

NOTE.—Figures for the years 1869-1899 are given at p. 973 of the 1939 Year Book, and figures for 1901-39 at p. 847 of the 1942 edition.

Year	Amount in Force at End of Year	Net Premiums Received During Year	Claims Paid During Year	Percentage of Claims to Premiums	Gross Amount of Risks Taken During Year	Premiums Charged Thereon	Average Cost per $100 of Insurance
	$	$	$	p.c.	$	$	$
1880	411,563,271	3,479,577	1,666,578	47·90	384,051,861	3,958,437	1·03
1890	720,679,621	5,836,071	3,266,567	55·97	620,723,945	7,019,319	1·13
1900	992,332,360	8,331,948	7,774,293	93·31	803,428,654	10,031,735	1·25
1910	2,034,276,740	18,725,531	10,292,393	54·96	1,817,055,685	24,684,296	1·36
1920	5,969,872,278	50,527,937	21,935,387	43·41	6,790,670,610	71,143,917	1·05
1930	9,672,996,973	52,646,520[1]	30,427,968[2]	57·71	10,311,193,608	82,700,147	0·80
1940	10,737,568,226	41,922,312[1]	15,444,927[2]	36·84	12,072,174,014	72,682,679	0·60
1941	11,386,819,286	49,305,539[1]	17,814,322[2]	36·13	13,345,610,185	85,877,389	0·64
1942	12,565,212,694	47,272,440[1]	20,360,534[2]	43·07	12,759,419,939	84,168,663	0·66
1943	13,386,782,873	47,153,094[1]	22,181,244[2]	47·04	12,838,807,204	84,047,821	0·65
1944	14,174,130,630	55,027,051[1]	28,921,930[2]	52·56	14,572,876,024	96,065,279	0·66
1945	15,054,848,612	58,335,728[1]	30,585,357[2]	52·43	10,096,447,893[3]	72,872,125	0·72
1946	17,376,429,865	68,825,470[1]	35,379,627[2]	51·40	11,744,234,245[3]	82,696,662	0·70
1947	20,286,046,204	86,770,603[1]	39,475,711[2]	45·49	15,452,832,219[3]	106,427,978	0·69

[1] Net premiums written. [2] Net claims incurred. [3] Not comparable with 1944 and previous years since this figure indicates "Gross direct written", disregarding all reinsurance, assumed or ceded.

Premiums Written and Claims Incurred.—The relationship of claims incurred to premiums written is shown for Dominion registered companies by provinces in Table 3.

3.—Net Premiums Written and Net Claims Incurred in Canada by Canadian, British and Foreign Companies Operating Under Dominion Registration, by Provinces, 1945 and 1946.

(Registered reinsurance deducted)

Year and Province	Canadian		British		Foreign	
	Premiums	Claims	Premiums	Claims	Premiums	Claims
	$	$	$	$	$	$
1945						
Prince Edward Island	69,349	26,585	171,871	62,565	76,322	29,291
Nova Scotia	644,029	283,702	1,264,018	466,888	1,097,875	432,891
New Brunswick	437,777	188,859	1,078,888	504,324	930,550	507,210
Quebec	3,678,942	2,143,508	6,086,026	3,945,828	7,248,959	4,824,645
Ontario	5,446,535	2,675,350	6,967,359	3,794,067	8,234,644	4,660,537
Manitoba	1,300,358	468,667	968,126	464,662	1,230,505	491,371
Saskatchewan	1,288,320	254,797	633,204	162,437	1,207,244	306,721
Alberta	1,124,023	432,492	1,060,268	620,451	1,579,700	749,122
British Columbia	1,123,542	491,005	2,139,532	968,571	2,514,642	1,214,663
All other Canada[1]	13,199	5,136	126,500	115,749	31,922	24,409
Canada, 1945	**15,126,074**	**6,970,101**	**20,495,792**	**11,105,542**	**24,152,363**	**13,240,860**
1946						
Prince Edward Island	87,435	126,890	205,584	459,706	104,973	234,862
Nova Scotia	750,702	306,006	1,258,336	478,976	1,045,801	408,832
New Brunswick	498,296	203,347	1,279,424	583,151	1,129,822	562,497
Quebec	4,085,328	2,343,066	7,174,339	4,729,491	9,658,412	5,050,814
Ontario	6,300,202	3,087,644	7,772,317	4,664,590	10,560,095	5,431,892
Manitoba	1,478,377	718,910	996,014	530,227	1,221,025	600,266
Saskatchewan	1,254,060	561,798	648,908	284,947	1,255,339	608,581
Alberta	1,214,456	526,004	1,105,716	497,049	1,758,195	993,453
British Columbia	1,359,878	373,623	2,714,065	878,510	3,176,976	883,353
All other Canada[1]	17,298	3,427	128,910	38,614	−4,677	9,717
Canada, 1946	**17,046,032**	**8,250,715**	**23,283,613**	**13,145,261**	**29,905,961**	**14,784,267**

[1] Yukon, Northwest Territories and also certain 'floater business' that cannot be apportioned to any one province.

Classification of Fire Risks.—For some years the Department of Insurance has compiled, from information supplied by the fire insurance companies registered to transact business in Canada, tables of experience as to premiums and losses by 27 classes of risks agreed upon on the basis of net premiums written, less registered or licensed reinsurance. This experience for the five years 1940-44 is given at p. 1077 of the 1947 Year Book. For 1945 and 1946 the returns were received on a "direct written" basis, excluding all reinsurance ceded or assumed, and the classification was changed and reduced to 21 classes. The 1945 and 1946 experience is given in Table 4.

4.—Percentages of Claims Incurred to Premiums Written in Canada by All Companies Operating Under Dominion Registration, by Classes of Risks, 1945 and 1946.

(Excluding all reinsurance ceded or assumed)

Class	1945	1946	Class	1945	1946
	p.c.	p.c.		p.c.	p.c.
Dwellings, excluding farms—			Saw and shingle mills	51·14	66·00
Protected brick	57·49	44·82	Lumber yards, pulpwood, standing timber	62·40	46·99
Protected frame	42·20	39·43	Wood-working plants	82·18	71·06
Unprotected	33·29	36·41	Metal-working plants, garages, hangars	65·64	59·40
Farm buildings	45·39	44·03	Mining risks	53·95	40·16
Churches, public buildings, educational and social service institutions	72·67	102·94	Railway and public utility risks	37·27	54·17
Warehouses	52·26	66·55	Miscellaneous manufacturing risks	87·63	88·69
Retail stores, office buildings, banks, hotels	51·25	55·04	Miscellaneous non-manufacturing risks	60·83	55·85
Contents of above item	48·85	49·52	Sprinklered risks of whatever nature or occupancy	39·55	32·42
Foods, food and beverage plants	42·57	75·60	Use and occupancy and profits, excluding rental insurance	78·12	41·06
Flour and cereal mills, grain elevators	88·83	104·81			
Oil risks of all kinds	104·40	89·73	**Averages**	**52·91**	**51·78**

Subsection 3.—Finances of Fire Insurance Companies

Tables 5 to 7 show for recent years the assets, liabilities, income and expenditure of registered companies transacting fire insurance in Canada. The majority of fire insurance companies also transact casualty insurance dealt with in Section 3 of this Chapter. Owing to the fact that it is impossible for such companies to allocate their assets and liabilities and their general income and expenditure among the various types of business transacted, totals only are given here. Table 28, p. 1087 gives similar information for registered companies whose transactions are confined to casualty insurance.

5.—Assets of Canadian, British and Foreign Companies Transacting Fire Insurance, or Fire and Casualty Insurance Under Dominion Registration, 1942-46

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
Canadian Companies (In All Countries)					
Real estate	1,833,662	1,958,504	1,710,883	1,874,593	2,129,902
Loans on real estate	2,748,791	2,270,836	2,284,582	2,105,872	1,998,430
Bonds, debentures and stocks	80,550,247	86,510,962	89,698,509	97,076,704	101,023,456
Agents' balances and premiums outstanding	6,021,113	5,185,794	5,781,397	6,505,708	8,701,179
Cash	9,248,361	10,418,705	10,829,062	11,849,935	14,851,373
Interest and rents	658,408	624,908	624,739	679,550	683,413
Other assets	3,378,139	3,664,294	5,077,414	4,307,338	4,999,266
Totals, Canadian Companies	**104,438,721**	**110,634,003**	**116,006,586**	**124,399,700**	**134,387,019**
British Companies (In Canada)					
Real estate	1,540,080	1,465,834	950,427	929,527	940,577
Loans on real estate	1,130,940	1,022,141	3,669	28,758	22,750
Bonds, debentures and stocks	46,976,611	47,914,859	47,133,415	49,866,285	53,105,494
Agents' balances and premiums outstanding	3,881,883	4,043,191	4,574,072	4,819,942	6,206,998
Cash	5,961,404	5,996,493	6,919,414	7,034,461	7,606,813
Interest and rents	214,211	199,024	165,873	172,661	191,114
Other assets in Canada	1,360,110	1,282,180	1,628,590	2,039,276	1,776,013
Totals, British Companies	**61,065,239**	**61,923,722**	**61,375,460**	**64,890,910**	**69,849,759**

5.—Assets of Canadian, British and Foreign Companies Transacting Fire Insurance, or Fire and Casualty Insurance Under Dominion Registration, 1942-46—concluded

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
Foreign Companies (In Canada)					
Real estate	Nil	Nil	Nil	Nil	Nil
Loans on real estate	11,700	11,450	8,000	7,750	7,750
Bonds, debentures and stocks	41,218,108	44,781,193	47,189,726	52,602,388	55,846,426
Agents' balances and premiums outstanding	3,895,640	3,635,151	4,421,711	4,401,436	5,986,212
Cash	12,624,985	10,472,994	10,818,160	12,013,101	16,043,039
Interest and rents	204,396	198,001	215,240	240,396	294,732
Other assets in Canada	243,340	402,886	1,392,041	1,478,899	1,112,242
Totals, Foreign Companies	**58,198,169**	**59,501,675**	**64,044,878**	**70,743,970**	**79,290,401**

6.—Liabilities of Canadian, British and Foreign Companies Transacting Fire Insurance, or Fire and Casualty Insurance Under Dominion Registration, 1942-46

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
Canadian Companies (In All Countries)					
Reserves for unsettled losses	9,274,922	10,356,038	12,026,543	13,679,331	15,699,522
Reserves of unearned premiums	19,818,045	20,290,350	22,165,363	24,964,320	30,252,125
Sundry items	13,876,780	14,669,731	14,647,168	15,593,120	17,870,512
Totals, Canadian Companies	**42,969,747**	**45,316,119**	**48,839,074**	**54,236,771**	**63,822,159**
Excess of assets over liabilities, excluding capital	61,468,974	65,317,884	67,167,512	70,162,929	70,564,860
Capital stock paid up	19,072,815	19,072,815	19,107,815	19,022,740	19,000,240
British Companies (In Canada)					
Reserves for unsettled losses	5,012,739	5,428,270	6,421,046	7,885,706	9,787,750
Reserves of unearned premiums	18,843,113	18,903,902	21,185,456	23,739,943	27,598,726
Sundry items	3,480,250	3,253,620	3,158,040	3,185,419	3,478,702
Totals, British Companies	**27,336,102**	**27,585,792**	**30,764,542**	**34,811,068**	**40,865,178**
Excess of assets over liabilities, excluding capital	33,729,137	34,337,930	30,610,918	30,079,842	28,984,581
Foreign Companies (In Canada)					
Reserves for unsettled losses	3,518,288	3,965,541	5,212,799	6,010,366	6,449,921
Reserves of unearned premiums	17,786,983	18,401,808	20,694,123	23,544,748	27,698,154
Sundry items	2,153,052	2,133,744	2,982,601	3,430,702	3,864,808
Totals, Foreign Companies	**23,458,323**	**24,501,093**	**28,889,523**	**32,985,816**	**38,012,883**
Excess of assets over liabilities, excluding capital	34,739,846	35,000,582	35,155,355	37,758,154	41,277,518

7. — Income and Expenditure of Canadian, British and Foreign Companies Transacting Fire Insurance, or Fire and Casualty Insurance Under Dominion Registration, 1942-46.

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
INCOME					
Canadian Companies (In All Countries)					
Net premiums written, fire and other insurance	36,306,765	35,866,506	39,031,985	42,906,033	52,730,472
Interest, dividends and rents earned	3,408,274	3,430,376	3,492,647	3,593,237	3,632,984
Sundry items	[1]	[1]	[1]	[1]	[1]
Totals, Canadian Companies	**39,715,039**	**39,296,882**	**42,524,632**	**46,499,270**	**56,363,456**
British Companies (In Canada)					
Net premiums written	29,035,998	29,143,004	33,545,317	36,144,466	43,077,829
Interest, dividends and rents earned	860,786	840,132	742,999	790,256	804,752
Sundry items	[1]	[1]	[1]	[1]	[1]
Totals, British Companies	**29,896,784**	**29,983,136**	**34,288,316**	**36,934,722**	**43,882,581**
Foreign Companies (In Canada)					
Net premiums written	25,770,191	26,165,440	31,843,023	33,805,336	42,706,012
Interest, dividends and rents earned	1,097,553	1,249,104	1,221,060	1,359,692	1,577,603
Sundry items	[1]	[1]	[1]	[1]	[1]
Totals, Foreign Companies	**26,867,744**	**27,414,544**	**33,064,083**	**35,165,028**	**44,283,615**
EXPENDITURE					
Canadian Companies (In All Countries)					
Incurred for claims (fire)	6,664,140	6,592,774	8,029,734	8,488,190	10,073,760
General expenses (fire)	6,882,808	6,946,734	7,588,183	8,108,848	9,485,437
Incurred for claims (casualty)	9,753,718	9,302,636	9,909,110	11,176,408	14,029,440
General expenses (casualty)	8,599,267	8,639,456	8,973,919	9,985,101	12,751,863
Dividends or bonuses to shareholders	1,479,112	1,509,672	1,409,422	1,507,615	1,481,286
Premium taxes and fees	968,629	987,818	1,124,965	1,122,947	1,396,794
Income war tax	771,028	768,667	534,375	430,582	234,857
Excess profits tax	1,161,193	1,179,519	848,977	532,465	271,562
Dividends to policyholders	261,004	236,942	282,330	261,876	263,389
British and foreign war taxes	271,602	610,738	378,201	122,215	229,625
Totals, Canadian Companies	**36,912,501**[2]	**36,874,956**[3]	**39,104,216**[4]	**41,836,247**[2]	**50,318,013**[2]
Excess of income over expenditure	2,802,538	‡2,421,926	3,420,416	4,663,023	6,045,443
British Companies (In Canada)					
Incurred for claims (fire)	6,992,162	7,921,087	9,854,786	11,105,542	13,145,261
General expenses (fire)	7,627,252	7,694,425	8,479,429	9,064,407	10,236,092
Incurred for claims (casualty)	5,070,589	5,276,766	6,023,953	7,215,277	9,286,700
General expenses (casualty)	5,676,611	5,723,603	6,096,821	6,683,517	8,364,843
Premium taxes and fees	923,027	903,548	1,011,887	1,046,323	1,218,622
Income war tax	511,975	312,253	105,385	35,889	14,687
Excess profits tax	920,426	593,548	149,752	5,820	3,443
Totals, British Companies	**27,722,042**	**28,425,230**	**31,722,013**	**35,156,775**	**42,269,648**
Excess of income over expenditure	2,174,742	1,557,906	2,566,303	1,777,947	1,612,933

For footnotes, see end of table.

7.—Income and Expenditure of Canadian, British and Foreign Companies Transacting Fire Insurance, or Fire and Casualty Insurance Under Dominion Registration, 1942-46—concluded.

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
EXPENDITURE—concluded					
Foreign Companies (In Canada)					
Incurred for claims (fire)	8,514,275	9,385,849	13,077,587	13,240,860	14,784,267
General expenses (fire)	7,366,244	7,517,533	8,629,549	9,210,464	10,571,248
Incurred for claims (casualty)	3,923,469	4,580,220	6,151,913	4,353,741	6,099,034
General expenses (casualty)	2,970,003	2,818,002	3,470,294	3,543,822	4,734,861
Premium taxes and fees	809,749	861,550	1,003,305	1,048,481	1,286,722
Income war tax	183,101	112,057	22,061	38,689	44,262
Excess profits tax	259,952	185,894	39,362	81,328	80,451
Dividends or savings credited to subscribers	721,576	682,726	709,425	735,323	2,457,857
Totals, Foreign Companies	**24,748,369**	**26,143,831**	**33,103,496**	**32,252,708**	**40,059,062**[5]
Excess of income over expenditure	2,119,375	1,270,713	−39,413	2,912,320	4,224,553

[1] Included with "interest". [2] Includes $100,000 preference stock redeemed. [3] Includes $100,000 unallocatable expense. [4] Includes $25,000 repayment of premium on capital. [5] Includes $360 penalty incurred.

EXTRACTS FROM THE STATISTICAL BULLETIN OF THE CANADIAN FIRE MARSHALS AND THE DOMINION FIRE PREVENTION ASSOCIATION

Fire Losses.—The information in Tables 8 to 11 has been summarized from the Statistical Bulletin of the Association of Canadian Fire Marshals and the Dominion Fire Prevention Association, prepared by the Dominion Fire Commissioner, which deals with the loss of property and life caused by fire.

8.—Fire Losses in Canada, 1938-47

NOTE.—Figures for 1926-37 are given at p. 1078 of the 1947 Year Book. Earlier figures from 1898 may be obtained from the Department of Insurance.

Year	Fires Reported	Property Loss	Loss per Capita	Deaths by Fire	Year	Fires Reported	Property Loss	Loss per Capita	Deaths by Fire
	No.	$	$	No.		No.	$	$	No.
1938	44,104	25,899,180	2·31	263	1943	47,594	31,464,710[1]	2·67	319
1939	45,755	24,632,509	2·18	263	1944	50,719	40,562,478[1]	3·39	307
1940	46,629	22,735,264	2·01	243	1945	52,173	41,903,020[1]	3·46	391
1941	48,609	28,042,907	2·46	323	1946	55,400	49,413,363[1]	4·01	408
1942	47,596	31,182,238	2·70	304	1947	52,931	57,050,461[1]	4·53	390

[1] Not including losses incurred in National Defence and other Crown properties.

9.—Fire Losses, by Provinces, 1942-46

Province or Territory	1942	1943	1944	1945	1946	Five-Year Average
	$	$	$	$	$	$
Prince Edward Island	164,282	116,304	247,507	257,504	1,214,421	400,004
Nova Scotia	1,953,561	1,627,719	2,840,832	1,758,747	2,543,875	2,144,947
New Brunswick	1,413,867	1,281,341	2,028,382	1,835,331	2,278,947	1,767,574
Quebec	11,270,763	10,323,563	14,213,460	14,033,510	17,247,675	13,417,794
Ontario	10,679,029	10,664,393	13,356,516	14,464,189	16,273,816	13,087,589
Manitoba	643,476	1,351,505	1,158,957	1,159,801	1,909,952	1,244,738
Saskatchewan	968,261	892,550	1,218,591	938,516	1,834,278	1,170,439
Alberta	1,565,186	1,199,106	1,896,284	2,208,120	2,544,689	1,882,677
British Columbia	2,523,813	4,008,229	3,601,949	5,247,302	3,437,408	3,763,740
Yukon and N.W.T	–	–	–	–	128,302[1]	128,302[1]
Canada	**31,182,238**	**31,464,710**[2]	**40,562,478**[2]	**41,903,020**[2]	**49,413,363**[2]	**38,905,162**

[1] Available for the first time in 1946. [2] See footnote to Table 8, p. 1069.

The property losses by provinces given in Table 9 are the total fire losses insured and uninsured. The percentages of the provincial total uninsured were as follows: Prince Edward Island, 19·1; Nova Scotia, 56·1; New Brunswick, 36·1; Quebec, 22·2; Ontario, 18·8; Manitoba, 13·0; Saskatchewan, 30·3; Alberta, 20·3; British Columbia, 38·1; and Yukon and Northwest Territories, 61·3. Uninsured losses formed 24·5 p.c. of total losses for Canada.

10.—Fire Losses, by Type of Property, 1946

Type of Property	Fires Reported	Property Loss	Type of Property	Fires Reported	Property Loss
	No.	$		No.	$
Residential	41,005	10,544,847	Institutional and assembly	785	4,878,948
Mercantile	5,595	11,923,384	Miscellaneous	2,719	6,460,849
Farm	3,348	4,200,157			
Manufacturing	1,948	11,405,178	**Totals**	**55,400**	**49,413,363**

11.—Fire Losses, by Origin, 1946

Cause Reported	Fires Reported	Property Loss	Cause Reported	Fires Reported	Property Loss
	No.	$		No.	$
Smokers' carelessness	18,964	3,474,371	Lightning	952	550,779
Stoves, furnaces, boilers and smoke pipes	5,697	3,491,588	Exposure fires	630	1,102,504
Electrical wiring and appliances	4,832	4,203,019	Spontaneous ignition	454	1,417,795
Defective and overheated chimneys and flues	3,494	1,780,402	Incendiarism	306	638,632
Matches	2,819	672,881	Miscellaneous known causes (explosions, fireworks, friction, hot grease or metal, steam and hot water pipes, etc.)	3,899	8,072,111
Hot ashes, coals, open fires	2,478	870,875	Unknown	6,569	20,112,597
Petroleum and its products	1,621	1,755,760			
Sparks on roofs	1,479	681,770			
Lights, other than electric	1,206	588,279	**Totals**	**55,400**	**49,413,363**

Section 2.—Life Insurance

The life insurance in force, in Canada, in companies registered by the Dominion in 1947 was over $11,900,000,000, an increase of over $1,088,000,000 over the figure for 1946. There has been not only an increase in new business, but also a greater stability in business written compared with the depression in early war years.

The effect of these factors is reflected in the ratio of gain in business in force expressed as a percentage of the amount in force at the beginning of the same year.

Year	Net in Force at Beginning of Year	Gain in Force for the Year	Percentage Gain
	$	$	
1930	6,157,000,000	335,000,000	5·4
1935	6,221,000,000	38,000,000	0·6
1939	6,630,000,000	146,000,000	2·2
1940	6,776,000,000	199,000,000	2·9
1941	6,975,000,000	374,000,000	5·4
1942	7,349,000,000	527,000,000	7·2
1943	7,876,000,000[1]	658,000,000	8·4
1944	8,534,000,000	605,000,000	7·1
1945	9,139,000,000	612,000,000	6·7
1946	9,751,000,000	1,061,000,000	10·9
1947	10,812,000,000	1,088,000,000	10·1

[1] Excluding $44,000,000 adjustment arising out of method of reporting juvenile insurance.

Subsection 1.—Grand Total of Life Insurance in Canada

In addition to the business transacted by life insurance companies registered by the Dominion, a considerable volume of business is also transacted by companies licensed by the provinces. Statistics of these provincial companies have been collected since 1915 by the Department of Insurance. Table 12 summarizes the volume of business transacted by Canadian, British and foreign life companies and fraternal societies, whether registered by the Dominion or licensed by the provinces.

12.—Dominion and Provincial Life Insurance in Canada, by Class of Licensee and by Type of Company, 1946

Item	New Policies Effected (net)	Net Insurance in Force, Dec. 31	Net Premiums Received	Net Claims Paid
CLASS OF LICENSEE	$	$	$	$
Dominion Licensees—				
Life companies	1,393,522,667	10,812,392,864	283,938,079	98,846,258
Fraternals	37,318,588	268,307,234	4,800,344	3,919,269
Totals, Dominion Licensees	**1,430,841,255**	**11,080,700,098**	**288,738,423**	**102,765,527**
Provincial Licensees—				
Provincial Companies within Province by Which They are Incorporated—				
Life companies	68,971,342	249,378,242	6,025,948	1,427,820
Fraternals	16,497,188	96,656,634	2,508,370	1,339,878
Provincial Companies in Provinces other than Those by Which They are Incorporated—				
Life companies	6,940,715	31,742,642	793,157	220,783
Fraternals	8,348,040	51,558,836	1,020,183	824,764
Totals, Provincial Licensees	**100,757,285**	**429,336,354**	**10,347,658**	**3,813,245**
Grand Totals	**1,531,598,540**	**11,510,036,452**	**299,086,081**	**106,578,772**
TYPE OF COMPANY				
Canadian Life—				
Dominion	981,041,044	7,201,285,815	184,065,299	62,253,925
Provincial	75,912,057	281,120,884	6,819,105	1,648,603
Canadian Fraternal—				
Dominion	22,850,967	165,792,519	2,466,794	2,672,898
Provincial	24,845,228	148,215,470	3,528,553	2,164,642
British Life	30,197,611	205,626,216	5,510,427	2,487,777
Foreign Life	382,284,012	3,405,480,833	94,362,353	34,104,556
Foreign Fraternal	14,467,621	102,514,715	2,333,550	1,246,371

Subsection 2.—Historical and Operational Statistics of Dominion Registered Life Insurance Companies

Historical Statistics of Life Insurance.—The net life insurance in force of all companies registered by the Dominion was only $35,680,082 in 1869, while in 1947 it was $11,900,239,348.* The amount per head of the estimated population of Canada has more than doubled since 1923—evidence of the general recognition of the value of life insurance for the adequate protection of dependents against misfortune. Notable also is the fact that in this field British companies, the leaders in 1869, have fallen far behind the Canadian and the foreign companies.

13.—Life Insurance in Force and Effected in Canada by Companies Operating Under Dominion Registration (Fraternal Insurance Excluded)[1], 1880-1947

NOTE.—Figures for the years 1869-99 are given at p. 958 of the 1938 Year Book, and figures for the years 1901-39 at p. 855 of the 1942 edition.

Year	Net Amounts in Force				Insurance in Force per Head of Estimated Population[2]	Net Amount of New Insurance Effected During Year
	Canadian Companies	British Companies	Foreign Companies	Total		
	$	$	$	$	$	$
1880.....	37,838,518	19,789,863	33,643,745	91,272,126	21·45	13,906,887
1890.....	135,218,990	31,613,730	81,591,847	248,424,567	51·98	39,802,956
1900.....	267,151,086	39,485,344	124,433,416	431,069,846	81·32	67,729,115
1910.....	565,667,110	47,816,775	242,629,174	856,113,059	122·51	150,785,305
1920.....	1,664,348,605	76,883,090	915,793,798	2,657,025,493	310·55	630,110,900
1930.....	4,319,370,209	117,410,860	2,055,502,125	6,492,283,194	636·00	884,749,748
1940.....	4,609,213,977	145,603,299	2,220,505,184	6,975,322,460	612·89	590,205,536
1941.....	4,835,925,659	145,597,309	2,367,027,774	7,348,550,742	638·62	688,344,283
1942.....	5,184,568,369	152,289,487	2,538,897,449	7,875,755,305	675·80	818,558,946
1943.....	5,586,515,285	162,287,617	2,785,290,816	8,534,093,718	722·49	887,522,851
1944.....	6,001,984,634	171,997,834	2,965,501,763	9,139,484,231	763·21	900,501,491
1945.....	6,440,615,383	183,779,511	3,126,645,941	9,751,040,835	804·61	1,002,576,955
1946.....	7,201,285,815	205,626,216	3,405,480,833	10,812,392,864	879·37	1,393,522,667
1947[3].....	7,964,166,419	238,614,767	3,697,458,162	11,900,239,348	945·81	1,453,186,347

[1] For statistics of fraternal insurance, see pp. 1078-1080. [2] Based on estimates of population given at p. 139. [3] Subject to revision.

Life insurance business was transacted in Canada during 1946 by 45 active companies registered by the Dominion, including 28 Canadian, 4 British and 13 foreign companies; one of these foreign companies was registered only for the acceptance of reinsurance. In addition to these active companies, there were 8 British and 4 foreign companies writing little or no new insurance, their business being confined largely to the policies already on their books.

The operations analysed in the tables of this Subsection, with the exception of Table **17**, cover only those companies under Dominion registration and are exclusive of fraternal organizations and provincial licensees. However, as indicated in Table **12**, their operations cover about 94 p.c. of the life insurance in force in Canada.

* This total does not include fraternal insurance.

14.—Life Insurance in Canada by Companies Operating under Dominion Registration, 1944-46

Year and Nationality of Company	Policies Effected		Policies in Force		Net Premium Income	Net Claims Paid[1]
	No.	Net Amount	No.	Net Amount		
		$		$	$	$
1944						
Canadian	275,309	601,896,540	2,876,145	6,001,984,634	155,626,868	57,050,240
British	6,484	15,944,248	141,357	171,997,834	4,654,059	2,576,808
Foreign	375,336	282,660,703	4,525,934	2,965,501,763	84,145,956	32,939,911
Totals, 1944	**657,129**	**900,501,491**	**7,543,436**	**9,139,484,231**	**244,426,883**	**92,566,959**
1945						
Canadian	299,437	682,481,020	3,047,549	6,440,615,383	166,267,208	60,336,606
British	6,936	18,326,511	141,499	183,779,511	5,239,766	2,620,057
Foreign	376,171	301,769,424	4,637,124	3,126,645,941	89,669,126	34,682,327
Totals, 1945	**682,544**	**1,002,576,955**	**7,826,172**	**9,751,040,835**	**261,176,100**	**97,638,990**
1946						
Canadian	363,924	981,041,044	3,257,437	7,201,285,815	184,065,299	62,253,925
British	10,002	30,197,611	144,022	205,626,216	5,510,427	2,487,777
Foreign	388,054	382,284,012	4,719,807	3,405,480,833	94,362,353	34,104,556
Totals, 1946	**761,980**	**1,393,522,667**	**8,121,266**	**10,812,392,864**	**283,938,079**	**98,846,258**

[1] Death claims, matured endowments and disability claims.

15.—Progress of Life Insurance in Canada Transacted under Dominion Registration, 1942-46

Item		1942	1943	1944	1945	1946
Canadian Companies—						
Policies effected	No.	271,037	275,583	275,309	299,437	363,924
Policies in force at end of each year.	"	2,557,701	2,719,576	2,876,145	3,047,549	3,257,437
Policies become claims	"	24,233	26,702	32,359	31,941	28,931
Net amounts of policies effected	$	554,211,294	578,856,066	601,896,540	682,481,020	981,041,044
Net amounts of policies in force	$	5,184,568,369	5,586,515,285	6,001,984,634	6,440,615,383	7,201,285,815
Net amounts of policies become claims	$	51,136,519	54,133,244	65,685,567	65,384,684	59,795,077
Net amounts of premiums	$	136,261,960	145,575,912	155,626,868	166,267,208	184,065,299
Net claims paid[1]	$	50,503,188	50,975,556	57,050,240	60,336,606	62,253,925
Net outstanding claims	$	12,247,606	14,088,335	17,193,178	17,069,149	15,325,253
British Companies—						
Policies effected	No.	5,158	5,881	6,484	6,936	10,002
Policies in force at end of each year.	"	141,168	141,277	141,357	141,499	144,022
Policies become claims	"	3,482	3,001	3,125	2,953	2,651
Net amounts of policies effected	$	13,878,930	15,190,620	15,944,248	18,326,511	30,197,611
Net amounts of policies in force	$	152,289,487	162,287,617	171,997,834	183,779,511	205,626,216
Net amounts of policies become claims	$	2,177,806	2,107,040	2,920,813	2,623,828	2,881,097
Net amounts of premiums	$	4,264,843	4,466,810	4,654,059	5,239,766	5,510,427
Net claims paid[1]	$	2,669,043	1,894,247	2,576,808	2,620,057	2,487,777
Net outstanding claims	$	526,445	719,375	941,768	740,255	1,144,606
Foreign Companies—						
Policies effected	No.	390,700	387,278	375,336	376,171	388,054
Policies in force at end of each year.	"	4,235,023	4,390,649	4,525,934	4,637,124	4,719,807
Policies become claims	"	68,049	78,166	85,887	86,375	78,110
Net amounts of policies effected	$	250,468,722	293,476,165	282,660,703	301,769,424	382,284,012
Net amounts of policies in force	$	2,538,897,449	2,785,290,816	2,965,501,763	3,126,645,941	3,405,480,833
Net amounts of policies become claims	$	25,010,277	28,610,510	32,351,099	34,283,865	32,493,314
Net amounts of premiums	$	75,303,452	78,657,280	84,145,956	89,669,126	94,362,353
Net claims paid[1]	$	25,888,185	29,030,261	32,939,911	34,682,327	34,104,556
Net outstanding claims	$	3,323,193	4,245,994	4,140,836	4,187,975	3,835,910

[1] Death claims, matured endowments and disability claims.

15.—Progress of Life Insurance in Canada Transacted under Dominion Registration, 1942-46—concluded

Item	1942	1943	1944	1945	1946
All Companies—					
Policies effected.....No.	666,895	668,742	657,129	682,544	761,980
Policies in force at end of each year. "	6,933,892	7,251,502	7,543,436	7,826,172	8,121,266
Policies become claims..... "	95,764	107,869	121,371	121,269	109,692
Net amounts of policies effected... $	818,558,946	887,522,851	900,501,491	1,002,576,955	1,393,522,667
Net amounts of policies in force.... $	7,875,755,305	8,534,093,718	9,139,484,231	9,751,040,835	10,812,392,864
Net amounts of policies become claims..... $	78,324,602	84,850,794	100,957,479	102,292,377	95,169,488
Net amounts of premiums..... $	215,830,255	228,700,002	244,426,883	261,176,100	283,938,079
Net claims paid[1]..... $	79,060,416	81,900,064	92,566,959	97,638,990	98,846,258
Net outstanding claims..... $	16,097,244	19,053,704	22,275,782	21,997,379	20,305,769

[1] Death claims, matured endowments and disability claims.

16.—Ordinary, Industrial and Group Life Insurance Policies in Force and Effected in Canada by Companies Operating under Dominion Registration, 1946

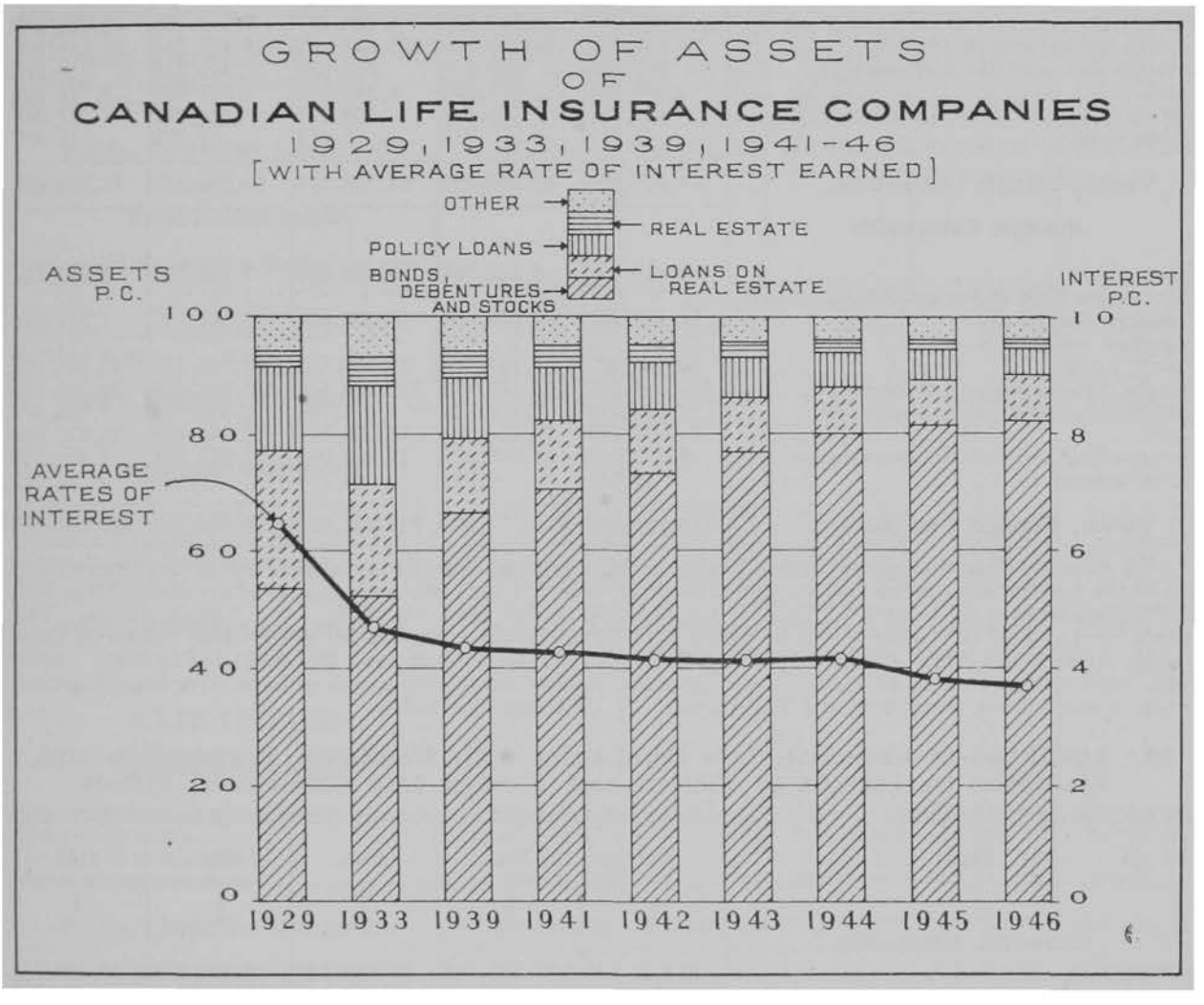
Type of Policy and Nationality of Company	New Policies Effected			Policies in Force		
	No.	Net Amount	Average Amount of a Policy	No.	Net Amount	Average Amount of a Policy
		$	$		$	$
Ordinary Policies						
Canadian.....	310,717	870,310,595	2,801	2,616,616	6,017,165,852	2,300
British.....	9,999	29,639,361	2,964	72,978	192,361,245	2,636
Foreign.....	136,645	267,567,906	1,958	1,284,573	2,005,617,056	1,561
Totals, Ordinary Policies..	**457,361**	**1,167,517,862**	**2,553**	**3,974,167**	**8,215,144,153**	**2,067**
Industrial and Group Policies						
Canadian.....	52,777	53,749,744	1,018	637,268	402,332,909	631
British.....	Nil	–	–	71,036	11,307,221	159
Foreign.....	251,054	90,118,522	359	3,433,468	948,807,825	276
Totals, Industrial and Group Policies.....	**303,831**	**143,868,266**	**474**	**4,141,772**	**1,362,447,955**	**329**

17.—Insurance Death Rates in Canada, 1943-46

Type of Insurer	Policies Exposed to Risk	Policies Terminated by Death	Death Rate per 1,000	Policies Exposed to Risk	Policies Terminated by Death	Death Rate per 1,000
	1943			1944		
	No.	No.		No.	No.	
All companies, ordinary.....	3,111,509	21,267	6·8	3,339,564	26,897	8·1
All companies, industrial....	4,003,160	29,615	7·4	4,083,770	32,721	8·0
Fraternal benefit societies...	254,030	3,785	14·9	265,712	3,777	14·2
Totals.....	**7,368,699**	**54,667**	**7·4**	**7,689,046**	**63,395**	**8·2**
	1945			1946		
	No.	No.		No.	No.	
All companies, ordinary.....	3,572,018	26,020	7·3	3,837,605	21,092	5·5
All companies, industrial....	4,137,095	31,379	7·6	4,156,102	28,801	6·9
Fraternal benefit societies...	283,587	3,816	13·5	299,976	3,690	12·3
Totals.....	**7,992,700**	**61,215**	**7·7**	**8,293,683**	**53,583**	**6·5**

Subsection 3.—Finances of Life Insurance Companies

The financial statistics of the following tables cover only life insurance companies with Dominion registration and do not include fraternal organizations and provincial licensees. In the cases of British and foreign companies, the figures apply only to their assets, liabilities and operations in Canada but, in the case of Canadian companies, assets and liabilities, income received and expenditure made, arise in part from business abroad.



18.—Assets of Canadian Life Companies with Dominion Registration and Assets in Canada of British and Foreign Life Companies, 1942-46

NOTE.—One British company transacting fire insurance in Canada transacts also life insurance in Canada and, inasmuch as a separation of assets has not been made between these two classes, the assets in Canada are not included here, but are included in the assets of British companies shown in Table 5, p. 1066.

Item	1942	1943	1944	1945	1946
Canadian Companies[1]	$	$	$	$	$
Real estate	59,734,780	52,187,032	41,263,835	36,221,517	33,281,227
Real estate held under agreement of sale	32,266,517	30,855,034	28,245,920	23,682,724	19,703,190
Loans on real estate	293,617,264	274,950,311	256,021,923	266,830,202	302,149,079
Loans on collaterals	52,782	20,207	23,327	50,634	3,624,678
Policy loans	220,739,933	200,100,880	183,520,977	176,611,493	171,484,384
Bonds, debentures and stocks	2,013,113,261	2,250,955,172	2,517,911,770	2,823,785,410	3,001,698,868
Interest and rent due and accrued	30,649,587	29,077,729	28,672,576	29,324,740	30,486,316
Cash	30,559,412	32,440,072	29,735,147	36,262,205	36,662,318
Outstanding and deferred premiums	46,326,738	47,989,863	51,161,312	52,957,821	56,344,831
Other assets	3,265,522	3,389,378	3,517,376	4,025,247	3,831,747
Totals, Canadian Companies[2]	**2,730,325,796**	**2,921,965,678**	**3,140,074,163**	**3,449,751,993**	**3,659,266,638**

For footnotes, see end of table, p. 1076.

18.—Assets of Canadian Life Companies with Dominion Registration and Assets in Canada of British and Foreign Life Companies, 1942-46—concluded

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
British Companies					
Real estate	816,209	751,747	454,220	386,660	523,449
Real estate held under agreements of sale	11,657	15,670	14,385	12,937	6,220
Loans on real estate	6,573,986	6,093,272	5,318,644	5,032,282	5,142,067
Loans on collaterals	13,300	13,300	13,300	[3]	[3]
Policy loans	2,866,709	2,618,499	2,296,697	2,100,602	2,058,475
Bonds, debentures and stocks	46,861,869	51,690,826	53,923,196	58,483,266	61,138,293
Interest and rent due and accrued	520,689	449,413	398,836	369,118	316,129
Cash	1,055,095	1,033,530	1,342,087	1,331,945	1,745,242
Outstanding and deferred premiums	494,011	486,494	500,172	566,337	658,048
Other assets	5,151	2,745	3,617	7,676	42,980
Totals, British Companies	**59,218,676**	**63,155,496**	**64,265,154**	**68,290,823**	**71,630,903**
Foreign Companies					
Real estate	2,840,327	2,643,794	2,482,447	1,484,729	1,486,158
Real estate held under agreements of sale	[3]	[3]	[3]	[3]	[3]
Loans on real estate	18,413,291	18,018,529	12,806,994	7,596,887	7,177,058
Loans on collaterals	[3]	[3]	[3]	[3]	[3]
Policy loans	50,493,067	47,123,506	43,765,493	41,740,177	40,691,189
Bonds, debentures and stocks	507,515,985	572,418,156	618,309,566	680,354,486	729,520,499
Interest and rent due and accrued	7,114,264	6,874,344	7,372,756	7,399,719	7,866,677
Cash	19,727,299	15,824,091	15,199,265	18,243,645	25,010,462
Outstanding and deferred premiums	10,127,401	11,063,244	11,905,054	12,927,754	13,489,268
Other assets	12,657	9,351	63,499	66,992	53,961
Totals, Foreign Companies	**616,244,291**	**673,975,015**	**711,905,074**	**769,814,389**	**825,295,272**

[1] A detailed classification of assets showing investments of Canadian companies and giving the percentage of the total in each group and sub-group for 1944, 1945 and 1946 will be found at p. xiv of the Report of the Superintendent of Insurance, Vol. II, for the year ended Dec. 31, 1946. [2] Book values. The totals carried into the balance sheets before 1945 included some market (or authorized) values of these assets; these totals were: $2,729,419,685 in 1942; $2,921,471,387 in 1943; and $3,140,001,113 in 1944. After 1944, book values were in all cases carried into the balance sheet, any excess of book over market values being covered by a reserve in the liabilities. [3] None reported.

19.—Liabilities of Canadian Life Companies with Dominion Registration and Liabilities in Canada of British and Foreign Life Companies, 1942-46

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
Canadian Companies					
Outstanding claims	29,653,137	33,125,562	39,851,589	42,698,262	39,652,519
Reserve under contracts in force	2,255,545,175	2,394,677,482	2,547,453,501	2,725,376,272	2,918,747,317
Sundry liabilities	362,071,672	404,729,168	442,255,524	538,603,430	536,624,725
Totals, Canadian Companies[1]	**2,647,269,984**	**2,832,532,212**	**3,029,560,614**	**3,306,677,964**	**3,495,024,561**
Surpluses of assets excluding capital	82,149,701	88,939,175	110,440,499	143,074,029	164,242,077
Capital stock paid up	11,846,170	11,852,230	11,853,660	11,878,900	11,976,040
British Companies					
Outstanding claims	526,445	719,375	941,769	740,255	1,144,606
Reserve under contracts in force	42,147,894	43,799,317	46,976,119	50,628,298	56,619,138
Sundry liabilities	645,759	679,830	915,701	1,238,456	1,441,519
Totals, British Companies	**43,320,098**	**45,198,522**	**48,833,589**	**52,607,009**	**59,205,263**
Surpluses of assets in Canada[2]	15,899,422	17,957,819	15,432,410	15,684,698	12,426,531
Foreign Companies					
Outstanding claims	3,323,194	4,245,996	4,140,835	4,187,975	3,835,910
Reserve under contracts in force	507,746,674	542,664,034	581,778,494	622,351,836	660,757,683
Sundry liabilities	27,100,411	30,876,602	35,319,871	38,811,479	42,105,472
Totals, Foreign Companies	**538,170,279**	**577,786,632**	**621,239,200**	**665,351,290**	**706,699,065**
Surpluses of assets in Canada	78,074,012	96,188,383	90,665,874	104,463,099	118,596,207

[1] Not including capital. [2] Excludes one company which has not made a separation of its assets as between fire and life branches.

20.—Cash Income and Expenditure in Canada of Canadian Life Companies with Dominion Registration and Cash Income and Expenditure in Canada of British and Foreign Life Companies, by Principal Items, 1942-46.

Item	1942	1943	1944	1945	1946
	$	$	$	$	$
INCOME					
Canadian Companies					
Net premium income (including sinking funds)	249,754,350	267,104,940	284,552,359	309,416,004	340,608,203
Consideration for annuities	30,019,087	34,482,064	45,300,425	60,691,070	84,994,318
Interest, dividends and rents	103,712,818	112,251,402	119,689,333	121,285,219	124,551,975
Sundry items	59,099,364	72,239,576	84,512,379	116,262,083	123,782,803
Totals, Canadian Companies[1]	**442,585,619**	**486,077,982**	**534,054,496**	**607,654,376**	**673,937,299**
British Companies					
Net premium income (including sinking funds)	4,267,656	4,466,810	4,654,059	5,239,766	5,510,427
Consideration for annuities	228,216	475,887	1,079,410	1,430,955	3,255,498
Interest, dividends and rents	2,175,669	2,214,619	1,960,249	1,979,686	1,809,188
Sundry items	140,155	915,987	629,675	481,257	730,683
Totals, British Companies	**6,811,696**	**8,073,303**	**8,323,393**	**9,131,664**	**11,305,796**
Foreign Companies					
Net premium income	75,303,452	78,657,280	84,145,956	89,669,126	94,362,353
Consideration for annuities	1,530,834	1,635,024	2,000,012	2,066,772	2,769,557
Interest, dividends and rents	22,682,519	23,495,153	23,833,437	25,457,635	25,788,727
Sundry items	6,588,260	7,161,591	8,408,931	7,509,551	6,286,241
Totals, Foreign Companies	**106,105,065**	**110,949,048**	**118,388,336**	**124,703,084**	**129,206,878**
EXPENDITURE					
Canadian Companies					
Payments to policyholders	188,369,179	180,607,200	194,358,643	212,774,049	236,890,120
General expenses	59,814,452	63,492,701	68,515,005	74,693,716	92,498,807
Dividends to shareholders	1,386,262	1,315,301	1,324,171	1,332,458	1,396,973
Other disbursements	33,326,914	32,231,708	33,594,309	43,419,189	45,386,493
Totals, Canadian Companies[2]	**282,896,807**	**277,646,910**	**297,792,128**	**332,219,412**	**376,172,393**
Excess of income over expenditure	159,688,812	208,431,072	236,262,368	275,434,964	297,764,906
British Companies					
Payments to policyholders	3,664,351	2,687,256	3,517,715	4,015,885	3,533,560
General expenses	1,155,025	1,274,665	1,375,639	1,648,302	2,279,662
Other disbursements	131,081	102,650	163,096	166,548	176,910
Totals, British Companies	**4,950,457**	**4,064,571**	**5,056,450**	**5,830,735**	**5,990,132**
Excess of income over expenditure	1,861,239	4,008,732	3,266,943	3,300,929	5,315,664
Foreign Companies					
Payments to policyholders	47,125,627	45,598,531	50,158,688	54,774,067	58,330,186
General expenses	16,225,493	16,922,479	17,342,564	18,207,681	20,328,025
Other disbursements	3,187,347	2,850,578	3,184,797	3,262,611	3,912,698
Totals, Foreign Companies	**66,538,467**	**65,371,588**	**70,686,049**	**76,244,359**	**82,570,909**
Excess of income over expenditure	39,566,598	45,577,460	47,702,287	48,458,725	46,635,969

[1] Includes income on business outside Canada.

[2] Includes expenditure on business outside Canada.

Subsection 4.—Life Insurance Effected through Fraternal Benefit Societies

In addition to life insurance, some fraternal benefit societies grant other insurance benefits to members, notably sickness benefits, but these are relatively unimportant. Table 21 gives statistics of life insurance effected with fraternal benefit societies by Canadian members, together with statistics of assets, liabilities, income and expenditure relating to the whole business of Canadian societies and to the business in Canada of foreign societies. The rates charged by these societies are computed to be sufficient to provide the benefits granted, having regard for actuarial principles. The benefit funds of each society must be valued annually by a qualified actuary (Fellow, by examination, of the Institute of Actuaries, London; of the Faculty of Actuaries in Scotland; of the Actuarial Society of America; or of the American Institute of Actuaries) and, unless the actuary certifies to the solvency of each fund, a readjustment of rates or benefits must be made. The statistics in the first part of this table relate to the 16 Canadian societies reporting to the Insurance Department of the Federal Government, only one of which does not grant life insurance benefits.

Under an amendment to the Insurance Act, effective Jan. 1, 1920, all foreign fraternal benefit societies were required to obtain Dominion authority prior to transacting business in Canada. However, any such societies which at that date were transacting business under provincial licences, while forbidden to accept new members, were permitted to continue all necessary transactions in respect of insurance already in force. Most of these societies have since obtained Dominion authority to transact business, also some foreign societies that had not previously been licensed by the provinces. Of both classes of societies, 30 transacted business in Canada during 1946, two of which do not grant life insurance benefits.

21.—Life Insurance in Canada of Fraternal Benefit Societies Reporting to the Dominion Insurance Department, 1942-46

Item	1942	1943	1944	1945	1946
CANADIAN SOCIETIES[1]	No.	No.	No.	No.	No.
Net certificates effected	17,281	16,822	15,724	17,781	22,251
Net certificates become claims	3,070	3,301	3,363	3,347	3,286
	$	$	$	$	$
Net premium income	1,798,294	2,007,554	2,328,080	2,428,641	2,466,794
Net amounts of certificates effected	15,308,315	15,231,629	15,282,835	17,772,650	22,850,967
Net amounts in force	118,233,025	130,088,697	136,047,105	151,255,637	165,792,519
Net amounts of certificates become claims	2,627,440	2,732,071	2,695,737	2,845,697	2,812,487
Net benefits paid	3,072,460	3,150,963	3,237,437	3,096,212	3,187,842
Net outstanding claims	398,172	468,803	395,754	442,543	438,411
Gross Amounts Terminated by—					
Death	1,983,938	2,041,619	1,968,409	2,182,901	2,131,975
Surrender, expiry, lapse, etc	8,067,569	8,984,637	9,521,647	9,865,312	10,718,409
Totals, Terminated	10,051,507	11,026,256	11,490,056	12,048,213	12,850,384
Assets					
Real estate	7,893,944	6,787,719	5,572,863	4,523,584	3,698,409
Real estate held under agreements of sale	680,839	1,060,593	1,209,325	1,281,834	997,818
Loans on real estate	9,006,335	8,538,214	8,331,442	9,250,512	9,790,876
Policy loans	7,057,845	6,631,473	6,251,126	5,844,979	5,543,355
Bonds, debentures and stocks	58,223,335	63,986,281	67,609,473	70,852,761	74,553,928
Cash	1,404,083	1,620,793	1,931,621	1,940,682	1,572,543
Interest and rent due and accrued	717,131	739,764	769,824	783,156	763,085
Dues from members	297,084	369,591	366,214	329,423	359,822
Other assets	573,920	203,344	208,167	246,155	235,608
Totals, Assets	**85,854,516**	**89,937,772**	**92,250,055**	**95,053,086**	**97,515,444**

[1] Includes business outside Canada.

21.—Life Insurance in Canada of Fraternal Benefit Societies Reporting to the Dominion Insurance Department, 1942-46—continued

Item	1942	1943	1944	1945	1946
CANADIAN SOCIETIES[1]—concluded	$	$	$	$	$
Liabilities					
Outstanding claims	493,042	590,294	511,531	565,453	552,453
Reserve under contracts in force	69,142,806	71,971,478	73,831,203	75,376,761	76,797,906
Other liabilities	6,723,380	7,523,778	7,965,582	9,012,574	9,881,197
Totals, Liabilities	**76,359,228**	**80,085,550**	**82,308,316**	**84,954,788**	**87,231,556**
Income					
Premiums (for benefits)	3,637,646	3,885,241	4,223,461	4,372,857	4,211,149
Fees and dues (for expenses)	1,664,938	1,679,123	1,825,040	2,056,121	2,872,978
Interest and rents	3,792,399	3,880,708	3,799,614	4,047,952	3,969,289
Other receipts	287,360	246,740	770,656	822,914	1,317,891
Totals, Income	**9,382,343**	**9,691,812**	**10,618,771**	**11,299,844**	**12,371,307**
Expenditures					
Paid to members	5,875,680	5,771,877	5,971,542	5,943,404	6,149,275
General expenses	1,618,881	1,634,841	1,772,304	2,108,049	2,851,288
Other expenditures	364,505	257,606	226,976	277,448	164,281
Totals, Expenditures	**7,859,066**	**7,664,324**	**7,970,822**	**8,328,901**	**9,164,844**
Excess of income over expenditure	1,523,277	2,027,488	2,647,949	2,970,943	3,206,463
FOREIGN SOCIETIES	No.	No.	No.	No.	No.
Net certificates effected	9,312	9,506	11,553	10,379	11,827
Net certificates become claims	979	1,078	1,124	1,103	1,129
	$	$	$	$	$
Net premium income	1,747,513	1,885,578	2,068,944	2,181,377	2,333,550
Net amounts of certificates effected	9,637,127	10,041,549	12,140,059	11,106,740	14,467,621
Net amounts in force	77,491,088	82,826,060	89,758,370	94,866,139	102,514,715
Net amounts of certificates become claims	1,019,188	1,178,288	1,197,928	1,170,293	1,175,955
Net benefits paid	1,336,208	1,463,704	1,521,494	1,589,596	1,680,546
Net outstanding claims	192,372	231,724	257,347	252,194	198,294
Gross Amounts Terminated by—					
Death	920,570	1,048,005	1,093,645	1,059,949	1,016,662
Surrender, expiry, lapse, etc	4,514,007	5,040,346	5,372,839	6,226,310	7,392,366
Totals, Terminated	5,434,577	6,088,351	6,466,484	7,286,259	8,409,028
Assets					
Real estate	977	977	977	977	977
Loans on real estate	138,794	126,728	111,532	101,977	118,513
Policy loans	1,519,992	1,477,320	1,415,190	1,304,229	1,275,184
Bonds, debentures and stocks	11,707,801	13,193,879	15,351,811	16,849,323	18,582,907
Cash	890,366	935,737	997,582	975,476	1,672,648
Interest and rent due and accrued	98,999	104,055	120,809	137,852	148,256
Dues from members	105,556	109,022	183,495	169,302	174,991
Other assets	22,217	24,635	22,315	32,432	1,000
Totals, Assets	**14,484,702**	**15,972,353**	**18,203,711**	**19,571,568**	**21,974,476**
Liabilities					
Outstanding claims	287,856	339,295	386,263	381,925	346,529
Reserve under contracts in force	14,314,815	15,091,136	16,025,979	17,059,839	18,656,607
Other liabilities	697,205	914,285	1,090,252	1,303,011	1,469,237
Totals, Liabilities	**15,299,876**	**16,344,716**	**17,502,494**	**18,744,775**	**20,472,373**

[1] Includes business outside Canada.

21.—Life Insurance in Canada of Fraternal Benefit Societies Reporting to the Dominion Insurance Department, 1942-46—concluded

Item	1942	1943	1944	1945	1946
FOREIGN SOCIETIES—concluded	$	$	$	$	$
Income					
Premiums (for benefits)	2,057,154	2,331,339	2,664,104	2,884,367	3,101,912
Fees and dues (for expenses)	487,294	650,233	816,992	886,746	959,131
Interest and rents	382,952	494,246	447,876	580,592	625,677
Other receipts	214,079	190,080	151,119	202,930	240,873
Totals, Income	**3,141,479**	**3,665,898**	**4,080,091**	**4,554,635**	**4,927,593**
Expenditures					
Paid to members	1,573,264	1,811,382	2,029,658	2,154,868	2,291,600
General expenses	297,809	439,113	539,628	558,410	621,897
Other expenditures	45,622	49,003	60,161	61,299	70,541
Totals, Expenditures	**1,916,695**	**2,299,498**	**2,629,447**	**2,774,577**	**2,984,038**
Excess of income over expenditure	1,224,784	1,366,400	1,450,644	1,780,058	1,943,555

Subsection 5.—Life Insurance in Force Outside Canada by Canadian Companies Registered by the Federal Government

Tables 22 and 23 give summary statistics of insurance in force as at Dec. 31, 1946, in currencies other than Canadian, classified by companies and by the currencies in which business was written. The data given here are in Canadian dollars, mainly at par rates of exchange for the countries concerned, but there are several exceptions where, for purposes of account, certain companies have converted foreign currencies at rates other than par, particularly where the current rate differs substantially from the par rate. More than 62 p.c. of all such business in force was written in United States currency and over 22 p.c. in sterling. From another standpoint, over 32 p.c. was written in currency of British countries outside Canada, and over 67 p.c. in currencies of foreign countries.

Canadian life companies operating under Dominion registration had in force in countries outside Canada, at Dec. 31, 1946, life insurance amounting to $4,132,034,001, and sinking fund and capital redemption insurance amounting to $5,444,456. As shown in Table 22, insurance in force in currencies other than Canadian amounted to $3,997,305,177. The difference between these figures is presumably the net amount of non-Canadian business transacted in Canadian currency. As against the total non-Canadian business, including annuity business, the British and foreign investments of Canadian life insurance companies as at Dec. 31, 1946, amounted to $1,387,784,924. Since the business in force in Canada of these companies at Dec. 31, 1946, amounted to $7,202,652,090, the total business on their books, Canadian and non-Canadian, amounted to $11,340,130,547. Thus, over 36 p.c. of the total business in force was outside Canada.

22.—Life Insurance Effected and in Force and Liabilities of Canadian Companies (Excluding Fraternal Societies) Operating Under Dominion Registration, in Currencies Other than Canadian, 1946.

NOTE.—Figures are given in Canadian dollars, mainly at par rates of exchange.

Company	Insurance Effected			Insurance in Force		
	British Currencies	Foreign Currencies	Total	British Currencies	Foreign Currencies	Total
	$	$	$	$	$	$
Canada	14,148,318	21,793,788	35,942,106	151,747,703	220,180,527	371,928,230
Commercial	Nil	Nil	–	Nil	35,000	35,000
Confederation	14,664,953	18,402,520	33,067,473	115,768,515	110,103,542	225,872,057
Continental	Nil	Nil	–	32,370	145,783	178,153
Crown	10,650,488	31,178,501	41,828,989	52,275,566	96,840,399	149,115,965
Dominion	2,217,659	6,554,736	8,772,395	9,259,088	31,871,061	41,130,149
Dominion of Canada General	258,430	Nil	258,430	2,099,310	12,933	2,112,243
T. Eaton	Nil	"	–	15,000	4,821	19,821
Equitable	"	"	–	Nil	307,261	307,261
Great-West	"	37,663,324	37,663,324	466,965	235,326,564	235,793,529
Imperial	7,908,605	3,699,817	11,608,422	33,980,001	35,056,235	69,036,236
London	Nil	944,410	944,410	Nil	3,775,237	3,775,237
Manufacturers	32,148,230	42,224,727	74,372,957	210,615,828	248,954,086	459,569,914
Maritime	137,700	Nil	137,700	1,792,828	25,575	1,818,403
Monarch	Nil	15,000	15,000	Nil	202,511	202,511
Montreal	"	10,000	10,000	410,336	457,211	867,547
Mutual	"	976,329	976,329	1,096,553	12,614,243	13,710,796
National	972,692	Nil	972,692	4,840,875	447,408	5,288,283
North American	759,371	3,906,024	4,665,395	3,213,500	26,373,196	29,586,696
Northern	Nil	4,601,341	4,601,341	28,133	9,948,389	9,976,522
Sauvegarde	"	Nil	–	Nil	10,000	10,000
Sun	97,643,692	146,884,510	244,528,202	713,310,305	1,663,599,383	2,376,909,688
Western	Nil	Nil	–	Nil	60,936	60,936
Totals	**181,510,138**	**318,855,027**	**500,365,165**	**1,300,952,876**	**2,696,352,301**	**3,997,305,177**

Company	Liabilities		
	British	Foreign	Total
	$	$	$
Canada	87,216,692	82,999,116	170,215,808
Commercial	Nil	15,437	15,437
Confederation	53,015,164	27,266,664	80,281,828
Continental	11,417	52,623	64,040
Crown	18,027,063	17,916,468	35,943,531
Dominion	1,659,873	7,591,839	9,251,712
Dominion of Canada General	363,934	3,262	367,196
T. Eaton	9,003	2,108	11,111
Equitable	Nil	70,152	70,152
Great-West	465,837	67,288,514	67,754,351
Imperial	12,595,164	11,012,696	23,607,860
London	Nil	444,929	444,929
Manufacturers	92,066,879	87,723,690	179,790,569
Maritime	735,714	9,694	745,408
Monarch	Nil	345,650	345,650
Montreal	1,608	132,009	133,617
Mutual	401,914	3,483,061	3,884,975
National	779,678	192,163	971,841
North American	708,772	7,747,406	8,456,178
Northern	13,005	653,531	666,536
Sauvegarde	Nil	760	760
Sun	336,356,245	565,264,710	901,620,955
Western	Nil	14,125	14,125
Totals	**604,427,962**	**880,230,607**	**1,484,658,569**

23.—Life Insurance Effected and in Force and Liabilities by Canadian Companies (Excluding Fraternal Societies) Operating Under Dominion Registration, in Currencies Other Than Canadian, by Currencies, 1946.

NOTE.—Figures are given in Canadian dollars, mainly at par rates of exchange.

Currency	Insurance Effected	Insurance in Force	Liabilities
	$	$	$
British—			
Pounds—			
Sterling	118,748,145	884,186,818	461,214,896
British West Indies[1]	8,091,439	47,279,046	11,718,262
Palestine	514,889	3,204,580	524,669
South Africa	23,307,329	142,382,049	37,186,220
Southern Rhodesia	287,088	1,623,666	514,376
Dollars—			
British Guiana; British West Indies	8,135,337	50,393,479	15,686,405
British Honduras	5,000	136,261	16,530
Hong Kong	2,172,575	8,482,011	4,079,156
Straits Settlements	280,243	5,277,633	3,670,260
Rupees—			
British India	19,880,104	157,885,963	69,803,943
Shillings—			
East Africa	87,989	101,370	13,245
Totals, British	**181,510,138**	**1,300,952,876**	**604,427,962**
Foreign—			
Bolivares (Venezuela)	2,983,983	2,972,629	70,548
Cordobas (Nicaragua)	Nil	131,388	68,213
Dollars (China)	25,066	2,897,326	1,756,610
Dollars (United States)	282,293,196	2,513,788,028	831,915,247
Florins (Netherlands)[2]	182,356	1,481,789	1,151,637
Francs (France)	Nil	170,299	128,626
Francs (Switzerland)	"	5,600	15,047
Guilders (Netherlands)[2]	1,505,951	16,803,930	4,891,942
Pesos (Argentina)	4,865,869	47,469,531	13,118,913
Pesos (Chile)	Nil	2,503,859	1,663,863
Pesos (Colombia)	1,459,250	4,370,934	676,286
Pesos (Cuba)	6,726,729	22,769,092	2,029,358
Pesos (Mexico)	2,522,913	15,408,672	2,794,048
Pesos (Philippines)	10,900,907	19,948,614	4,558,833
Pounds (Egypt)	5,379,441	30,615,101	7,431,106
Quetzales (Guatemala)	Nil	Nil	3,448
Soles Oro (Peru)	"	1,299,370	722,981
Ticals (Siam)	4,500	3,099,584	954,981
Yen (Japan)	Nil	10,546,539	6,237,533
Miscellaneous	4,866	70,016	41,387
Totals, Foreign	**318,855,027**	**2,696,352,301**	**880,230,607**
Grand Totals	**500,365,165**	**3,997,305,177**	**1,484,658,569**

[1] Including Bermuda. [2] Indonesia, Netherlands Antilles and Netherlands Guiana.

Subsection 6.—Grand Total of All Life Insurance in Canada and the Business of Canadian Organizations Abroad

Table **24** summarizes the business outside Canada of Canadian life companies and fraternal benefit societies. If to these figures is added the business in Canada of these organizations, as shown in Table **12**, the total business, internal and external, of all Canadian life insurance companies and fraternal societies may be obtained. Again, adding the business in Canada of British and foreign companies and fraternal societies, a grand total is obtained of all life insurance in Canada and of the life insurance business abroad of Canadian organizations; this total is shown in Table **25**.

24.—Business Abroad of Canadian Life Companies and Fraternal Societies, 1946

NOTE.—Figures for business in Canada will be found in Table 12, p. 1071.

Item	New Policies Effected (net)	Net Insurance in Force Dec. 31	Net Premiums Received	Net Claims Paid
	$	$	$	$
Canadian Life Companies—				
Dominion	511,179,735	4,132,034,001	155,930,626	73,924,419
Provincial	[1]	[1]	[1]	[1]
Canadian Fraternal Societies—				
Dominion	8,500,100	91,840,309	1,169,358	2,343,179
Provincial	[1]	[1]	[1]	[1]
Totals	**519,679,835**	**4,223,874,310**	**157,099,984**	**76,267,598**

[1] None reported.

25.—Grand Total of All Life Insurance Business in Canada and of Canadian Organizations Abroad, 1946

Item	New Policies Effected (net)	Net Insurance in Force Dec. 31	Net Premiums Received	Net Claims Paid
	$	$	$	$
Canadian Life Companies—				
Dominion	1,492,220,779	11,333,319,816	339,995,925	136,178,344
Provincial	75,912,057	281,120,884	6,819,105	1,648,603
Canadian Fraternal Societies—				
Dominion	31,351,067	257,632,828	3,636,152	5,016,077
Provincial	24,845,228	148,215,470	3,528,553	2,164,642
British Life companies	30,197,611	205,626,216	5,510,427	2,487,777
Foreign Life companies	382,284,012	3,405,480,833	94,362,353	34,104,556
Foreign Fraternal companies	14,467,621	102,514,715	2,333,550	1,246,371
Grand Totals	**2,051,278,375**	**15,733,910,762**	**456,186,065**	**182,846,370**

Section 3.—Casualty Insurance

Since 1875, the growth of casualty insurance business has been steady. The report of the Superintendent of Insurance for the calendar year 1880 shows that the number of companies licensed for the transaction of accident, guarantee, plate glass and steam-boiler insurance—the only four classes of casualty insurance then transacted—was 5, 3, 1 and 1, respectively. The report for the year 1946 shows that casualty insurance in Canada now includes various forms of accident and 23 other classes of insurance transacted by Dominion registered companies. In 1880, 10 companies transacted casualty insurance, but in 1946 such insurance was issued by 273 companies, of which 58 were Canadian, 72 British and 143 foreign; of these, 204 companies also transacted fire insurance. In addition, 21 fraternal orders or societies carried on accident and sickness insurance as well as life insurance business and 3 fraternal orders or societies carried on accident or sickness insurance only.

Table 26, which shows the division of business in this field between Dominion and provincial licensees, indicates that, as in the cases of fire and life insurance, the bulk of the business (about 90 p.c. in this case) is transacted by companies with Dominion registration.

Since, as indicated above, most of the companies carrying on casualty insurance in Canada also transact fire insurance, their assets, liabilities, income and expenditures are included in the financial statistics of fire insurance companies given in Section 1,

Subsection 3, of this Chapter. Table 28 gives similar figures for the total casualty business of Canadian companies, and for the casualty business in Canada of British and foreign companies, whose transactions are confined to insurance other than fire and life. In 1946, there were 11 Canadian, 5 British and 50 foreign companies whose operations were limited to the same field.

During the war years, automobile insurance showed a favourable experience with a loss ratio of around 45 p.c. This ratio was slightly lower than for the pre-war years, the result of lessened traffic, but since the end of hostilities the experience tends to be less favourable and now stands around 51 p.c.

Hail insurance in 1943 and 1944 had an unfavourable experience, but in 1945 and 1946 the loss ratio fell to approximately 25 p.c.

Marine insurance showed a very large increase in Canada during the war years and substantial profits resulted. The results for the years 1941 to 1946, inclusive, were as follows:—

Year	*Premiums*	*Claims Incurred*	*Underwriting Profits*
	$	$	$
1941	6,011,922	2,781,190	1,694,470
1942	14,295,543	7,983,963	3,855,415
1943	10,061,059	4,931,286	3,449,873
1944	6,754,361	2,172,418	3,243,889
1945	5,978,274	2,995,704	1,704,367
1946	5,655,392	2,232,701	2,084,412

This class of insurance will, no doubt, figure more largely in the business of companies in post-war years than it did before 1939.

26.—Casualty Insurance Premiums and Claims in Canada, by Class of Business, 1946

NOTE.—Less all reinsurance for Canadian companies and registered or licensed reinsurance only for British and foreign companies.

Class of Business	Dominion Registered Companies	Provincial Licensees			Lloyds	Grand Total
		Within Provinces by Which They Are Incorp.	In Provinces Other Than Those by Which They Are Incorp.	Total Provincial Licensees		
	NET PREMIUMS WRITTEN					
	$	$	$	$	$	$
Accident—						
Personal	5,035,928	15	25	40	263,131	5,299,099
Public liability	4,594,548	97,718	3,462	101,180	220,313	4,916,041
Employers' liability	1,653,382	235,737	Nil	235,737	145,656	2,034,775
Accident and sickness combined	14,132,417	151,235	72,778	224,013	1,332	14,357,762
Aircraft	394,894	Nil	Nil	–	450,981	845,875
Automobile	33,747,874	2,240,730	769,642	3,010,372	2,949,557	39,707,803
Boiler—(a) Boiler	1,012,030	11,020	9,685	20,705	250,562	1,283,297
(b) Machinery	552,936	Nil	Nil	–	119,847	672,783
Credit	265,996	"	"	–	Nil	265,996
Earthquake	34,973	"	"	–	10,178	45,151
Explosion	49,433	40	17	57	66,502	115,992
Falling aircraft	−60	Nil	Nil	–	Nil	−60
Forgery	54,010	"	"	–	2,992	57,002
Guarantee (fidelity)	1,687,267	70,026	2,917	72,943	153,047	1,913,257
Guarantee (surety)	1,030,987				32,844	1,063,831
Hail	4,004,784	177,634	Nil	177,634	33,656	4,216,074
Inland transportation	2,439,586	4,361	19	4,380	44,324	2,488,290
Live stock	77,202	Nil	Nil	Nil	44,234	121,436

26.—Casualty Insurance Premiums and Claims in Canada, by Class of Business, 1946—concluded

Class of Business	Dominion Registered Companies	Provincial Licensees: Within Provinces by Which They Are Incorp.	Provincial Licensees: In Provinces Other Than Those by Which They Are Incorp.	Provincial Licensees: Total Provincial Licensees	Lloyds	Grand Total
	NET PREMIUMS WRITTEN—concluded					
	$	$	$	$	$	$
Personal property	9,004,881	20,088	9,295	29,383	46,494	9,080,758
Plate glass	790,463	51,322	225	51,547	825	842,835
Real property	209,420	Nil	Nil	–	39,288	248,708
Sickness	4,282,415	"	"	–	122	4,282,537
Sprinkler[1]	17,914	"	"	–	1,118	19,032
Theft	2,302,368	38,740	2,724	41,464	83,374	2,427,206
Weather	21,317	66,487	Nil	66,487	7,763	95,567
Windstorm	240,629	133,755	241	133,996	53	374,678
Totals	**87,637,594**	**3,298,908**	**871,030**	**4,169,938**[2]	**4,968,193**	**96,775,725**[2]
	NET CLAIMS INCURRED					
	$	$	$	$	$	$
Accident—						
Personal	1,437,028	Nil	Nil	–	7,810	1,444,838
Public liability	1,493,838	38,898	392	39,290	70,817	1,603,945
Employers' liability	594,761	135,382	Nil	135,382	80,641	810,784
Accident and sickness combined	8,264,388	77,477	31,637	109,114	1,326	8,374,828
Aircraft	193,888	Nil	Nil	–	317,629	511,517
Automobile	17,291,249	1,051,644	291,500	1,343,144	1,777,004	20,411,397
Boiler—(a) Boiler	73,274	1,373	1,148	2,521	19,224	95,019
(b) Machinery	238,367	Nil	Nil	–	147,112	385,479
Credit	3,741	"	"	–	Nil	3,741
Earthquake	1,527	Nil	Nil	–	Nil	1,527
Explosion	3,366	"	"	–	1,183	4,549
Falling aircraft	Nil	"	"	–	Nil	–
Forgery	1,293	"	"	–	37	1,330
Guarantee (fidelity)	188,718	14	10,110	10,124	57,621	256,463
Guarantee (surety)	−14,804				Nil	−14,804
Hail	997,404	51,694	Nil	51,694	9,533	1,058,631
Inland transportation	1,089,919	1,059	"	1,059	31,493	1,122,471
Live stock	42,642	Nil	"	–	29,061	71,703
Personal property	5,899,485	9,735	11,091	20,826	8,539	5,928,850
Plate glass	307,217	29,755	Nil	29,755	719	337,691
Real property	−20,152	Nil	"	–	613	−19,539
Sickness	1,704,903	"	"	–	Nil	1,704,903
Sprinkler[1]	5,662	"	"	–	701	6,363
Theft	789,260	14,869	5,359	20,228	84,517	894,005
Weather	3,541	13,675	Nil	13,675	Nil	17,216
Windstorm	182,041	69,801	33	69,834	"	251,875
Totals	**40,772,556**	**1,495,376**	**351,270**	**1,846,646**[3]	**2,645,580**	**45,264,782**[3]

[1] This business was transacted by a company not holding a certificate of registry to transact fire insurance and by some companies registered to transact fire insurance, but which showed figures for this class of business separately from their fire business. [2] Excludes $2,940,561 premiums for fraternal benefit societies for accident, sickness and funeral business. [3] Excludes $2,008,353 claims for fraternal benefit societies for accident, sickness and funeral business.

27.—Net Premiums Written and Net Claims Incurred in Canada by Companies Registered by the Dominion to Transact Casualty Insurance, by Class of Business, 1941-46.

NOTE.—Less all reinsurance for Canadian companies and registered or licensed reinsurance only for British and foreign companies.

Class of Business	1941	1942	1943	1944	1945	1946
	NET PREMIUMS WRITTEN					
	$	$	$	$	$	$
Accident—						
Personal	3,306,866	3,350,070	3,607,689	4,000,326	4,202,407	5,035,928
Public liability	2,628,033	3,084,279	3,509,695	3,566,834	4,028,398	4,594,548
Employers' liability	1,207,809	1,718,503	1,660,757	1,909,565	1,685,801	1,653,382
Accident and sickness combined	4,464,546	5,847,877	7,708,486	11,196,531	12,649,497	14,132,417
Aircraft	427,538	471,753	318,949	564,639	691,777	394,894
Automobile	23,464,172	20,292,516	18,907,940	20,556,660	24,157,368	33,747,874
Boiler—(a) Boiler	857,971	546,445	681,020	995,028	805,935	1,012,030
(b) Machinery	321,883	355,118	392,074	371,351	476,585	552,936
Credit	233,863	236,389	257,381	260,246	235,906	265,996
Earthquake	10,885	7,381	3,209	19,495	12,311	34,973
Explosion	302,652	388,085	216,007	210,328	123,617	49,433
Falling aircraft	10	70	788	418	122	−60
Forgery	52,734	61,262	45,484	53,603	75,685	54,010
Guarantee (fidelity)	1,255,481	1,291,195	1,278,661	1,393,141	1,595,362	1,687,267
Guarantee (surety)	899,740	721,244	725,930	748,219	838,635	1,030,987
Hail	749,081	1,871,002	1,774,093	3,502,109	2,970,789	4,004,784
Inland transportation	1,253,127	1,437,518	1,589,714	1,673,788	1,993,890	2,439,586
Live stock	20,509	23,058	32,316	50,089	54,362	77,202
Personal property	2,642,834	3,412,987	4,482,964	5,311,542	6,623,921	9,004,881
Plate glass	575,674	546,068	622,063	641,280	665,173	790,463
Real property	224,027	264,597	333,511	575,319	259,770	209,420
Sickness	1,911,282	1,990,815	2,538,233	2,038,917	2,966,910	4,282,415
Sprinkler[1]	21,920	11,886	14,353	17,932	18,648	17,914
Theft	1,343,179	1,337,350	1,447,868	1,669,948	1,880,354	2,302,368
Weather	9,166	2,571	8,822	6,941	10,787	21,317
Windstorm	155,352	157,717	167,891	185,502	193,932	240,629
Totals	**48,340,334**	**49,427,756**	**52,325,898**	**61,519,751**	**69,217,942**	**87,637,594**
	NET CLAIMS INCURRED					
	$	$	$	$	$	$
Accident—						
Personal	1,224,089	1,085,689	1,245,738	1,245,172	1,360,309	1,437,028
Public liability	803,822	939,324	974,863	916,988	1,502,481	1,493,838
Employers' liability	551,046	862,603	726,456	737,117	570,058	594,761
Accident and sickness combined	2,593,132	3,746,495	5,869,869	7,908,579	8,193,230	8,264,388
Aircraft	404,626	154,164	229,759	140,078	61,094	193,888
Automobile	11,525,765	8,668,314	8,689,106	10,042,652	12,412,766	17,291,249
Boiler—(a) Boiler	62,084	114,055	113,396	82,173	193,758	73,274
(b) Machinery	72,891	93,134	79,134	109,802	131,463	238,367
Credit	16,060	9,149	5,361	−1,638	3,784	3,741
Earthquake	Nil	Nil	2,250	648	9,792	1,527
Explosion	469	134	1,136	6,294	8,995	3,366
Falling aircraft	Nil	Nil	Nil	Nil	129	Nil
Forgery	630	9,474	7,632	−6,895	23,150	1,293
Guarantee (fidelity)	192,394	228,533	52,344	42,418	85,371	188,718
Guarantee (surety)	43,137	−1,378	48,781	807	84,249	−14,804
Hail	402,961	1,081,949	1,585,346	3,143,471	917,360	997,404
Inland transportation	405,344	621,298	555,099	700,148	781,200	1,089,919
Live stock	12,264	13,724	9,479	20,257	17,134	42,642
Personal property	1,592,365	2,294,892	2,986,857	3,462,304	3,918,471	5,899,485
Plate glass	293,294	312,947	346,010	315,613	476,055	307,217
Real property	92,619	81,680	97,052	9,421	265,347	−20,152
Sickness	1,151,581	1,208,310	1,661,824	1,012,782	1,287,348	1,704,903
Sprinkler[1]	5,162	12,875	1,997	4,275	9,121	5,662
Theft	345,486	416,696	535,168	591,333	761,371	789,260
Weather	4,390	1,116	4,236	2,536	4,913	3,541
Windstorm	122,975	74,507	109,496	105,801	78,255	182,041
Totals	**21,918,586**	**22,029,684**	**25,938,389**	**30,592,136**	**33,157,204**	**40,772,556**

[1] This business was transacted by a company not holding a certificate of registry to transact fire insurance and by some companies registered to transact fire insurance but which showed figures for this class of business separately from their fire business.

28.—Assets and Liabilities, Income and Expenditure of Canadian, British and Foreign Casualty Insurance Companies, 1946

Companies	Assets	Liabilities	Excess of Assets Over Liabilities	Income	Expenditure	Excess of Income Over Expenditure
	$	$	$	$	$	$
Canadian (in all countries)..	11,705,752	5,323,900[1]	6,381,852	6,132,784	5,251,095	881,689
British (in Canada).....	715,676	336,951	378,725	285,493	219,317	66,176
Foreign (in Canada).....	34,418,085	18,751,681	15,666,404	27,519,983	23,311,305	4,208,678
Totals.....	**46,839,513**	**24,454,306**	**22,426,981**	**33,938,260**	**28,781,717**	**5,156,543**

[1] Not including capital stock.

CHAPTER XXVI.—NATIONAL ACCOUNTS AND RELATED ECONOMIC STATISTICS

CONSPECTUS

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PART I.—NATIONAL ACCOUNTS*

This Chapter marks a considerable advance in the treatment of national accounts statistics. For the first time comparable historical series are made available for the years 1926 to 1947. These include national income, gross national product, gross national expenditure, and personal income and its disposition. In addition, separate tables are presented for the years 1938 to 1947 showing the sources and disposition of private saving.

These tables summarize some of the more important economic transactions in the country and make possible the study of interrelationships in the economic system as a whole. Only brief notes on the tables are included: for more detailed explanations of concepts and methods reference should be made to the 1947 Year Book and to the publications by the Bureau of Statistics on National Income. These publications contain a number of tables not presented here.

National Income and Gross National Product.—The main totals in Table 1 (columns (4) and (8)) measure the value of goods and services produced by the labour and capital of Canadian residents in a year, each at a different stage in the valuation of these goods and services. Net national income at factor cost, or more briefly, national income, measures the value of new production after provision has been made for depreciation of capital assets employed in production, and exclusive of indirect taxes less subsidies. For the economy as a whole this total equals the earnings of Canadian residents from the production of goods and services, that is, the sum of salaries and wages, profits, interest, net rent and net income of agriculture and other unincorporated business. The gross national product measures the value of these goods and services at the prices at which they are purchased in the market. Accordingly, to obtain the gross national product, it is necessary to add to the national income, provisions for depreciation and indirect taxes less subsidies.

When the resources of an economy are fully employed the volume of new goods and services produced can increase but slowly from one year to the next. In 1946 economic resources in Canada were more or less fully employed. Accordingly, only a small increase in the volume of goods and services could be expected from 1946 to 1947. Prices, however, rose substantially from 1946 to 1947. Thus the

* Revised under Dr. C. M. Isbister, Assistant Dominion Statistician (Research and Development) by A. S. Abell, Director, National Income.

cost-of-living index rose by 10 p.c. during this period. Because the gross national product is expressed in terms of *value* and not in terms of *volume* the relatively small increase in the *volume* of goods and services from 1946 to 1947 appears as a substantially larger increase in the gross national product—an increase of 13 p.c. In 1939, on the other hand, there were many unemployed resources in Canada, making it possible for a substantially larger volume of goods and services to be produced from 1939 to 1940. At the same time, the increase in prices as measured by the cost-of-living index was relatively small, 4 p.c. Accordingly, the increase of 21 p.c. in the gross national product from 1939 to 1940 reflects largely an increase in the *volume* of real goods and services and to a smaller extent price increases.

1.—Net National Income at Factor Cost, and Gross National Product at Market Prices, 1926-47

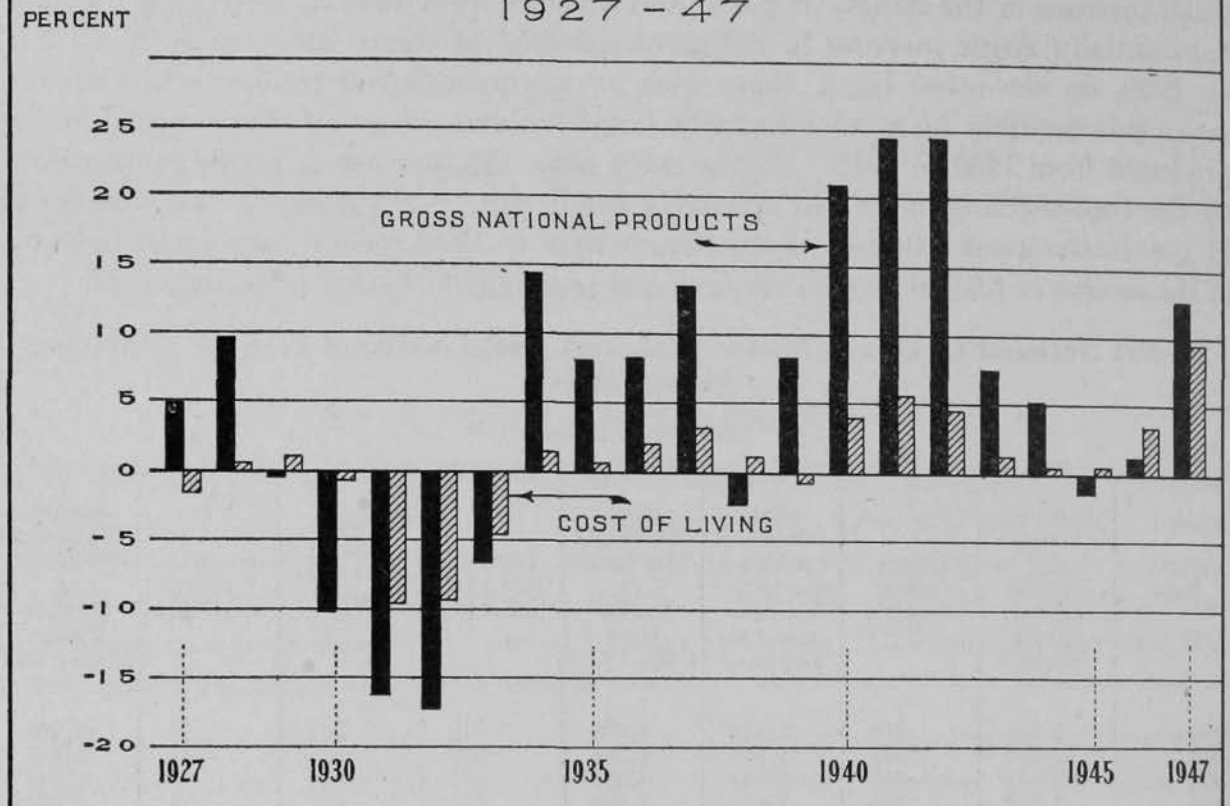
(Millions of Dollars)

Year	Salaries, Wages and Supplementary Labour Income[1]	Investment Income	Net Income of Agriculture and Other Unincorporated Business	**Net National Income at Factor Cost Cols. 1 to 3**	Indirect Taxes Less Subsidies	Depreciation Allowances and Similar Costs	Residual Error of Estimate	**Gross National Product at Market Prices Cols. 4 to 7**
1926.....	2,306	602	1,170	**4,078**	612	561	−55	**5,196**
1927.....	2,472	663	1,156	**4,291**	629	593	−66	**5,447**
1928.....	2,665	839	1,246	**4,750**	677	647	−89	**5,985**
1929.....	2,847	814	1,028	**4,689**	674	677	−84	**5,956**
1930.....	2,758	592	840	**4,190**	594	656	−92	**5,348**
1931.....	2,394	327	540	**3,261**	585	587	+47	**4,480**
1932.....	1,979	201	402	**2,582**	566	522	+48	**3,718**
1933.....	1,799	233	355	**2,387**	566	500	+15	**3,468**
1934.....	1,977	379	464	**2,820**	585	502	+55	**3,962**
1935.....	2,102	451	564	**3,117**	596	502	+70	**4,285**
1936.....	2,230	565	651	**3,446**	656	526	+16	**4,644**
1937.....	2,503	758	756	**4,017**	713	557	−8	**5,279**
1938.....	2,515	681	790	**3,986**	637	560	−18	**5,165**
1939.....	2,615	783	891	**4,289**	737	582	−10	**5,598**
1940.....	3,137	1,127	991	**5,255**	837	655	+25	**6,772**
1941.....	3,972	1,487	1,135	**6,594**	1,056	751	+33	**8,434**
1942.....	4,892	1,737	1,753	**8,382**	1,073	883	+169	**10,507**
1943.....	5,656	1,778	1,659	**9,093**	1,126	912	+166	**11,297**
1944.....	5,976	1,774	1,962	**9,712**	1,123	863	+189	**11,887**
1945.....	6,032	1,918	1,822	**9,772**	1,005	785	+170	**11,732**
1946.....	5,662	1,949	2,154	**9,765**	1,261	846	−9	**11,863**
1947[2].....	6,318	2,309	2,354	**10,981**	1,572	928	−106	**13,375**

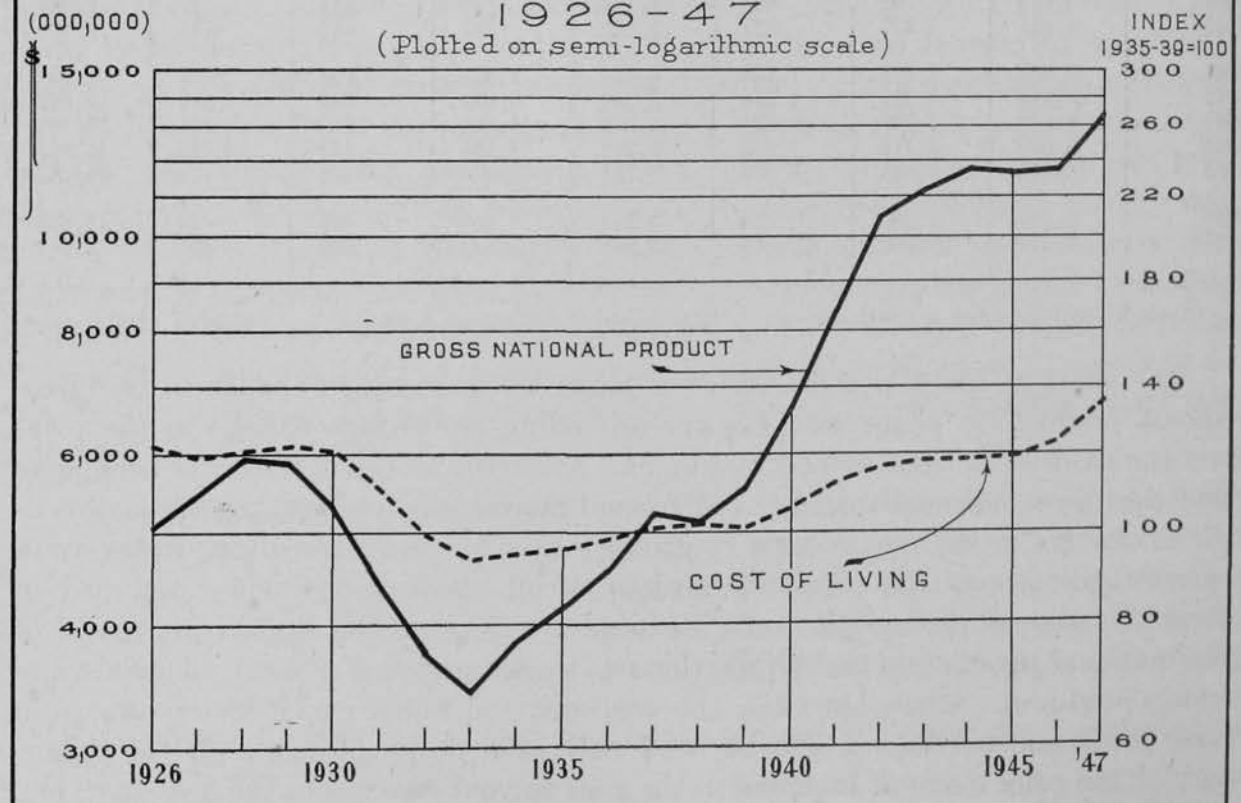
[1] Includes military pay and allowances. See Table 3, columns 1 and 3. [2] Revised preliminary.

The chart at the top of p. 1090 compares the percentage change in the gross national product by years with the corresponding percentage change in the price level as measured by the cost-of-living index. It illustrates the necessity of keeping in mind that gross national product and related aggregates measure price changes as well as changes in the real volume of production. If the cost-of-living index were a precise indicator of the price fluctuations of all goods and services included in the gross national product it could be used to convert the dollar quantities of gross national product to real terms, that is, to the physical volume of goods and services produced. Since, however, the cost-of-living index excludes the prices of many goods and services it can be used only as a rough indicator of the importance of the price element included in the year to year changes of the gross national product.

ANNUAL PERCENTAGE CHANGE IN GROSS NATIONAL PRODUCT
COMPARED WITH
ANNUAL PERCENTAGE CHANGE IN COST OF LIVING INDEX
1927 - 47



GROSS NATIONAL PRODUCT
COMPARED WITH
THE COST OF LIVING INDEX
1926-47
(Plotted on semi-logarithmic scale)



The heavy line in the chart at the bottom of p. 1090 traces the movement in the gross national product for the period 1926 to 1947. The dotted line graphs the movement in the cost-of-living index for the same years with 1935-39 as the base period.

Gross National Expenditure.—As indicated previously, one way of measuring the market value of new goods and services produced by Canadian residents is to add together all earnings (factor costs) arising in the course of production, depreciation allowances and similar business costs, and indirect taxes less subsidies. Another

2.—Gross National Expenditure at Market Prices, 1926-47

(Millions of Dollars)

Year	Personal Expenditure on Consumer Goods and Services	Government Expenditure on Goods and Services[1]	Gross Home Investment		Exports of Goods and Services	Imports of Goods and Services	Residual Error of Estimate	**Gross National Expenditure at Market Prices**
			Plant Equipment and Housing	Inventories				
1926.....	3,654	523	681	154	1,650	−1,522	+56	**5,196**
1927.....	3,885	567	774	166	1,618	−1,629	+66	**5,447**
1928.....	4,196	589	940	206	1,773	−1,808	+89	**5,985**
1929.....	4,383	686	1,107	10	1,632	−1,945	+83	**5,956**
1930.....	4,091	765	916	−177	1,286	−1,625	+92	**5,348**
1931.....	3,594	735	610	−237	967	−1,142	−47	**4,480**
1932.....	3,066	640	322	−166	804	−901	−47	**3,718**
1933.....	2,848	521	221	−105	826	−828	−15	**3,468**
1934.....	3,030	572	296	49	1,018	−948	−55	**3,962**
1935.....	3,209	611	360	49	1,143	−1,017	−70	**4,285**
1936.....	3,420	594	446	−45	1,428	−1,183	−16	**4,644**
1937.....	3,733	650	633	74	1,591	−1,409	+7	**5,279**
1938.....	3,770	695	576	6	1,356	−1,257	+19	**5,165**
1939.....	3,861	724	554	327	1,451	−1,328	+9	**5,598**
1940.....	4,379	1,156	713	371	1,805	−1,626	−26	**6,772**
1941.....	5,014	1,750	995	217	2,458	−1,967	−33	**8,434**
1942.....	5,547	3,817	931	335	2,322	−2,275	−170	**10,507**
1943.....	5,860	4,271	828	−40	3,403	−2,858	−167	**11,297**
1944.....	6,300	5,075	756	−82	3,566	−3,539	−189	**11,887**
1945.....	6,945	3,710	865	−300	3,576	−2,893	−171	**11,732**
1946.....	7,913	1,828	1,321	467	3,197	−2,871	+8	**11,863**
1947[2].....	8,888	1,481	2,042	842	3,616	−3,599	+105	**13,375**

[1] Includes Mutual Aid, UNRRA and Military Relief expenditure for the years 1942-47, respectively, to the amount of $1,002,000,000; $518,000,000; $960,000,000; $858,000,000; $97,000,000; and $38,000,000.
[2] Revised preliminary.

way of measuring these goods and services is to add together all sales and to adjust them for imports and changes in inventories. The total thus obtained is called gross national expenditure.

What is produced must either be sold or added to the inventories. Four broad types of sales can be distinguished: sales to persons, to governments, to business for capital account (capital formation at home including changes in inventories); and to foreigners (exports). The total of these sales includes imports of goods and services. Since the purpose is to measure only production of labour and capital of Canadian residents, imports of goods and services are deducted.

Thus national expenditure indicates the manner in which annual output is utilized. In 1928, spending by persons on consumer goods and services absorbed approximately 70 p.c. of the output while government expenditure on goods and services accounted for about 10 p.c. and investment in Canada in plant, equipment, housing and inventories for about 19 p.c. In 1933, during the depth of the depression, the percentages changed significantly to about 82 p.c., 15 p.c. and 3 p.c., respectively. The pattern of 1939, the last pre-war year, returned approximately to that of 1928, 69 p.c., 13 p.c. and 16 p.c. The tremendous expansion in output during the war years was absorbed in large part by Government expenditure for military purposes so that consumer spending in 1944 absorbed only 53 p.c. of total output, while Government spending accounted for 43 p.c. Investment expenditure was relatively small. By 1947, the pattern had again changed markedly. Reduced Government spending was more than offset by increased consumer spending which absorbed 66 p.c. of the nation's output and a phenomenally high level of investment which absorbed 22 p c.—the highest percentage since 1926.

Personal Income.—Some earnings which arise in the course of production are not paid out to persons, e.g., undistributed profits, Government trading profits, etc. On the other hand, some incomes received by persons are not compensation for current production, e.g., unemployment insurance benefits. Personal income is the sum of current receipts of income whether or not these receipts are earnings from production. Thus it includes salaries and wages, net income of unincorporated enterprise, interest, dividends and net rentals of persons, and transfer payments from governments such as family allowances, unemployment insurance benefits and war service gratuities. Table 3 indicates that personal income was at a pre-war peak of $4,547,000,000 in 1928. It began to drop in 1929 and reached a low of $2,758,000,000 in 1933. It then turned upwards and reached $4,291,000,000 in 1939. This trend was accelerated during the War and the post-war period and personal income reached an all time high of $10,279,000,000 in 1947.

Two things should be kept in mind in interpreting these figures: first, the fluctuations in the figures must be related to the purchasing power of the dollar—an increase in the price level lowers income in real terms while a decrease raises it. Secondly, the amount at the disposal of persons for spending and saving is not the whole of personal income but only the portion that remains after payment of direct taxes. This aggregate is commonly referred to as disposable income.

3.—Personal Income, 1926-47

(Millions of Dollars)

Year	Salaries, Wages and Supplementary Labour Income	Deduct Employer and Employee Contributions[1]	Military Pay and Allowances	Net Income of Agriculture and Other Unincorporated Business	Interest, Dividends and Net Rental Income of Persons[2]	Transfer Payments from Government[3]	**Total Personal Income**
1926	2,299	−16	7	1,170	486	77	**4,023**
1927	2,465	−18	7	1,156	508	84	**4,202**
1928	2,658	−20	7	1,246	564	92	**4,547**
1929	2,839	−25	8	1,028	584	98	**4,532**
1930	2,750	−26	8	840	595	121	**4,288**
1931	2,386	−23	8	540	559	165	**3,635**
1932	1,971	−21	8	402	460	170	**2,990**
1933	1,791	−20	8	355	428	196	**2,758**
1934	1,969	−21	8	464	416	230	**3,066**
1935	2,093	−22	9	564	437	241	**3,322**
1936	2,221	−25	9	651	435	248	**3,539**
1937	2,494	−29	9	756	489	281	**4,000**
1938	2,506	−32	9	790	525	262	**4,060**
1939	2,583	−34	32	891	570	249	**4,291**
1940	2,944	−37	193	991	611	224	**4,926**
1941	3,586	−68	386	1,135	637	197	**5,873**
1942	4,251	−110	641	1,753	715	226	**7,476**
1943	4,746	−124	910	1,659	757	216	**8,164**
1944	4,908	−132	1,068	1,962	806	263	**8,875**
1945	4,915	−135	1,117	1,822	847	552	**9,118**
1946	5,322	−147	340	2,154	888	1,113	**9,670**
1947[4]	6,235	−166	83	2,354	949	824	**10,279**

[1] Employer and employee contributions to social insurance and government pension funds.
[2] Includes charitable contributions from corporations.
[3] Excludes interest on public debt.
[4] Revised preliminary.

Disposition of Personal Income.—Personal direct taxes were only approximately 1 p.c. of personal income in the years 1926 to 1928. This percentage increased during the 1930's and reached a high of 9 p.c. during the war years 1943 to 1945.

In 1928, 93 p.c. of personal income was spent and 6 p.c. was saved. The percentage of current income spent increased rapidly during the depression. In 1930, 95 p.c. of personal income was spent and only 3 p.c. was saved. During the following four years more was spent than was available out of current income after payment of taxes indicating that, for the economy as a whole, people had to supplement their current incomes by liquidation of assets or by borrowing. In the years 1932 and 1933 negative saving reached its height. Consumer expenditure plus payment of direct taxes exceeded personal income by 6 p.c. Saving became positive again in 1935 but it was not until 1939 that it exceeded the 1928 level. During the War, as a result of shortage of goods coupled with intensive Government campaigns for saving, the percentage of current income saved rose rapidly to a high of 20 p.c. in 1943 and 1944. The percentage then began to decline and in 1947 it approximated again the levels of 1928 and 1939.

4.—Disposition of Personal Income, 1926-47

(Millions of Dollars)

Year	Income Taxes	Succession Duties	Miscellaneous Direct Taxes	Personal Expenditure on Consumer Goods and Services	Personal Saving Excluding Farm Inventories	Net Change in Farm Inventories	**Total Personal Saving Cols. 5 and 6**	**Personal Income Cols. 1, 2, 3, 4, 7**
1926.....	23	16	15	3,654	249	66	**315**	**4,023**
1927.....	29	17	15	3,885	205	51	**256**	**4,202**
1928.....	30	12	18	4,196	286	5	**291**	**4,547**
1929.....	33	16	19	4,383	225	−144	**81**	**4,532**
1930.....	33	21	17	4,091	60	66	**126**	**4,288**
1931.....	32	15	16	3,594	−21	−1	**−22**	**3,635**
1932.....	35	11	17	3,066	−159	20	**−139**	**2,990**
1933.....	38	13	16	2,848	−128	−29	**−157**	**2,758**
1934.....	34	12	17	3,030	−15	−12	**−27**	**3,066**
1935.....	42	20	18	3,209	20	13	**33**	**3,322**
1936.....	49	24	20	3,420	71	−45	**26**	**3,539**
1937.....	55	36	21	3,733	177	−22	**155**	**4,000**
1938.....	62	33	17	3,770	142	36	**178**	**4,060**
1939.....	61	28	21	3,861	260	60	**320**	**4,291**
1940.....	91	22	23	4,379	331	80	**411**	**4,926**
1941.....	239	30	21	5,014	627	−58	**569**	**5,873**
1942.....	433	37	24	5,547	1,067	368	**1,435**	**7,476**
1943.....	631	38	28	5,860	1,669	−62	**1,607**	**8,164**
1944.....	772	40	25	6,300	1,862	−124	**1,738**	**8,875**
1945.....	733	47	25	6,945	1,606	−238	**1,368**	**9,118**
1946.....	711	54	31	7,913	1,002	−41	**961**	**9,670**
1947[1].....	694	61	31	8,888	705	−100	**605**	**10,279**

[1] Revised preliminary.

Source and Disposition of Private Saving.—Tables 5 and 6 summarize the main source and use of private saving. The role of government surpluses or deficits in this setting indicate, for example, that in the years 1942 to 1945 the very large government deficits which resulted from expenditure for military purposes were financed to a large extent by personal saving and to a considerably smaller extent by business saving. By 1947, the government's position was completely reversed. The huge government surplus of $917,000,000 helped to bridge the gap between private saving and the record level of investment.

5.—Source of Gross Private Saving, 1938-47

(Millions of Dollars)

Item	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947[1]
Personal saving.....	178	320	411	569	1,435	1,607	1,738	1,368	961	605
Undistributed corporation profits.....	131	219	172	304	377	365	334	386	411	608
Undistributed Wheat Board profits...	–	–	–	6	3	57	−19	64	37	57
Inventory revaluation adjustment....	15	−56	36	−7	−63	−133	−2	−2	−8	−18
Depreciation allowances, etc.....	560	582	655	751	883	912	863	785	846	928
Residual error of estimate.....	−18	−10	25	33	169	166	189	170	−9	−106
Totals.....	**866**	**1,055**	**1,299**	**1,656**	**2,804**	**2,974**	**3,103**	**2,771**	**2,238**	**2,074**

[1] Revised preliminary.

6.—Disposition of Gross Private Saving, 1938-47

(Millions of Dollars)

Item	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947[1]
Gross home investment	582	881	1,084	1,212	1,266	788	674	565	1,788	2,884
Net foreign investment	99	123	179	491	47	545	27	683	326	17
Totals, Investment	**681**	**1,004**	**1,263**	**1,703**	**1,313**	**1,333**	**701**	**1,248**	**2,114**	**2,901**
Government deficit or surplus[2]	166	42	62	−14	1,661	1,808	2,591	1,694	116	−932
Residual error of estimate	19	9	−26	−33	−170	−167	−189	−171	8	105
Totals	**866**	**1,055**	**1,299**	**1,656**	**2,804**	**2,974**	**3,103**	**2,771**	**2,238**	**2,074**

[1] Revised preliminary. [2] This is not the conventional budgetary deficit or surplus since government revenue and expenditure are adjusted to conform with the basic definitions incorporated in the national accounts. A government deficit is here shown as a plus quantity and a surplus as a minus.

Corporation Profits.—A separate section analyses the trend of corporation profits for the years 1936 to 1947. (See pp. 1109-1112.)

PART II.—RELATED ECONOMIC STATISTICS

Section 1.—Survey of Production*

This Section deals with gross and net values of commodity production. Net production, in general, represents an estimate of the amount contributed to the national economy by the leading industrial groups engaged in commodity production. It is made up of the total value less the cost of materials, fuel, purchased electricity and process supplies consumed in production. For purposes of economic discussion, the net figure should be used in preference to the gross, in view of the large amount of duplication included in the latter.

Current Trends.—The industrial expansion generated by war conditions had, by 1944, reached the highest level in Canadian history. While the termination of war led to a reduction during the latter part of 1945, the value of commodity production in 1946 was still greater than in any other recorded year with the exception of 1944, when war production was at maximum.

This industrial expansion is indicated by comparison with the pre-war year 1938. Gross value in 1945 was 120 p.c. over that of 1938, the total in that year being $5,300,000,000 against $11,700,000,000 in 1945. The gain of 113 p.c. in the net value of production was rather less than in the gross value, mainly because cost of materials advanced to a greater extent than the value of the final product.

The value of production remained at the high level in 1946 of $12,200,000,000 although industrial operations, being retarded by lack of raw materials and labour disputes, showed a recession from the preceding year, but commodity prices at wholesale recorded an increase of nearly 5 p.c. Pressure for production continued to increase under the stimulation of domestic purchasing power, large-scale government credit to finance exports abroad, and the urgent need for increased housing accommodation in Canada. Indications are that the value of production was greater in 1947 than in any other peacetime year, both volume and prices rising to higher levels.

A general description of the method used in computing gross and net production figures is given at pp. 176-177 of the 1939 Year Book and in the "Survey of Production", an annual report issued by the Dominion Bureau of Statistics.

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Subsection 1.—Leading Branches of Production, 1941-46

Canada, essentially a producer from basic resources of farm, forest and mine, greatly increased in importance as a manufacturing country within these six years.

With the outbreak of war, transition, tooling, and new equipment of manufacturing industries for war demands was quickly organized and, by 1941, the remarkable gain in the net value of these industries, over 1939, was 70 p.c. A further increase of 27 p.c. took place in 1942. The program was advancing toward peak production and in 1943 gained another 15 p.c. over the preceding year. By 1944, net value of production had reached $4,015,776,010, which was $2,073,304,772 over 1940 or a total percentage increase of 106·7. During the years 1945 and 1946, there was a curtailment in production and the figure of net production of the manufacturing industries in 1946 dropped about 14 p.c. below that of 1944.

Agriculture, the basic industry in Canada, was in a favourable position in 1940 as regards grain stocks in storage; also acreages sown were at a high level. The crop of 1941, however, was light due to drought, but the dairying and live-stock branches of the industry had expanded rapidly after the outbreak of war, and only a slight increase in value of production for the agricultural industry as a whole was felt. For 1942, a record yield of grain and high production of hogs, eggs and cheese for overseas markets brought about an outstanding percentage gain of 80·2 over 1941. Net value of agricultural production in 1943 showed a decline of 9·4 p.c. for that year. Production value increased for 1944 by 24·4 p.c. over 1943 and resulted in the greatest output shown in any year under review.

After the War food was still in great demand and Canadian farmers found markets for all they could produce. The net value of agricultural production in 1945 was $1,269,362,000, and increased to $1,483,263,000 or by 17 p.c. in 1946.

The forestry industry experienced a pronounced improvement during the war years. The value of production for this industry increased steadily from 1941 to 1946, the increase over the six-year period being approximately $290,000,000 or 69 p.c.

Mining increased in value of production for the years 1941-42, but during the next three years showed decreases of 7·5 p.c., 4·5 p.c. and 8·9 p.c., respectively, as compared with each preceding year. This industry, however, showed an increase of 2·1 p.c. in 1946.

The value of production for the fisheries and trapping industries recorded the highest percentage gain of the primary industries. Fisheries production in 1941 increased in value by $14,000,000, or 36 p.c. over the previous year; by 1946 the increase in value from 1941 reached 108 p.c. or a total of $107,908,162. Trapping production increased in value by $4,000,000 in 1941 over the preceding year, or by 35 p.c., and gained 105 p.c. from 1941 to 1946.

As would be expected electric power rose steadily during the years 1941-46. From 1941 the net value of production of this industry increased from $183,000,000 to $220,000,000 or by 20 p.c.

The total net value of production of the primary industries—agriculture, forestry, fisheries, trapping, mining and electric power—increased by 46 p.c. during the war years 1941-44. In 1945, it decreased by 9 p.c. compared with 1944 but in 1946 increased 16·1 p.c. over the previous year.

Construction, a secondary production industry, made a substantial gain during the first three war years 1940-42 when the building of wartime factories, homes for personnel, etc., was at its peak. From the pre-war year 1939 to 1942 the increase in net value of production was $127,000,000. At the end of the War in 1945 the net value of production of the industry amounted to $267,957,837 and in 1946 was $408,695,662 or an increase of 52·5 p.c. over 1945.

Net production value in custom and repair also made rapid progress. The net value of $131,000,000 in 1941 increased to $213,000,000 or 63 p.c. by 1946.

Total value of production of the secondary industries which includes construction, custom and repair and manufactures increased from 1941 to 1944 by 47 p.c. but decreased about 8 p.c. from 1944 to 1946.

Table 1 classifies industry into primary and secondary production, but naturally many stages of the manufacturing industries are closely connected with the primary resources. Fish-curing and -packing plants, for instance, are operating in close relationship to the fishing fleets, sawmills with forestry, and smelters and refineries with metal mines. The gross and net values of production of such processing industries are given separately in Table 2. This table is designed to indicate the method of computing the duplication between primary industries and manufactures and consequently to establish the levels of "manufactures, not elsewhere stated".

1.—Gross and Net Values of Production, by Industries, 1941-46

NOTE.—Net production represents total value under a particular heading, less the cost of materials, fuel, purchased electricity and supplies consumed in the productive process

Industry	1941	1942	1943	1944	1945	1946
	GROSS VALUES					
	$	$	$	$	$	$
Agriculture	973,880,000	1,635,529,000	1,545,652,000	1,918,647,000	1,679,321,000	1,949,833,000
Forestry	711,004,556	763,988,245	810,154,089	887,973,532	964,237,446	1,228,994,287
Fisheries	82,522,675	103,118,177	118,610,634	123,705,565	166.144,381	177,024,678
Trapping	15,138,040	23,801,213	21,579,615	23,988,773	21,505,447	31,077,867
Mining	866,293,332	946,021,397	974,414,921	897,407,212	766,721,126	754,386,422
Electric power	186,080,354	203,835,365	204,801,508	215,246,391	215,105,473	226,096,273
Less duplication in forest production[1]	*41,600,143*	*46,974,440*	*64,000,614*	*78,294,000*	*80,641,000*	*88,427,000*
Totals, Primary Production	2,793,318,814	3,629,318,957	3,611,212,153	3,988,674,473	3,732,393,873	4,278,985,527
Construction	639,750,624	635,649,570	572,426,551	449,838,059	543,579,833	868,661,403
Custom and repair	192,733,000	208,379,000	213,622,000	243,424,000	262,621,000	314,310,000
Manufactures	6,076,308,124	7,553,794,972	8,732,860,999	9,073,692,519	8,250,368,866	8,035,692,471
Totals, Secondary Production	6,908,791,748	8,397,823,542	9,518,909,550	9,766,954,578	9,056,569,699	9,218,663,874
Less duplication in manufactures[2]	*957,448,976*	*1,071,237,766*	*1,148,896,816*	*1,160,974,424*	*1,115,088,513*	*1,266,379,183*
Grand Totals	**8,744,661,586**	**10,955,904,733**	**11,981,224,887**	**12,594,654,627**	**11,673,875,059**	**12,231,270,218**

For footnotes, see end of table, p. 1098.

1.—Gross and Net Values of Production, by Industries, 1941-46—concluded

Industry	1941	1942	1943	1944	1945	1946
	NET VALUES					
	$	$	$	$	$	$
Agriculture	755,652,000	1,361,690,000	1,233,120,000	1,533,807,000	1,269,362,000	1,483,263,000
Forestry	421,419,139	429,079,260	462,815,227	507,357,605	550,970,574	711,026,833
Fisheries	51,769,638	64,821,702	74,655,678	76,889,487	103,106,209	107,908,162
Trapping	15,138,040	23,801,213	21,579,615	23,988,773	21,505,447	31,077,867
Mining	497,904,632	514,109,951	475,529,364	454,022,468	413,576,800	422,074,303
Electric power	183,146,426	200,345,240	200,833,297	209,757,908	210,006,712	220,511,067
Less duplication in forest production[1]	*41,600,143*	*46,974,440*	*64,000,614*	*61,357,833*	*64,501,946*	*69,209,239*
Totals, Primary Production	1,883,429,732	2,546,872,926	2,404,532,567	2,744,465,408	2,504,025,796	2,906,651,993
Construction	269,561,885	310,917,190	293,538,167	249,037,017	267,957,837	408,695,662
Custom and repair	130,778,000	141,395,000	144,952,000	165,174,000	178,200,000	213,273,000
Manufactures	2,605,119,788	3,309,973,758	3,816,413,541	4,015,776,010	3,564,315,899	3,467,004,980
Totals, Secondary Production	3,005,459,673	3,762,285,948	4,254,903,708	4,429,987,027	4,010,473,736	4,088,973,642
Less duplication in manufactures[2]	*410,298,515*	*426,201,970*	*410,701,516*	*437,045,069*	*428,243,781*	*518,517,965*
Grand Totals	**4,478,590,890**	**5,882,956,904**	**6,248,734,759**	**6,737,407,366**	**6,086,255,751**	**6,477,107,670**

[1] Eliminates duplication between the agriculture and forestry totals. [2] Eliminates duplication under "Manufactures"; this item includes sawmills, pulp and paper mills, etc., which are also included under other headings above.

2.—Gross and Net Values of Production of the Processing Industries, 1945 and 1946

Industry	1945		1946		Change in Net Value in 1946 from 1945	Percentage Change in Net Value, 1946 from 1945	Percentage of Net Value to Total Net Production 1946
	Gross	Net	Gross	Net			
	$	$	$	$	$	p.c.	p.c.
Fish curing and packing	93,567,274	30,529,102	100,201,291	31,084,775	+555,673	+1·8	5·99
Sawmilling	231,108,030	103,153,766	287,910,057	129,408,392	+26,254,626	+25·5	24·96
Pulp and paper	398,804,515	180,401,885	527,814,916	258,164,578	+77,762,693	+43·1	49·79
Non-ferrous metal smelting and refining	355,676,526	89,898,878	304,718,524	69,565,922	−20,332,956	−22·6	13·42
Cement	15,422,031	9,416,426	21,724,021	12,930,058	+3,513,632	+37·3	2·49
Clay products	8,913,092	6,938,409	12,207,367	9,563,690	+2,625,281	+37·8	1·84
Lime	6,732,348	4,663,859	7,322,168	4,910,127	+246,268	+5·3	0·95
Salt	4,864,697	3,241,456	4,480,839	2,890,423	−351,033	−10·8	0·56
Totals	**1,115,088,513**	**428,243,781**	**1,266,379,183**	**518,517,965**	**+90,274,184**	**+21·1**	**100·00**

The above record of Canadian production is impressive and economic activity has continued at a high level into the post-war years as a result of the accumulation of a huge backlog of domestic requirements as well as the need for the rehabilitation of European countries. With production of equipment and supplies of warfare discontinued, the percentage of total production (primary and secondary) in 1946 declined by the slight margin of only 4 p.c. from the peak war-production year of 1944.

Subsection 2.—Provincial Distribution of Production, 1941-46

All nine provinces participated in the expansion of wartime production during 1940-45. Generally speaking, the relative gains during the war period were greater in the eastern provinces, being influenced by the concentration of industry and its diversified wartime manufactures.

The increase of $547,454,262 in the net commodity production of Ontario during the period 1941 to 1946 exceeded in absolute amount the record for any other province. This figure was $122,546,274 lower than the peak war year of 1944.

Net value produced in Quebec was $1,785,407,464 in 1946 compared with $1,251,896,590 in 1941, an increase of 43 p.c. compared with 27 p.c. in Ontario. This amount also was $114,416,867 below that of 1944.

Prince Edward Island recorded a percentage increase of 109 during the period 1941-46, the net value having risen from $10,649,062 to $22,244,191. The output of Nova Scotia and New Brunswick showed gains of 54 p.c. and 68 p.c., respectively. As manufacturing increased in the east, so agricultural production for supplying food to overseas markets expanded in the Prairie Provinces of Manitoba, Saskatchewan and Alberta and net output in these Provinces during these years gained 68 p.c., 123 p.c. and 92 p.c., respectively.

British Columbia showed an increase of 58 p.c. in production during the years 1941-46.

3.—Gross and Net Values of Production, by Provinces, 1945 and 1946

Province or Territory	1945				1946			
	Gross Value	Net Value			Gross Value	Net Value		
		Amount	P.C. of Total	Per Capita[1]		Amount	P.C. of Total	Per Capita[1]
	$	$		$	$	$		$
P.E.I.	36,292,631	20,658,906	0·34	224·55	38,485,051	22,244,191	0·34	236·64
N.S.	339,955,413	186,931,838	3·07	301·02	351,820,499	197,767,578	3·05	323·15
N.B.	258,227,358	139,435,407	2·29	297·94	301,398,163	161,947,268	2·50	337·39
Que.	3,314,173,776	1,716,038,573	28·20	481·90	3,442,459,182	1,785,407,464	27·57	491·85
Ont.	5,054,495,222	2,510,200,208	41·24	626·92	5,060,202,869	2,560,422,986	39·54	624·34
Man.	559,892,930	280,458,384	4·61	381·06	628,034,340	328,453,444	5·07	451·79
Sask.	568,566,436	339,755,726	5·58	402·08	636,880,150	393,878,839	6·08	472·84
Alta.	596,276,054	340,703,182	5·60	412·47	710,419,493	428,908,507	6·62	534·13
B.C.	940,842,242	547,416,908	8·99	576·84	1,054,195,480	591,478,855	9·13	589·71
Yukon and N.W.T.	5,152,997	4,656,619	0·08	273·92	7,374,991	6,598,538	0·10	274·94
Canada	**11,673,875,059**	**6,086,255,751**	**100·00**	**502·21**	**12,231,270,218**	**6,477,107,670**	**100·00**	**526·30**

[1] Based on estimated population figures as given at p. 139.

Per Capita Production.—The Dominion total of per capita production in 1941 was $389. This was $133 above the 1938 figure and by 1944 it had reached the highest level on record, $563. With the peak of wartime production past, per capita production dropped to $502 in 1945 but increased slightly in 1946 to $526.

Ontario.—With its pre-eminent industrial position, Ontario was the leader on a per capita basis during the period 1941-46. The increase was steady and rose from $531 in 1941 to $677 in 1944 or by $146; in 1946 this figure was $624.

Quebec.—Per capita production in Quebec increased from $376 to $543 thus gaining $167 in the period 1941 to 1944. Actually, the Province showed during this period a much greater percentage increase in per capita production than did Ontario, viz., 44 p.c. as compared with 27 p.c. in the latter Province. Per capita production dropped to $482 in 1945 but increased by $10 over this figure in 1946.

Maritime Provinces.—The three Maritime Provinces reached their highest per capita production in 1946. Prince Edward Island registered a gain of $101 over the 1941 per capita of $237; Nova Scotia increased $101 over the 1941 per capita figure of $222; and New Brunswick $126 over the $211 per capita of 1941.

Prairie Provinces.—These Provinces showed wide fluctuations in per capita production in the period 1941-46. Manitoba made steady gains from $268 in 1941 to $428 in 1944, dropped to $381 in 1945 but recorded its highest per capita figure of $452 in 1946. Saskatchewan held no such record. Per capita production was $198 in 1941 and in 1944 it reached $625, the highest per capita figure for any province except Ontario. Between these years the fluctuations were marked and by 1946 the figure was $473. For Alberta the 1941 per capita was $280; in 1944, $509; and in 1946, $534; recessions were shown in the intervening years.

British Columbia.—Per capita production gained consistently in British Columbia until 1943, value per capita rising from $458 in 1941 to $625 in 1943 and decreasing to $590 by 1946.

Leading Branches of Production in Each Province, 1941-46

Maritime Provinces.—Taking net production of the Maritime Provinces as a whole, the industry showing the highest percentage gain during the years 1941-46 was fisheries with an increase of 181 p.c. from 1941. Prince Edward Island made a remarkable showing in fisheries production during this period and in 1946 the figure was $4,155,906, more than four and one-half times as great as the 1941 total, $872,679. For New Brunswick the gain was 178·8 p.c. above the 1941 figure of $5,017,233. Nova Scotia followed with an increase of 173·3 p.c. for 1946 over the figure of $11,523,628 for 1941.

Next in importance to the fisheries was the agriculture industry. The three provinces together gained 96 p.c. in this branch of production over the same six years, $40,484,000 in 1941 against $79,214,000 in 1946. Forestry ranked third with a 72 p.c. gain for the three provinces. Prince Edward Island recorded a gain of 127·4 p.c., Nova Scotia 83·7 p.c. and New Brunswick, 66·4 p.c.

Quebec.—Peak production for Quebec during the period 1941-46 was reached in 1944 with a value of $1,899,824,337, an increase of 52 p.c. over 1941. The 1946 figure of $1,785,407,464 was a 4 p.c. gain over $1,716,038,573 recorded in 1945.

The percentage of total production in manufacturing industries was greater than that in all other branches of industry in this period, increasing from 65 p.c. to 71 p.c.; net value in manufacturing showed a gain of 66 p.c. from 1941 to 1944. The figure dropped by almost 15 p.c. for 1945, and showed a further decrease of 2 p.c. in 1946.

Forestry and agriculture recorded steady increases of 79 p.c. and 76 p.c., respectively, during the six-year period.

4.—Net Values of Production, Classified for Each Province, by Industries, 1945 and 1946

NOTE.—For gross value of production by provinces, see Table 3, p. 1099.

Year and Industry	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
1945	$	$	$	$	$
Agriculture	13,327,000	24,171,000	31,021,000	209,834,000	381,052,000
Forestry	948,972	17,182,087	42,634,636	223,280,370	120,828,120
Fisheries	2,775,558	28,399,669	11,615,682	7,213,210	7,261,661
Trapping	13,818	231,444	382,079	3,363,563	5,088,175
Mining	Nil	23,684,321	3,636,205	106,701,600	155,367,764
Electric power	384,454	6,962,970	4,870,437	80,349,794	72,393,716
Construction	938,983	15,954,021	8,035,437	72,799,700	104,201,283
Custom and repair	783,000	6,515,000	3,939,000	54,382,000	67,827,000
Manufactures	3,178,434	84,358,189	63,380,075	1,149,390,919	1,720,938,199
Less duplication[1]	*1,691,313*	*20,526,863*	*30,079,144*	*191,276,583*	*124,757,710*
Totals, 1945	**20,658,906**	**186,931,838**	**139,435,407**	**1,716,038,573**	**2,510,200,208**

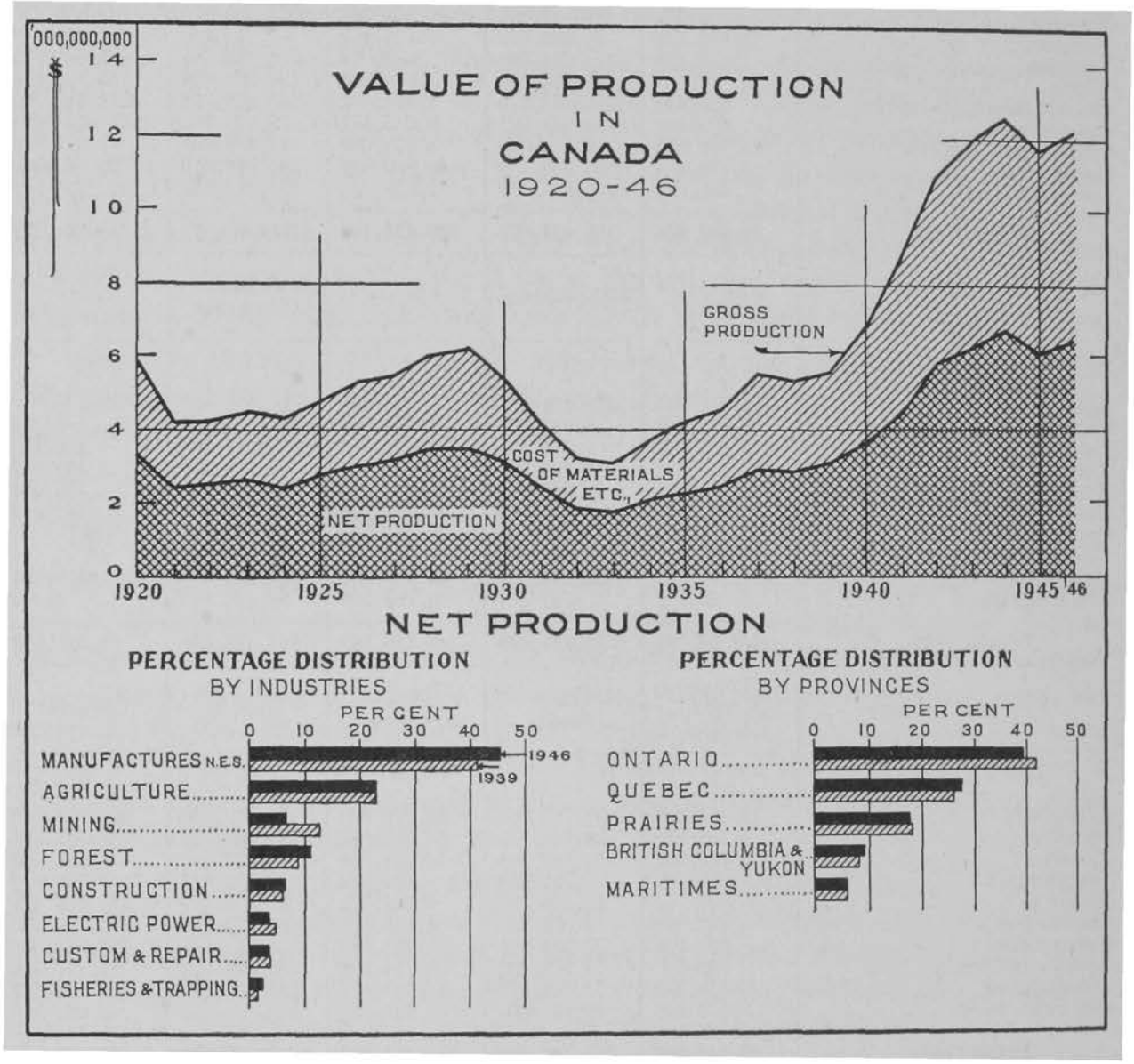
Year and Industry	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.
1945	$	$	$	$	$
Agriculture	108,942,000	257,321,000	179,091,000	64,603,000	Nil
Forestry	8,480,146	7,047,521	8,986,953	121,573,306	8,463
Fisheries	4,263,670	1,286,361	1,450,502	38,724,627	115,269
Trapping	3,727,881	1,499,857	2,067,505	2,718,198	2,412,927
Mining	10,794,127	19,382,105	44,421,660	48,159,524	1,429,494
Electric power	11,129,925	5,771,110	8,226,534	19,736,528	181,244
Construction	13,765,634	8,648,938	17,015,102	26,598,739	Nil
Custom and repair	10,763,000	8,293,000	9,685,000	16,013,000	"
Manufactures	117,775,126	38,275,127	78,547,626	307,954,519	517,685
Less duplication[1]	*9,183,125*	*7,769,293*	*8,788,700*	*98,664,533*	*8,463*
Totals, 1945	**280,458,384**	**339,755,726**	**340,703,182**	**547,416,908**	**4,656,619**

Year and Industry	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario
1946	$	$	$	$	$
Agriculture	13,454,000	31,790,000	33,970,000	243,779,000	406,666,000
Forestry	1,166,871	24,154,765	54,019,923	287,046,710	167,772,531
Fisheries	4,155,906	31,489,194	13,988,338	7,219,982	6,296,658
Trapping	18,537	733,054	239,943	5,308,477	7,792,630
Mining	Nil	26,425,106	4,236,861	97,020,447	147,605,421
Electric power	344,048	7,077,258	4,866,590	84,822,248	73,546,935
Construction	966,602	21,754,231	14,409,598	101,328,551	163,265,558
Custom and repair	938,000	7,797,000	4,714,000	65,085,000	81,177,000
Manufactures	3,469,435	71,738,873	67,783,377	1,125,991,848	1,659,284,622
Less duplication[1]	*2,269,208*	*25,191,903*	*36,281,362*	*232,194,799*	*152,984,369*
Totals, 1946	**22,244,191**	**197,767,578**	**161,947,268**	**1,785,407,464**	**2,560,422,986**

Year and Industry	Manitoba	Saskatchewan	Alberta	British Columbia	Yukon and N.W.T.
1946	$	$	$	$	$
Agriculture	138,944,000	297,175,000	242,712,000	74,773,000	Nil
Forestry	10,296,791	6,757,053	11,211,114	148,590,669	10,406
Fisheries	4,871,037	1,148,886	1,339,083	36,835,800	563,278
Trapping	5,011,880	2,677,078	2,974,120	2,894,470	3,427,678
Mining	12,480,188	22,743,522	50,981,943	58,629,880	1,950,935
Electric power	12,001,213	6,337,824	9,010,692	22,256,339	247,920
Construction	19,936,046	13,855,512	25,170,956	48,008,608	Nil
Custom and repair	12,881,000	9,925,000	11,591,000	19,165,000	"
Manufactures	122,780,805	38,459,630	83,735,011	293,352,652	408,727
Less duplication[1]	*10,749,516*	*5,200,666*	*9,817,412*	*113,027,563*	*10,406*
Totals, 1946	**328,453,444**	**393,878,839**	**428,908,507**	**591,478,855**	**6,598,538**

[1] Duplication between agriculture and forestry, as well as duplication under manufactures (see p. 1097).

Ontario.—Manufacturing held the leading position in this Province as regards net value of production during the years 1941-46, and accounted for between 64 and 72 p.c. of the total for each year. For the four-year period 1941 to 1944 (the year of peak production) there was a percentage gain of 42 p.c. A decline of 11 p.c. was recorded for 1945 but the figure at $1,720,938,199 was higher than for any previous year before 1943. A further decline of 4 p.c. was recorded for 1946. Agriculture, forestry, and custom and repair showed sharp increases during this period; agriculture gained 72 p.c.; forestry 69 p.c.; and custom and repair 60 p.c.



Prairie Provinces.—Agriculture, naturally, predominated in the Prairie Provinces of Manitoba, Saskatchewan and Alberta. Net value of production of manufacturing and mining were also progressive groups in Manitoba contributing over 38 p.c. of the provincial total for each year from 1941 to 1944.

Climatic conditions in Saskatchewan and Alberta caused some fluctuations in agricultural production for the years 1941 and 1943 but these were counterbalanced for the Prairie Provinces as a whole by bumper crops for all three provinces for 1942 and 1944. Increases for 1942 compared with 1941 were 71 p.c. for Manitoba, 210 p.c. for Saskatchewan, and 137 p.c. for Alberta. For the year 1944 increases compared with 1943 were: 4 p.c. for Manitoba, 68 p.c. for Saskatchewan and 38 p.c. for Alberta. Value of agricultural production for 1945 dropped between 20 p.c. and 37 p.c. for the Prairies but increased from between 15 p.c. and 36 p.c. for 1946.

Value of manufacturing industries for Alberta more than doubled during the years 1941-44 and showed high percentage increases in the other Prairie Provinces. The increases during the years 1941-44 were: Alberta, 68 p.c., Manitoba 62 p.c. and Saskatchewan 45 p.c. In 1945, these industries declined by 2 p.c. for Manitoba and 6 p.c. for Saskatchewan but gained by 1 p.c. for Alberta; increases of 4·3 p.c., 1·0 p.c., and 6·6 p.c., respectively, were recorded in 1946.

British Columbia.—Manufacturing, forestry and mining were the leading branches of industry in British Columbia from 1941 to 1943; since when agriculture has displaced mining. Net value of manufactures increased from $273,000,000 for 1941 to $337,000,000 for 1944, but has since declined to $293,000,000 for 1946. Forestry increased by $50,000,000 or 50 p.c. in the period 1941-46. Mining increased from 1941 to 1942 by 7 p.c., declined by 32 p.c. till 1944 and then increased 33 p.c. by 1946.

Yukon and the Northwest Territories.—Over 82 p.c. of net value of production in Yukon and the Northwest Territories from 1941-46 came from trapping and mining. In 1941 the net value for trapping amounted to $2,672,194; by 1946 it had increased by almost $755,000. Mining, on the other hand, increased by almost $1,000,000 during the years 1941-42 but showed a sharp decline during the later years and dropped by 1945 to $1,429,494, the lowest figure in ten years; however, in 1946 the figure was $1,950,935 or a gain of 36 p.c. over 1945.

Section 2.—Canada's International Investment Position*

Much of Canada's development has been financed by investments of capital from other countries. Investments of external capital contributed a particularly important part to the national development which took place early in the twentieth century, as well as in previous periods. The nature of the Canadian economy has been such that large investments of capital in relation to population have been necessary for the development of some of the principal types of Canadian production. The growth of wheat exports, for example, was only possible after the investment of large amounts of capital in grain elevators, railways and other transportation facilities. Likewise, the development of the resources of the Laurentian Shield required heavy investments in power developments, mines, and pulp and paper plants. Then, too, some important branches of Canadian manufacturing, particularly in the durable goods industries, have been financed by United States companies where production involved large outlays as well as advanced research and industrial design.

The relative positions of British and United States capital in these developments have changed significantly in recent decades. In the period before the War of 1914-18 the major portion of external capital invested in Canada was British, investments in railways and government and municipal bonds occupying a prominent place. United States investments, however, during the First World War and in the inter-war years expanded rapidly and, even before 1926, considerably exceeded the amount of British capital invested in Canada. This great expansion in United States investments in the 1920's was widely distributed. Increases in investments in manufacturing and public utilities were large and a substantial part of these occurred in the field of branch plants which showed a notable growth during this decade. There were also marked increases in investments in other activities

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such as mining and smelting, merchandising and financial institutions during these years and a large volume of bonds of Canadian governments and municipalities were floated or sold in United States markets. During the 1930's some reduction occurred in the amount of external capital invested in Canada through redemptions of Canadian bonds held abroad as well as in the value of direct investments.

A further growth in United States investments in Canada took place during the Second World War and by the end of 1945 these investments had reached a new peak, while British investments in Canada were sharply reduced by repatriations of securities during the War. The relative importance in this more recent period of the United States capital inflow in relation to domestic capital formation was less than in earlier periods of capital inflow. Much the larger portion of Canadian developments and activities during the recent war were financed from Canadian sources. The growth in the funded debt of the Federal Government during the Second World War which rose from $3,300,000,000 in 1939 to $16,800,000,000 at the end of March, 1946, resulted from sales of bonds to residents of Canada. Non-resident holdings of direct issues of the Canadian Government declined in the aggregate during this period although United States holdings rose. In addition, privately financed developments during the War relied on Canadian capital to a large extent. During the comparable period the value of United States investments of all kinds in Canada rose from $4,200,000,000 in 1939 to close to $5,000,000,000 at the end of 1945. There was also a small increase in other foreign investments in Canada but British investments declined sharply from $2,475,900,000 to $1,766,000,000. As a result of these divergent changes total non-resident investments increased from $6,913,300,000 at the end of 1939 to $7,095,000,000 at the end of 1945.

The balance of Canadian indebtedness to other countries was materially reduced during the recent War, because of the sharp rise in Canadian assets abroad which rose from about $1,865,000,000 at the end of 1939 to around $3,715,000,000 in 1945. When gross liabilities are taken into account the balance of Canadian indebtedness to other countries at the end of 1945 was around $3,750,000,000 compared with over $5,000,000,000 at the end of 1939 and over $6,000,000,000 in 1930. The sharp rise in external assets was the result of the increase in official liquid reserves of gold and United States dollars and the extension of loans and export credits to the United Kingdom and other countries by the Canadian Government. Private investments abroad owned by Canadians declined slightly during the same period.

Changes which occurred in the balance of Canadian indebtedness in 1946 were not very great although the composition of assets and liabilities changed materially. The value of United States investments in Canada increased but there was a further decline in British investments. At the same time the value of Canada's official liquid reserves was less as a result of the loss of reserves in 1946 and the removal of the premium on United States dollars during the year following the restoration of the Canadian dollar to par. But more than offsetting this decline in reserves was the increase in loans and export credits extended by the Canadian Government, the net amount of credits having increased to $1,362,000,000 at the end of the year.

Similarly, in 1947 important changes occurred in the composition of Canada's external assets and liabilities, although the change in net indebtedness was relatively less. Liquid reserves of gold and United States dollars declined $743,000,000

during the year, but the indebtedness of overseas governments to Canada increased substantially by a net amount of $454,000,000. Accordingly, Canada's net investment position with overseas countries improved while Canada's net indebtedness with respect to the United States dollar area increased. But some of the decline in liquid reserves accompanied redemptions of Canadian securities owned in the United States, and there was the gold subscription of $74,000,000 to the International Monetary Fund.

British and Foreign Investments in Canada.—At the end of 1946 the total value of British and foreign investments in Canada was estimated at $7,193,000,000. Investments held in the United Kingdom at that date had a book value of about $1,688,000,000, a figure which includes British owned investments and also some investments held in the United Kingdom by nominees for residents of other countries. The book value of investments held in the United States at the same time was $5,152,000,000. While generally indicative of American ownership, this total also includes an indeterminable amount of securities held in the United States by nominees for residents of other countries. The remaining amount of external capital invested in Canada, $353,000,000, was owned in other overseas countries. The total investments in Canada owned in these other overseas countries would include therefore the $353,000,000 plus the indeterminable amounts included in the British and United States total shown above.

A smaller proportion of the external investments in Canada at the end of 1946 was represented by holdings of Canadian bonds and debentures than was the case at the beginning of the recent War. Around 42 p.c. of total investments of external capital in Canada was in the form of bonds and debentures at the end of 1946 compared with about 56 p.c. in 1939. The proportionate decline was even greater in the case of British investments in Canada because of the official repatriations of Dominion and Canadian National Railway bonds. There was also a decline in the percentage of United States capital invested in bonds although actual holdings of bonds in the United States increased during this period. The proportion of total Canadian bonds outstanding which were held abroad was much less in 1946 than in 1939 because of the extent of the wartime financing of the Canadian Government through sales of bonds in Canada. Canadian bonds held in the United States made up about 21 p.c. of the total of almost $10,000,000,000 of outstanding Canadian issues at the end of 1939, whereas, by the end of 1946, the United States holdings amounted to about 11 p.c. of the more than $21,000,000,000 of Canadian bonds then outstanding.

Although there has been a substantial increase in the value of non-resident investments in Canadian businesses during the period since 1939 there have also been substantial expansions financed by Canadian capital. In 1939, non-resident ownership of Canadian manufacturing enterprises amounted to about 42 p.c. of the total capital invested. In the broader field of Canadian business—including mining, merchandising establishments, and railways and public utilities, as well as manufacturing, but excluding investments in agriculture and non-industrial real estate generally—the non-resident ownership was somewhat less, amounting to about 38 p.c. of the estimated capital employed. Comparable statistics on total capital employed in all forms of Canadian businesses are not available for the post-war period. But available data covering most investments in the manufacturing industry point to the non-resident proportion being somewhat less than the 42 p.c. which it represented in 1939.

An important group of United States investments in Canada is made up of the direct investments in branches and subsidiaries and other companies which are controlled in the United States. These direct investments in over 2,000 controlled businesses in Canada had a total value of $2,423,000,000 at the end of 1946 compared with $1,881,000,000 at the end of 1939. Although the increase of 29 p.c. in value in this period contrasts sharply with the moderate decline in this group of investments which occurred in the decade before the Second World War, the recent increase represents a smaller rate of growth than occurred during the period of most rapid expansion between 1926 and 1939, when the value of United States direct investments in Canada increased 42 p.c. A major part of the increased investments since 1939 has arisen from the reinvestment of earnings of branches and subsidiaries in Canada. The remainder of the increases resulted from direct transfers of capital from the United States.

More than one-half of the total United States direct investments in Canada are in the manufacturing industry. The United States controlled companies in the manufacturing field constitute only a minor part of the total investments in manufacturing concerns in Canada, possibly about one-quarter of the total. In the broader field of Canadian business, covering all industrial, mining and commercial concerns, and railways and utilities, the ratio of investments controlled in the United States is much less. The direct investments are widely distributed throughout a great many companies and the percentage of United States controlled companies varies considerably in different industries. Consequently, the substantial percentage of United States controlled companies in the manufacturing field should not be taken as an indication that Canadian industry in general is dominated by American controlled companies. In some industries such as the manufacture of automobiles, rubber goods, electrical appliances, and the refining of petroleum, as well as in the non-ferrous metal industries, United States controlled companies predominate. In other industries the American controlled units are less important and there are many industries and trades in which the leading firms and the predominance of control are Canadian; these include the primary iron and steel industries and cotton textiles and merchandising. In other branches of industry the United States controlled portion, while representing a large part, nevertheless shares the field generally with Canadian companies, as is the case in the pulp and paper industry and mining.

Total British investments of $1,688,000,000 in Canada in 1946, including some investments held in the United Kingdom for owners living elsewhere, can be roughly divided into portfolio investments of $1,258,000,000, direct investments of $355,000,000 and miscellaneous investments of $75,000,000. Most of the reduction in British investments in Canada during the War occurred in portfolio holdings of securities, particularly of Canadian Government and Canadian National Railways issues. More than one-half of the portfolio investments still held in 1946 was made up of holdings of public issues of stock in Canadian companies with a book value of $730,000,000, the major part of which was made up of railway stock. Holdings of Canadian provincial, municipal and corporation bonds had an estimated par value of $539,000,000 in 1946, including some relatively small amounts of bonds included

in the direct investment group. A large part of the direct investments in branches and subsidiaries was concentrated in certain fields of business such as insurance, textiles and other consumer goods industries.

5.—Estimated British and Foreign Capital Invested in Canada, by Types of Investment, as at Dec. 31, 1930, 1933, 1939, 1945 and 1946

Type of Investment	1930	1933	1939	1945	1946[1]
	$'000,000	$'000,000	$'000,000	$'000,000	$'000,000
Government Securities—					
Dominion	682·0	751·9	823·0	726·0	750·0
Provincial	592·3	571·7	536·0	619·0	594·0
Municipal	431·5	394·4	344·0	312·0	267·0
Totals, Government Securities	1,705·8	1,718·0	1,703·0	1,657·0	1,611·0
Public Utilities—					
Railways	2,244·3	2,244·7	1,870·6	1,601·0	1,583·0
Other	633·4	625·4	549·4	495·0	557·0
Totals, Public Utilities	2,877·7	2,870·1	2,420·0	2,096·0	2,140·0
Manufacturing	1,573·0	1,421·6	1,445·2	1,816·0	1,890·0
Mining and smelting	334·1	338·5	329·1	400·0	386·0
Merchandising	202·9	191·5	189·3	227·0	238·0
Financial institutions	542·9	479·6	472·7	546·0	577·0
Other enterprises	82·4	75·2	69·0	69·0	69·0
Miscellaneous assets	295·0	270·0	285·0	284·0	282·0
Totals, Investment	**7,613·8**	**7,364·5**	**6,913·3**	**7,095·0**	**7,193·0**
United Kingdom	2,766·3	2,682·8	2,475·9	1,766·0	1,688·0
United States	4,659·5	4,491·7	4,151·4	4,982·0	5,152·0
Other countries	188·0	190·0	286·0	347·0	353·0

[1] Subject to revision.

6.—Estimated British and Foreign Capital Invested in Canada, by Types of Investment, Classified by Estimated Distribution of Ownership, as at Dec. 31, 1946[1]

NOTE.—Common and preference stocks are shown at book values as shown in the balance sheets of the issuing companies, bonds and debentures are valued at par, liabilities in foreign currencies being converted into Canadian dollars at the par of exchange.

Type of Investment	Estimated Distribution of Ownership			Total Investments Owned Outside Canada
	United States[2]	British[2]	Other Countries	
	$'000,000	$'000,000	$'000,000	$'000,000
Government Securities—				
Dominion	701	Nil	49	750
Provincial	554	37	3	594
Municipal	183	78	6	267
Totals, Government Securities	1,438	115	58	1,611
Public Utilities—				
Railways	717	795	71	1,583
Other	441	85	31	557
Totals, Public Utilities	1,158	880	102	2,140
Manufacturing	1,549	295	46	1,890
Mining and smelting	311	56	19	386
Merchandising	173	60	5	238
Financial institutions	321	202	54	577
Other enterprises	62	5	2	69
Miscellaneous assets	140	75	67	282
Totals, Investment	**5,152**	**1,688**	**353**	**7,193**

[1] Subject to revision. [2] Includes some investments held in the United States and the United Kingdom for residents of other countries.

Canadian Assets Abroad.—Canada's external assets have changed greatly in size and composition in recent years. The total value, including holdings of gold and liquid reserves in foreign currencies, has risen from $1,865,000,000 in 1939 to $3,728,000,000 at the end of 1947. The principal factor in this increase has been the extension by the Canadian Government of loans and export credits to the United Kingdom and other countries. At the end of 1947, the total of Canadian Government credits outstanding was $1,816,000,000. Included in this total are about $368,000,000 outstanding on the 1942 loan to the United Kingdom, $963,000,000 drawn on the 1946 loan to the United Kingdom, $454,000,000 of post-war export credits and advances, and $31,000,000 of other credits outstanding. In addition, at the end of 1947, official liquid reserves aggregated about $511,000,000, including gold, official United States dollar balances, and sterling holdings of the Foreign Exchange Control Board. While these reserves, at that date, were still higher than at the end of 1939 they were considerably less than they were in 1945 and 1946. In addition, Canada had subscribed in 1946 and 1947 to the capital of the International Bank and the International Monetary Fund. By the end of 1947 subscriptions made by Canada to these institutions amounted to $65,000,000 and $300,000,000, respectively. A small part of the subscription to the Bank was in the form of convertible exchange and $74,000,000 of the subscription to the Fund was in the form of gold. The remainder of both subscriptions was made in the form of demand notes of the Canadian Government or in Canadian funds.

Besides the officially owned assets referred to above there were the privately owned investments in the form of foreign securities and property owned by Canadian companies and individuals. In 1939 these privately owned assets constituted most of the total value of Canadian assets abroad, whereas, since the end of the recent War they have amounted to only a minor part of the total chiefly because of the sharp rise in officially owned assets. Total privately owned investments abroad have declined in value since 1939 because of the liquidations of Canadian holdings of United States securities. Portfolio holdings of foreign securities owned in Canada have been reduced from $719,000,000 at the end of 1939 to $551,000,000 at the end of 1946. This decline is less than the total sales of these securities by private investors during the period, as there was a considerable increase in the book value of holdings of United States stocks. Appreciable gains have occurred in the value of Canadian direct investments in businesses outside of Canada which had a value of $772,000,000 at the end of 1946 compared with $671,000,000 at the end of 1939.

7.—Canadian Assets Abroad, 1930, 1939, 1945 and 1946

NOTE.—Excluding investments of insurance companies.

(Millions of Dollars)

Item	1930	1939	1945	1946[1]
Direct investments in businesses outside of Canada	443	671	720	772
Portfolio holdings of foreign securities	842	719	621	551
Government credits	31	31	707	1,362
Net external assets of Canadian banks	180	[2]	[2]	[2]
Official liquid reserves[3]	[2]	444	1,667	1,251
Totals, Canadian Assets Abroad	**1,496**	**1,865**	**3,715**	**3,936**

[1] Subject to revision. [2] Not available. [3] Includes holdings of gold which, at the end of 1945, had a Canadian dollar value of $388,000,000 and in 1946, $536,000,000.

8.—Estimated Canadian Investments Abroad, as at Dec. 31, 1946[1]

NOTE.—Excluding investments of insurance companies, banks, Government credits and liquid reserves. Holdings of stocks are at book values as shown in the books of issuing companies; holdings of bonds are shown at par values. Foreign currencies were converted into Canadian dollars at current market rates.

(Millions of Dollars)

Location of Investment	Direct Investments	Portfolio Investments			Total Investments
		Stocks	Bonds	Total	
United States	486	260	83	343	829
United Kingdom	60	25	26	51	111
Other Empire countries	64	7	11	18	82
Other foreign countries	162	106	33	139	301
Totals	**772**	**398**	**153**	**551**	**1,323**

[1] Subject to revision.

The privately owned Canadian investments abroad are chiefly in the United States, the total value of investments in that country at the end of 1946 being $829,000,000. At the same time investments in other foreign countries, chiefly in Latin America, were $301,000,000, while investments in the United Kingdom were $111,000,000, and in other Empire countries $82,000,000. These figures of investments exclude the investments abroad of Canadian insurance companies and banks, as well as the official assets referred to above, and certain small amounts of miscellaneous investments which are difficult to evaluate.

Section 3.—Corporation Profits

Profits of Corporations, and Net Income to Stockholders

Beginning with this edition of the Canada Year Book, this Section on corporate profits will consist of estimates covering all corporations, included in the statistics of National Income prepared by the Dominion Bureau of Statistics. Figures for the years 1944, 1945 and 1946 are based on the reports "Taxation Statistics" published in 1946, 1947 and 1948 by the Taxation Division, Department of National Revenue. These reports cover practically all taxable corporations and the data required only minor changes to make them conform with the definitions used for national income estimates. For the years prior to 1944, estimates of corporate profits were made using data on tax collections and tax rates supplied by the Department of National Revenue. In the 1947 Year Book at pp. 1054-1059 statistics of Canadian corporation profits were given for the years 1936-45. These statistics were taken from the statistical summary of the Bank of Canada and were based on the financial statements of 709 corporations. The change from a sample basis to complete coverage will give a more accurate indication of trends, besides showing aggregates applicable to the whole corporate sector.

Because of the importance of the rate of taxation in determining the income available for dividends and surplus, a brief description of the changes during the war years 1939-45 is given here. More detailed information can be found in the reports "Taxation Statistics" referred to above. The corporation income tax rate which was 15 p.c. in 1938 and 1939 was raised to 18 p.c. in 1940, and remained

unchanged until Jan. 1, 1947, when it was increased to 30 p.c. From Jan. 1, 1940 to Dec. 31, 1947, corporations were also subject to a tax on excess profits, details of which are as follows:

Calendar Year	*Excess Profits Tax on Corporations*
1940	12 p.c. of total profits or 75 p.c. of excess profits, whichever is greater.
1941	22 p.c. of total profits or 75 p.c. of excess profits, whichever is greater.
1942	First six months—same tax rate as 1941.
1942	Second six months—12 p.c. of total profits *plus* either 10 p.c. of total profits or 100 p.c. of excess profits, whichever is greater.
1943	12 p.c. of total profits *plus* either 10 p.c. of total profits or 100 p.c. of excess profits, whichever is greater.
1944	Unchanged from 1943.
1945	Unchanged from 1943.
1946	22 p.c. of total profits *plus* 20 p.c. of excess profits; beginning this year "excess profits" are defined as profits in excess of 116⅔ p.c. of standard profits.
1947	15 p.c. of excess profits.
1948	No tax payable.

NOTE.—Refundable Portion—From July 1, 1942, to Dec. 31, 1945, those companies taxable at the 100 p.c. rate on excess profits were entitled to a refund of a portion of the taxes paid. The refundable portion is defined as 20 p.c. of all profits in excess of 116⅔ p.c. of standard profits.

Corporation profits, before taxes and dividends, reached a wartime peak in 1942, declined in 1943 and 1944, and then rose to all-time highs of $1,421,000,000 in 1946 and $1,821,000,000 in 1947. From 1939 to 1947 the increase was 195 p.c. Because of the sharp increase in the rate of taxation after 1940, however, income after taxes showed a more moderate increase of 101 p.c. between 1939 and 1947. Taxes reached a peak in absolute amount in 1943 when $642,000,000 was collected out of total profits before taxes of $1,302,000,000. This figure of taxes collected does not include the refundable portion of excess profits tax. With the abolition of the excess profits tax on Jan. 1, 1948, the tax rate dropped to 30 p.c. of profits, considerably below the wartime peak, but double the 1938 rate of 15 p.c.

Cash dividends paid to stockholders were maintained at a fairly moderate figure. It should be noted that the figure for dividends paid out does not include dividends paid to Canadian corporations, since intercorporate dividends cancel out for the corporate sector as a whole.

Undistributed profits, that is, profits after taxes and dividends, reached a peak of $608,000,000 in 1947. This, together with $359,000,000 in depreciation charges gives a total of $967,000,000 available for replacement and expansion of plant and equipment, and for building up inventories. Comparable figures for 1944, 1945 and 1946 were $691,000,000, $666,000,000 and $729,000,000, respectively. Companies were thus in a favourable financial position to undertake capital investment and inventory expansion as soon as conditions permitted. Unfortunately, investment

figures are not published separately for corporations, but data on Canadian gross home investment indicate that capital investment reached a record high in 1947, with a large part of this expansion being financed by corporation earnings.

Analysis by Industries.—Most industries showed little change in net profits from 1944 to 1945, but there was a 15 p.c. increase in profits before taxes from 1945 to 1946. The pulp and paper industry showed the largest absolute increase in profits, jumping from $74,000,000 in 1945 to $138,300,000 in 1946; while retail trade changed from $117,800,000 to $148,800,000 in the same two years. Only two groups—forestry and other mining—showed a loss in any of the three years for which data are available. Of the relatively few industries which showed decreases from 1945 to 1946, the two most important were the gold mining industry and the transportation equipment industry.

Net income after taxes shows much the same pattern as before taxes, although because of the drop in the 1946 tax rate, 1946 net income after taxes was 24 p.c. above that for 1945, as compared with 15 p.c. before taxes.

9.—Profits, Taxes and Dividends of Canadian Corporations, 1938-47

NOTE.—Corporate profits before taxes include corporate taxable income, depletion charges and charitable donations, and are adjusted for corporate losses, renegotiation of war contracts, and conversion to a calendar-year basis.

(Millions of Dollars)

Item	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947[1]
1. Net profits of corporations[2]	**477**	**618**	**814**	**1,124**	**1,317**	**1,302**	**1,221**	**1,240**	**1,421**	**1,821**
2. Income and excess profits tax (excluding refundable portion of the excess profits tax)	92	112	324	515	629	642	603	603	670	805
Net profits after taxes	385	506	490	609	688	660	618	637	751	1,016
Cash dividends paid abroad and to persons in Canada, and charitable donations	254	287	318	305	311	295	284	250	340	408
Undistributed profits (including refundable portion of the excess profits tax)	131	219	172	304	377	365	334	387	411	608

[1] Subject to revision. [2] National income estimate. See Table **10** for adjustment for taxable profits.

10.—Corporation Profits, Before and After Taxes, by Industries, 1944-46

NOTE.—Figures are for the company fiscal years ended in the calendar years 1944, 1945 and 1946. Sources of information are the 1946, 1947 and 1948 reports "Taxation Statistics" published by the Taxation Division, Department of National Revenue, Ottawa.

(Millions of Dollars)

Item	Net Income Before Taxes			Net Income After Taxes[1]		
	1944	1945	1946	1944	1945	1946
Agriculture	2·0	1·9	2·2	0·7	0·7	0·8
Fishing	0·2	0·3	1·3	0·1	0·1	0·8
Forestry	0·7	−0·2	3·1	–	−1·1	1·2
Gold mining	27·8	24·1	16·2	15·9	13·6	8·2
Other metal mining	41·1	45·9	54·0	23·9	25·3	28·7
Other mining	0·3	6·6	9·4	−3·3	3·0	4·7
Animal food products	16·6	16·8	14·5	8·0	8·4	8·2
Vegetable food products	53·0	51·6	46·9	25·8	25·4	24·9
Alcoholic beverages	40·3	53·5	69·5	17·5	21·9	32·2
Tobacco	11·4	12·3	11·6	6·2	6·4	6·6

For footnote, see end of table, p. 1112.

10.—Corporation Profits, Before and After Taxes, by Industries, 1944-46—concluded

(Millions of Dollars)

Item	Net Income Before Taxes			Net Income After Taxes[1]		
	1944	1945	1946	1944	1945	1946
Textile and textile products	54·5	57·2	67·8	25·4	27·1	35·7
Wood and wood products	26·4	26·4	37·8	11·9	11·5	19·1
Pulp and paper	72·4	74·0	138·3	35·7	36·8	71·4
Chemicals, paints, and drugs	50·5	50·5	57·1	24·0	24·4	29·9
Petroleum products	41·7	38·1	41·5	24·8	24·0	26·5
Rubber	7·6	11·8	12·4	3·5	5·7	6·5
Leather	9·8	9·3	12·8	4·6	4·5	6·5
Non-metallic mineral products	15·4	16·2	21·5	6·8	7·7	10·9
Iron and steel products	39·9	32·8	37·3	17·2	15·1	19·7
Primary iron and steel	24·4	22·2	18·0	12·1	11·0	10·0
Non-ferrous smelting and refining, and products	30·1	26·6	27·8	15·4	14·1	15·4
Machinery	67·4	55·4	61·1	29·5	25·4	30·1
Transportation equipment except autos	37·2	35·5	20·2	13·2	13·7	9·0
Automobiles	30·4	16·8	10·2	12·7	8·8	5·3
Miscellaneous manufactured products	11·9	12·8	15·1	5·1	5·3	7·2
Construction	10·3	7·6	11·4	4·3	3·1	5·2
Heat, light and power	36·5	34·7	35·7	20·5	18·8	20·2
Transportation, communication and storage	113·5	107·1	89·6	58·4	52·7	47·8
Other public utilities	1·8	2·5	3·0	0·8	1·1	1·6
Wholesale trade	84·1	89·4	119·9	37·2	39·0	60·6
Retail trade	101·8	117·8	148·8	43·3	48·2	66·6
Services	26·7	30·4	38·0	12·1	14·2	19·7
Chartered banks and insurance companies	26·7	27·1	28·8	13·0	12·8	13·5
Other financial institutions	43·5	45·5	51·6	25·4	26·3	31·1
Companies not classified	0·2	0·4	0·3	0·1	0·2	0·1
Total Profits—All Corporations	1,158·1	1,161·0	1,334·7	551·8	555·2	685·9
Adjustment to National Income Estimate[2]	62·9	79·0	86·3	66·2	81·8	65·1
Total Profits—National Income Estimate[2]	**1,221·0**	**1,240·0**	**1,421·0**	**618·0**	**637·0**	**751·0**

[1] Refundable excess profits taxes of $68,600,000 in 1944, $67,500,000 in 1945 and $17,800,000 in 1946 were not included in taxes deducted. [2] Total profits of all corporations, as presented in Table 9 differ from the total of all corporations as shown here since for National Income purposes charitable donations and depletion charges are added back to profits, and adjustments are made for renegotiation of war contracts, and conversion to a calendar-year basis.

Section 4.—Estimates of National Wealth

Owing to the abnormal economic conditions that have prevailed over the past fifteen-year period, no official estimate for national wealth has been made since that of 1933 which measured economic conditions at the lowest point of the pre-war depression. It is not considered desirable to establish another basis of national wealth until conditions have become normal. A short summary of the position is given at pp. 795-796 of the 1942 Year Book.

CHAPTER XXVII.—RECONSTRUCTION*

CONSPECTUS

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A dominant element conditioning Canada's economic development since the end of the Second World War has been the transfer of about one-half the human and physical resources of the country from a wartime to peacetime basis. The progress made has been recorded in the Year Books published from 1944 to 1947 in Chapters entitled "Post-War Reconstruction and the Rehabilitation of Ex-service Personnel," and later "Post-War Reconstruction". The transfer of resources to peacetime use is now largely an accomplished fact. It is proposed to review this post-war reconstruction effort for the last time in this Year Book in the Sections that follow.

Section 1.—The Federal Program of Reconstruction

The abnormal, temporary phenomena that have characterized the past few years as a "reconstruction" period are (1) re-employment of war veterans and war workers in peacetime pursuits; (2) reconversion of plant and equipment to peacetime use; (3) liquidation of the war production program; and (4) relaxation and abolition of wartime controls. Although almost all Departments of the Federal Government have participated in the reconstruction program, the agencies most concerned have been the Department of Reconstruction and Supply (see Subsection 2, pp. 1114-1115), Department of Veterans Affairs, the Wartime Prices and Trade Board and the National Employment Service (Chapters XXIX, XXII and XVIII describe the work of these last Departments).

Subsection 1.—Planning for Reconstruction

The transfer of manpower and industrial resources from a wartime to a peacetime basis was carried through successfully, partly because the economic environment was favourable, and partly because the task was thoroughly planned and the facilities needed to execute it were provided. The Federal, Provincial and Municipal Governments, and industry and labour made plans to cope with their respective reconstruction problems and contributed suggestions to Dominion agencies engaged in planning to enable the separate schemes to be co-ordinated within the national framework (see Section 2).

* Prepared by the Economic Research and Development Branch, Department of Trade and Commerce.

Federal Government planning for the post-war transition period began with the outbreak of hostilities in 1939 and was continued throughout the war period by the Cabinet Committee on Demobilization and Re-establishment, the Advisory Committee on Economic Policy, the Advisory Committee on Demobilization and Re-establishment and the Advisory Committee on Reconstruction. The Advisory Committee on Reconstruction had a full-time secretariat and sub-committees for agricultural policy, conservation and development of natural resources, post-war reconstruction, housing and community planning, post-war employment opportunities, and special post-war problems of women. The House of Commons established a Committee on Reconstruction and Re-establishment and the Senate a Committee on Economic and Re-establishment and Social Security.

The Federal Government program for reconstruction was set out in the White Paper on *Employment and Income* in April, 1945, and re-stated in more concrete terms in *Proposals of the Government of Canada* prepared for the Dominion-Provincial Conference on Reconstruction which met in August, 1945.

The fiscal arrangements proposed by the Federal Government to implement the program were not acceptable to the Provincial Governments and the Conference adjourned in April, 1946, *sine die*. The failure of the Conference to reach over-all agreement delayed the implementation of certain proposals, such as those dealing with joint action on social security matters and public investment programs.

Subsection 2.—The Department of Reconstruction and Supply

The Department of Reconstruction and Supply has been responsible for co-ordinating the action of government departments and agencies to ensure a quick and smooth transition from a wartime to a peacetime economy. The Department was created in December, 1945, by a merger of the Department of Munitions and Supply, established in April, 1940, and the Department of Reconstruction, established in June, 1944. The functions of the Department have been twofold: firstly, to liquidate the Government's commitments arising out of, and following the conclusion of, the War and, secondly, to assist in formulating plans designed to maintain a high level of employment and income in Canada in the transition period and the years to follow.

However, as the reconstruction of the economy on a peacetime basis neared completion and emphasis shifted toward further economic development on a continuing basis, a number of functions developed by the Department were transferred to other agencies. Of the specialized organizations for which the Department has been responsible, a number, as indicated below, are now under other departments or agencies.

The Research and Development Branch.—This Branch, which was transferred to the National Research Council early in 1947, developed a technical information service to make available to industry the results of government and other research, encouraged research not undertaken by government departments, and aided in the development of means of measuring, and appraising the significance of, research expenditures in Canada (see Chapter IX, p. 334).

The Air Development Branch.—The Air Development Branch which was transferred to the Bureau of Transport Economics of the Board of Transport Commissioners, was responsible for initiating a nation-wide survey of the extent of inter-community travel between important Canadian cities.

In December, 1948, there took place a major readjustment of the Department's functions. Responsibility for the Economic Research Branch, Crown companies other than Central Mortgage and Housing Corporation, and the remaining commodity controls (steel, timber, building priorities) was transferred to the Department of Trade and Commerce. The Department of Reconstruction and Supply retained the Public Projects Branch and Central Mortgage and Housing Corporation, and took over administration of the Canadian Government Travel Bureau from the Department of Trade and Commerce and of the National Film Board from the Department of National Revenue. The change allowed the Department to concentrate attention to a greater extent on the Federal construction and housing programs, including the housing projects of the Armed Services.

The Public Projects Branch.—The Public Projects Branch which remained under the Department of Reconstruction and Supply, implements the Federal Government's public investment policy, being concerned with the screening of construction projects proposed for inclusion in Federal Estimates, the approval of projects brought under the special projects vote, and the assembly of a "shelf" of postponable but fully planned public projects. This Branch in 1947 absorbed the Resources Development Branch, charged with formulating policies for the development of natural resources.

Upon assuming control of commodity controls, the Department of Trade and Commerce set up a Commodities Branch to administer the timber control and building priorities, as well as the Export and Import Divisions, the Export Permit Branch and the Transportation and Communications Division. The newly transferred Economic Research Branch was incorporated with the Industrial Development Division of the Department of Trade and Commerce to form the Economic Research and Development Branch. Its functions as an economic intelligence unit were integrated more closely with the foreign trade intelligence work of this Department to aid in the provision of a continuing review of both domestic and external developments affecting the country's economic welfare.*

Subsection 3.—Re-employment of War Veterans and War Workers

Peak civilian war employment was reached in the autumn of 1943 when an estimated 1,400,000 out of about 4,300,000 workers were engaged on war work. Peak Armed Forces strength was reached a year later with about 780,000 men and women in uniform. The contraction of war employment was practically completed by the spring of 1946 and, by the end of the year, the Armed Forces were reduced to 43,000 members, approximately a peacetime footing. Despite the high rate of release, unemployment, as reflected by the number of unplaced applicants registered with the National Employment Service, did not rise above 270,000 or about 4 p.c. of the working force. The maximum number of unplaced war veterans of the Second World War was reached in March, 1946, at 72,500, a large proportion of whom had been registered at the Employment Service less than 15 days. This represented less than 15 p.c. of all veterans discharged in the preceding year.

The National Employment Service was the principal agency engaged in placing war veterans and war workers in employment. Many, however, found jobs on their own in the strong labour market that then existed, while a considerable proportion of war workers were transferred to peacetime work without change of jobs when the firms with which they were employed were converted to peacetime production.

* *Private and Public Investment in Canada, Outlook, 1948; Private and Public Investment in Canada, Mid-Year Survey, 1948;* and *Production of Basic and Building Materials in Canada, Outlook, 1948,* are publications of this Branch.

The rehabilitation of war veterans, apart from placement in employment, was handled by the Department of Veterans Affairs. The war veteran was entitled to a clothing allowance, rehabilitation grant, war service gratuity, supplementary gratuity for service outside the Western Hemisphere, a re-establishment credit or, alternatively, to assistance in obtaining vocational or university training or to set himself up in agriculture or commercial fishing. The veteran was also entitled to re-instatement in the job he was in at the time he joined the Armed Forces; to an out-of-work allowance until he obtained a job; and, after 15 weeks of continuous civilian employment, he became entitled to unemployment insurance assistance based on the period of his Service. Veterans attempting to establish themselves in business on their own were entitled to an "awaiting returns" allowance if encountering difficulty in supporting themselves. Extensive medical and rehabilitation services were also provided for veterans whose employability has been affected by their war service. (See Chapter XXIX.)

The rehabilitation of war veterans into civilian life was carried through smoothly and with little friction. Among the reasons for this were: the spreading of demobilization over a longer period of time than after the First World War; the provision of assistance on a generous and comprehensive scale and with emphasis on rehabilitation; extensive consultative facilities (through the Department of Veterans Affairs and the Employment Service) to deal with the veteran's problems on an individual basis; and a prolonged period of high employment during which the veteran had time to consolidate his position as a civilian. It should also be noted that, owing to improved standards of education as well as to technical training while in the Services, veterans generally were more skilled than the veterans of the First World War, which improved their opportunities for employment.

Subsection 4.—Reconversion of Plant and Equipment

During the course of the War approximately 14,000 companies and individuals entered into prime contracts with the Department of Munitions and Supply to provide war supplies, 13,000 of these to provide general stores and 1,400 to provide technical stores. Many of these contractors, in turn, entered into sub-contracts with others to supply materials or parts needed to execute contracts. In a number of cases, and particularly with respect to technical stores, it was necessary to install additional equipment and to make changes in production methods to execute contracts or sub-contracts. In the process, many plants almost completely abandoned their civilian production. In addition, a number of the largest plants in operation in Canada when the War ended had been built specifically to make war goods.

Most of the companies extensively engaged in war production had plans fully prepared for industrial reconversion. Sample surveys conducted by the Department of Reconstruction and Supply indicate that one-half of the reconversion work was completed by March, 1946, and all but a small percentage by the middle of 1947.*

Subsection 5.—Liquidation of the War Production Program

The liquidation of the war production program involved: (1) cancellation and settlement of incompleted war contracts, (2) the renegotiation of some contracts, (3) the disposal of Government-owned war material and stores and of plant and equipment in excess of peacetime need, and (4) the winding-up or reconstituting of Crown Companies established during the War.

* Results of the most comprehensive survey were published in *Reconversion, Modernization and Expansion, Progress of Programs in Selected Canadian Manufacturing Industries, 1945-1947*, Economic Research Branch, Department of Reconstruction and Supply.

Cancellation and Renegotiation of Contracts.—Provision was made during the war years for the speedy termination of incompleted war contracts when the War ended, and for interim or partial payments pending final settlement of claims on the completed parts of the contracts. War contracts cancelled in the closing phases of the War and immediately thereafter involved $2,500,000,000. By the end of 1948, the Contracts Settlement Board of the Department of Reconstruction and Supply had received over 3,250 termination-of-contract claims for more than $300,000,000 from prime contractors and had approved them for settlement with disallowances of $10,000,000.

Whenever it was considered that a contractor had made profits on his war contracts, as a group, in excess of a fair and reasonable rate, the Government had the power, through the Financial Adviser of the Department of Reconstruction and Supply, to renegotiate the terms of the contracts. Renegotiation reduced the amount paid out on war contracts by over $475,000,000.

Surplus Assets.—When the War ended, the Government had on hand much material procured for war purposes that immediately became surplus but had definite peacetime value. This included such things as food, clothing, barrack-room stores, trucks, aeroplanes, watercraft, military establishments and some $700,000,000 worth of Crown-owned war plants, machinery and equipment. Part of the surplus material was in Canada and part in theatres of war.

Power to dispose of these surpluses was exercised by the Minister of Munitions and Supply and later by the Minister of Reconstruction and Supply. A Crown Assets Allocation Committee laid down disposal policy, the Director-General of War Surplus cleared war plants, and the War Assets Corporation directed details of disposal. By the end of 1948, the Federal Government had realized $450,000,000 from disposal of surplus goods.

One of the most important features of the disposal program was the making available to industry of the industrial plants formerly occupied by Crown Companies. This involved the disposal of the 33,500,000 sq. ft. of floor space in 170 Crown plants and plant extensions. By Jan. 1, 1949, 45 p.c. had been wholly or partly sold; 4 p.c. leased; 4 p.c. subdivided for multiple-tenancy by small businesses; 34 p.c. was retained permanently by the Government; 1 p.c. was being used by War Assets Corporation for storage, some part of which would be retained permanently by the Government; 1 p.c. was up for sale or other disposal; and 11 p.c. had been dismantled.*

Dissolution of Crown Companies.—Related to some extent to the disposal of Crown plants was the winding up or reconstituting on a peacetime basis of a number of Crown Companies, some engaged in production and others in procurement. All but three of these Companies operated under the Department of Munitions and Supply.

Twenty-three of these Crown Companies have been wound up and their charters surrendered. (For a list of the Companies referred to, see the 1947 edition of the Year Book, pp. 1107-1108.) Certain continuing rights and obligations of Wartime Oils, Limited, have been handed over to the Department of Mines and Resources, and two other Companies—Aero Timber Products, Limited, and War Supplies, Limited—are inactive but have not yet surrendered their charters. Companies that were absorbed into other Crown Companies were: Fairmont

* See *Disposal and Peace-Time Use of Crown Plant Buildings*, Economic Research Branch, Department of Reconstruction and Supply.

Company Limited (later Polymer Sales and Service, Limited), absorbed by Polymer Corporation for the purpose of settling liabilities; Veterans Housing (Ottawa), Limited, and Veterans Housing (Toronto) Limited, absorbed by Wartime Housing, Limited, which, in turn, was absorbed by Central Mortgage and Housing Corporation.

Crown Companies established during the War whose work is not yet completed are: Canadian Sugar Stabilization Corporation (formerly the Wartime Food Corporation) and Commodity Prices Stabilization Corporation Limited, both associated companies of the Wartime Prices and Trade Board; the Malton Water Company, which leased its rights to a private company with option to purchase; the War Assets Corporation; and the Park Steamship Company, Limited, which was continued as a ship-selling agency for War Assets Corporation. Several other Crown Companies established during the war years that will continue to function on a peacetime basis are mentioned in the Introduction at p. xxxii.

Subsection 6.—Decontrol of the Economy

When the War ended, strong inflationary forces were latent in the national economy. The experience of previous wars, and particularly of the First World War, was that inflationary effects and other maladjustments in the economy had their most disrupting influence after rather than during hostilities. The principle adopted by the Government, therefore, was to retain the system of controls and utilize it to redirect resources to civilian production and to hold inflationary pressures in check in order not to disrupt the prices mechanism too severely. As early as the situation warranted, however, specific controls were to be dropped.

The extraordinary powers to continue controls were based, in the first instance, on the War Measures Act, then on annual Emergency Transitional Powers Acts. Every Department of the Government has had a hand in the decontrol program. The problems of decontrol were not easy to solve. Not only was there the problem of timing the relaxation of a control with due regard to demand and supply considerations, but the additional problem of minimizing secondary effects. Most controls had been designed, in part, to complement and to be complemented by other controls, thereby obtaining as comprehensive a coverage as possible. In dismantling the structure the sequence in which controls were relaxed and dropped had to be considered lest the whole structure collapse. This decontrol program is referred to in detail in Chapter XXII. Its principal parts were as follows:—

Prices and Production and Import Subsidies.—By November, 1947, only a small range of items were still under price control, the most important being residential rents. A number of food products were subsequently brought under control again as their prices showed a marked tendency to rise following the imposing of austerity measures. The last of the subsidies paid for price control purposes were discontinued in August, 1948.

Food Rationing and Restrictions on Consumer Credits.—The relaxation and discontinuance of ration controls over foods that were scarce in relation to domestic and overseas demand began in 1946 and was completed in November, 1947; restrictions on consumer credits were discontinued in January, 1947.

Allocation Controls.—The relaxation of controls over the production and distribution of raw materials, fuels and finished goods started before the War ended and proceeded throughout 1946 and the first part of 1947. At the end of 1948, however, it was still found advisable to retain allocation controls over steel,

timber and building materials, to use priorities to ensure an adequate supply of building materials to priority projects, and to maintain an "equitable distribution" policy on many types of consumer goods to ensure established firms of a fair share of production.

Export, Import and Foreign Exchange Controls.—There was a progressive relaxation of these controls after the War ended. However, in the face of the high level of economic activity in Canada and the deterioration of economic conditions in most parts of the world, the system of controls has been retained to protect Canada's position in the field of international trade. These controls are now exercised under special legislation—the Export and Import Permits Act (11 Geo. VI, c. 17) and the Foreign Exchange Control Act (10 Geo. VI, c. 53). The War Exchange Conservation Act, 1940, was allowed to lapse at the end of 1947.

Labour Controls.—Wage controls were dropped in November, 1946, the last of the controls over employment in April, 1947, while wartime labour-management regulations were allowed to lapse in May, 1947, in so far as they applied to labour relations falling within provincial jurisdiction.

The object of the Government—a gradual and orderly relaxation of wartime controls so as to assist the national economy to make the transition to a peacetime basis without undue dislocation—was attained. One hope in timing the rate of decontrol was that the international price level would have reached an initial stability before the major part of the controls were dropped, thereby avoiding the economic problems of adjustment to falling prices. This hope was not realized and there was a marked rise in domestic prices throughout 1947 and 1948 to record heights.

Section 2.—Provincial Programs of Reconstruction

All Provincial Governments undertook post-war reconstruction planning during the war years, the results of which have been evident in new administrative agencies to foster economic, social and cultural development as well as to furnish greater facilities to assist industry and to provide for the welfare of the people.

The scope of provincial planning was broadly based. Although the emphasis varied with regional circumstances, planning included resource development, the problems of industry and trade, social welfare, and public finance. Attention was given to the need to conserve, and sometimes to reclaim land, forest, mine and fish resources and to ways of providing for their more orderly utilization. Ways and means of coping with the problems of the primary industries, and particularly of the farming and fishing communities, were explored and recommendations were made on such subjects as land use, soil erosion, flood control, irrigation, reforestation, land settlement, market possibilities, and trade and price practices. Potential fields for the growth of secondary industries through the availability of raw materials and power, new production techniques and processes for expanding domestic and foreign markets were considered as were also the possibilities of increasing tourist trade. As an aid to the growth of primary and secondary industries, most provincial planning bodies gave consideration to such matters as rural electrification, more and better transportation facilities, means of supplementing existing credit facilities and the need for better research and development facilities. In the field of social services, the more important subjects considered were education (provision of both schools

and teaching staffs), housing and community planning, and public health and welfare. Finally, Dominion-Provincial relations were widely considered with particular reference to the ability of provincial and municipal authorities to finance extensive reconstruction programs.

Subsection 1.—Recent Planning for Reconstruction

Before hostilities ended most Provincial Governments had set up general planning, administrative planning, and technical inquiry committees to deal with reconstruction problems. A short résumé by provinces follows:—

Prince Edward Island.—A Provincial Advisory Reconstruction Committee composed of representatives of the Government and of private interests was appointed in 1944. Sub-committees were appointed under the direction of the Advisory Committee to carry on much of the work.

Nova Scotia.—Nova Scotia's planning was directed by a Cabinet Committee on Rehabilitation. A Royal Commission on Provincial Development and Rehabilitation undertook a general survey of post-war problems, while a committee on the Rehabilitation of Agriculture and the Nova Scotia Economic Council supplemented its work in more technical fields.

New Brunswick.—A Committee on Reconstruction composed of representatives of Government and private interests was set up in the Province during the war years. Much of the work of this Committee was carried on through sub-committees.

Quebec.—Both the Legislative Council and an Economic Advisory Board of Government and private representatives studied reconstruction problems in Quebec, while detailed planning of post-war programs was undertaken by government departments.

Ontario.—Reconstruction planning in Ontario was undertaken by a number of committees, with co-ordination, direction and review provided by an Inter-Departmental Committee on Conservation and Rehabilitation. Agricultural problems were considered by a Committee on Agricultural Policy and an Agricultural Enquiry Commission, with the latter finally absorbing the work of the former. A Royal Ontario Mining Commission investigated and reported on the problems of the mining industry. A Social Security and Rehabilitation Committee undertook consideration of more general reconstruction problems. Its work was taken over by the Department of Planning and Development.

Manitoba.—In Manitoba, a Special Select Committee of the Legislature and a Post-War Reconstruction Committee (all Provincial Deputy Ministers) were concerned with broad general planning, and an Advisory Committee on Co-ordination of Post-War Planning gave leadership to and enlisted the co-operation of citizen groups in post-war planning. A sub-committee of the Cabinet exercised powers of review and decision on reconstruction plans. Committees of a semi-technical character were the Manitoba Electrification Enquiry Commission, the Joint Universities Studies Group (from Universities of Manitoba and of Minnesota, U.S.A.), both private agencies, and the Advisory Committee on Rehabilitation Training.

Saskatchewan.—In the Province of Saskatchewan representatives of Government and of private interests formed a Reconstruction Council in October, 1943, to deal with reconstruction problems. The Council appointed sub-committees to carry on much of the work.

Alberta.—Alberta's general planning was undertaken by a Post-War Reconstruction Committee, composed of Government and private representatives, and received technical assistance from the Research Council of Alberta. A Post-War Survey Management Committee undertook a broad economic survey of the Province to ascertain post-war production facilities and consumer demand. The Department of Public Works also had a Veterans' Welfare and Advisory Committee to assist ex-service men.

British Columbia.—In British Columbia, the legislature participated in post-war planning through a Post-War Rehabilitation Council, while Government planning was handled by an Inter-Departmental Advisory Committee on Industrial Development.

Subsection 2.—Implementation of Plans

Provincial reconstruction plans of an economic nature formulated during the war period have been implemented only in part as yet. Many short-term projects have been postponed or carried through more slowly than expected because shortages of manpower, materials and equipment have made it difficult or inadvisable to expedite them. The execution of some of the more ambitious long-range economic plans has been affected by the inability of Provincial and Federal Governments to reach a general agreement on Dominion-Provincial relations. This consideration has also resulted in modifications of plans in the social and public welfare fields.

What may prove to be one of the most significant developments of the reconstruction studies undertaken in the war period has been the emergence of provincial agencies the primary function of which is economic planning and co-ordination of planning at the policy level. Among these agencies can be included the Department of Dominion-Provincial Relations in Manitoba; the Department of Federal and Municipal Relations in New Brunswick; the Department of Reconstruction in Prince Edward Island; the Saskatchewan Economic and Advisory Board, composed of certain provincial Ministers assisted by a secretariat; and the Bureau of Reconstruction under a committee of the British Columbia Executive Council, which is assisted by an Inter-Departmental Committee on Industrial Development. The Ontario Department of Planning and Development and the Alberta Department of Economic Affairs perform a similar policy-formulation function but their duties also involve important administrative work.

Accompanying the above development, the administrative organizations of Provincial Governments have been expanded to permit greater attention to the encouragement of secondary industry (Subsection 3 below) and the provision of social welfare facilities and assistance (Subsection 4). Less marked but nevertheless evident, has been the extension of Provincial Government services for the primary industries (Subsection 5).

Subsection 3.—Assistance to Secondary Industries

Three provinces established departments to deal with problems of the secondary industries in the mid-1930's. These, under their present names, were the Department of Trade and Commerce in Quebec, the Department of Industries and Labour

in Alberta, and the Department of Trade and Industries in British Columbia. Nova Scotia started a Department of Trade and Industry shortly before the War. In Manitoba, the Industrial Development Board, a private organization supported in part by public funds, encouraged industrial expansion.

During and since the War, the following Provincial Government agencies have been established to deal with problems of secondary industries: the Department of Industry and Reconstruction in New Brunswick; the Department of Planning and Development (and less directly the Bureau of Statistics and Research of the Provincial Treasurer's Office) in Ontario; the Bureau of Industry and Commerce of the Department of Mines and Natural Resources in Manitoba (with legislative authority on the statute books providing for a Department of Industry and Commerce); the Department of Natural Resources and Industrial Development and the Department of Reconstruction and Rehabilitation in Saskatchewan. In addition to the continuing pre-war Department of Industries and Labour, Alberta has established a Department of Economic Affairs which concerns itself with certain industrial problems, with cultural and social welfare developments and with broad general planning. Only one province, Prince Edward Island, has not established an agency for dealing with the problems of secondary industry, but the Province's Department of Reconstruction has undertaken to encourage industrial development.

Although the work of the Departments mentioned above varies from province to province, their primary functions are twofold: to help create an environment favourable for economic development and the growth of secondary industries, and to provide assistance to industry in coping with specific problems.

Assistance to industry usually takes the form of advice on economic and industrial matters, and advice or assistance with engineering problems. Some Provincial Departments have also helped industry in procuring materials and finding markets, while four provinces make provision for financial assistance to industry in the form of loans or bond guarantees. These provinces are Nova Scotia; Saskatchewan, through a Reconstruction and Rehabilitation Fund; Alberta, under the Industrial Corporation Act and Provincial Industries Development Act; and British Columbia through an Industrial Development Fund. It should also be noted that a number of provinces have made greater provision for financial assistance to primary industries, particularly fishing, since the end of the War.

The encouragement of economic development and the growth of the secondary industries takes such forms as the collecting of statistical and factual information, the making of economic and industrial surveys, exploring the possibility of greater utilization of natural resources and greater processing of primary products, investigating the applicability of new industrial techniques and processes by provincial industry, and efforts to expand domestic and foreign markets.

Among the economic and industrial surveys undertaken by provinces since the end of the War are comprehensive economic and industrial surveys on a provincial basis being made by Quebec, Manitoba, and Alberta; regional surveys undertaken in British Columbia; the mineral resources survey and directory of information on

manufacturing industries made by Nova Scotia; the watershed surveys made by Ontario; and the economic, sanitation and ground-level survey of the area adjacent to Charlottetown made by Prince Edward Island.

Provincial assistance to research has been increased as a result of greater interest of the provinces in the ways and means of making a more effective utilization of their resources. Before the War, only Ontario and Alberta had independent scientific research councils and Nova Scotia had an economic research council. Ontario's Research Foundation, which is concerned primarily with applied research, is now complemented by the Ontario Research Council, while British Columbia and Nova Scotia have set up research councils, with the council of the latter Province combining with scientific research the economic research formerly undertaken by the Province's Economic Research Council. New Brunswick has reconstituted its Forest Operations Commission with wider terms of reference as the Natural Resources Development Board. Saskatchewan's Department of Reconstruction and Rehabilitation has established an investigational laboratory.

To encourage industries to locate within their borders and to help find markets for each province's own products, all provinces carry on a certain amount of promotional work. This work is frequently associated with the promotion of tourist trade. All provinces had agencies responsible for publicity work and the encouragement of tourist travel before the War. Certain significant administrative changes have been made since the end of the War: Ontario has raised its Bureau of Travel and Publicity to the status of a Department; Manitoba's Department of Mines and Natural Resources has added a Bureau of Travel and Publicity to work closely with the Bureau of Industry and Commerce; Nova Scotia has transferred its Bureau of Information from the Department of Highways and Public Works to the Department of Trade and Industry, which was known for several years prior to 1948 as the Department of Industries and Publicity; Alberta's Publicity and Travel Bureau has been transferred from the Department of Trade and Industry to the Department of Economic Affairs. In 1948, resident representatives were being maintained by Ontario, Saskatchewan and British Columbia in the United Kingdom, and Alberta was contemplating a similar move. Representatives were also placed in Ottawa by Quebec and Alberta; in Toronto by Alberta; and in New York, U.S.A., by Quebec.

As part of their interest in the encouragement of industry, all the provinces have given increased attention to the extension of electric power facilities, particularly to smaller urban centres and rural areas. Prince Edward Island, Quebec, Alberta and British Columbia made legislative provision during the war years for power commissions to produce and distribute electric energy. The other five provinces have commissions which pre-date the War. Quebec created a Department of Hydraulic Resources; the Commissioner of the New Brunswick Electric Power Commission became a member of the Province's Executive Council, and Saskatchewan and Quebec established committees on rural electrification.

Subsection 4.—Developments in the Welfare Field

As a result of experiences in the pre-war depression period, wartime planning for increased social security, and the immediate need to help provide assistance in rehabilitating war veterans and war workers in civilian employment, there has been a notable increase in services provided in the social welfare and labour fields. As the amount of service provided has increased, Provincial Government agencies have been re-grouped with the result that health, social welfare and labour problems are now more widely recognized as of departmental importance.

Since the beginning of the War, four provinces have created new departments in the welfare field and three others have reconstituted departments so as to establish a separate welfare department. The newly created departments are: Nova Scotia's Department of Public Welfare; Quebec's Department of Social Welfare and Youth; Alberta's Department of Public Welfare; and British Columbia's Department of Health and Welfare (and a Public Health Insurance Commission). The changes in the other three provinces include: the replacing of the Department of Education and Public Health of the Province of Prince Edward Island by the Departments of Health and Welfare and of Education; the replacing of the Department of Health and Labour of New Brunswick by the Department of Health and Social Services, and the Department of Labour; and the reconstituting in Saskatchewan of the Bureau of Labour and Public Welfare of the Department of Municipal Affairs, to establish the Department of Social Welfare and the Department of Labour.

In addition to the departmental changes in New Brunswick and Saskatchewan which give greater departmental recognition to labour problems, Manitoba also replaced its Department of Public Works and Labour by the Department of Public Works and the Department of Labour, while Alberta re-named its Department of Trade and Industry in 1948 as the Department of Industries and Labour.

An important secondary development in the social welfare field during and since the end of the War has been increased provision for community planning. All provinces, except Quebec, now have legislation covering this field. Powers under the legislation are vested in Municipal Affairs Departments in Nova Scotia, Saskatchewan and British Columbia, in the Department of Planning and Development in Ontario, the Municipal Commissioner in Manitoba, the Department of Public Works in Alberta, and Provincial Planning Boards in Prince Edward Island and New Brunswick. Alberta also has a Provincial Planning Board. All provinces, except Nova Scotia, have a governmental agency to provide assistance to municipalities in handling their community planning problems, and Nova Scotia discharges this function through its Planning Board. Prince Edward Island and Manitoba make grants to municipalities to assist them with their planning. Nearly all cities of over 30,000 population and about one-half of the cities of 5,000 to 30,000 population now have planning commissions.

Subsection 5.—Assistance to Primary Industries

The emergence of Provincial Government departments concerned primarily with assisting secondary industry is being paralleled by a more functional organization of departments concerned with the primary industries. This type of organi-

zation existed before the War to the extent that every province had a department concerned primarily with agricultural problems. Now the forestry, fishing and mining industries are receiving clearer recognition in the organization of departments. Among the changes that have helped to bring this about are: New Brunswick included a Division of Fisheries in its Department of Industries and Reconstruction; Quebec separated Game and Fisheries from Lands and Forests and incorporated with it the Maritime Fisheries Bureau of the Department of Mines to form a new Department of Game and Fisheries; Alberta transferred its Fish and Game Commission and Fisheries Division from the Department of Agriculture to the Department of Lands and Mines, and established a Natural Gas Utilities Board and coal marketing agency in the latter Department; and British Columbia raised its Forestry Bureau of the Department of Lands to divisional status and re-named the Department Lands and Forests. Other changes have also been made to provide additional or better service to the primary industries. Ontario and New Brunswick added bureaus to their Departments of Agriculture to deal with problems of credit unions and co-operatives, while Saskatchewan established a Department of Co-operatives and Co-operative Development. Nova Scotia established a Dairy Division in its Department of Agriculture. Quebec established a Dairy Industry Commission and a Farm Credit Office.

CHAPTER XXVIII.—DEFENCE OF CANADA*

CONSPECTUS

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Section 1.—The Department of National Defence

By Mar. 31, 1948, Canada's Department of National Defence had achieved a substantial degree of post-war consolidation. The task of repatriation and demobilization of Second World War troops had been completed. The three Services had been reduced in size to conform to new peacetime establishments and a program for organizing and training extensive reserve forces was well advanced.

Under a single Minister, charged with responsibility for all matters relating to defence, the Department pursued a service unification program aimed at: (1) the adoption of a unified defence program to meet agreed strategic needs; (2) a single defence budget under which funds and resources would be allocated in accordance with the program; (3) the elimination of duplication of services; (4) consistent and equitable personnel policies; (5) greater emphasis on defence research and closer co-ordination with other Government departments and with war industry.

Under direction of the Minister, Service command is exercised by the heads of the Services concerned.

In 1947 progress of the new defence organization was primarily along administrative lines, in keeping with an ever-changing international situation. Co-operation with other nations in matters of defence became increasingly effective. In all matters of international defence relations the first aim of Canadian policy was to prevent war.

The amalgamation of the three Departments and the co-ordination of the three Services began with the establishment of a single National Defence Headquarters at Ottawa. Within this Headquarters, allied components of the Navy, Army and Air Force were interwoven wherever compatible with the interests of efficiency and economy.

Councils and committees that now function with direct relation to the Department of National Defence and the unification program include:—

(1) **Defence Council.**—*Composition*—Minister of National Defence (Chairman), Parliamentary Assistant, Deputy Minister, Associate Deputy Ministers (two), Service Chiefs of Staff and Chairman of Defence Research Board. *Object*—advising the Minister with regard to administrative matters affecting the Department as a whole or otherwise of inter-Service concern.

* This Chapter, with the exception of the material on the Industrial Defence Board, was revised under the direction of W. Gordon Mills, Deputy Minister, Department of National Defence, Ottawa.

(2) **Chiefs of Staff Committee.**—*Composition*—Service Chiefs of Staff (three), Chairman of Defence Research Board and, when matters of general interest are under consideration, the Under Secretary of State for External Affairs and the Secretary to the Cabinet attend. *Object*—planning, training and over-all supervision of the three Services; preparation of joint reports appreciating the military situation.

(3) **Personnel Members Committee.**—*Composition*—Adjutant-General (Army), Chief of Naval Personnel, Air Member for Personnel (R.C.A.F.), and Associate Deputy Minister and a Defence Research Board representative (chairmanship rotates). *Object*—joint administration of personnel, medical and dental services, pay, pensions and allied matters; general aim is to ensure that where feasible, personnel of the Navy, Army and Air Force are governed by the same regulations.

(4) **Principal Supply Officers' Committee.**—*Composition*—principal supply officers from each Service, a Defence Research Board representative and appropriate Associate Deputy Minister (chairmanship rotates). *Object*—co-ordination and unification of supply and equipment and matters of procurement.

(5) **Inter-Service Recruiting Committee.**—*Composition*—by Service appointment as required (chairmanship rotates). *Object*—planning campaigns and sustaining recruiting programs for the active and reserve components of the Armed Forces.

The Defence Research Board of Canada.—The Defence Research Board was set up to operate as a specialized fourth Service to co-ordinate scientific research of defence significance (see Subsection 4).

Liaison Abroad

For the purpose of liaison and furtherance of international co-operation on defence, Canada maintains: (1) United States-Canadian Permanent Joint Board on Defence. (2) Canadian Joint Staff (Washington) representing the three Services. (3) Canadian Joint Liaison Officers, London, representing the three Services. (4) Service Attachés in various countries throughout the world.

Section 2.—The Armed Forces and the Defence Research Board

The three Armed Services of Canada—the Royal Canadian Navy, the Canadian Army and the Royal Canadian Air Force—are closely consolidated under single ministerial direction but still operate as three distinct defence Services. Each is headed by a Chief of Staff who is responsible to the Minister of National Defence. Many aspects of administration and training have been amalgamated or co-ordinated in the interests of efficiency and economy.

Terms of service for recruits in each of the Armed Services have been standardized as much as possible. The entire pay structure for comparable ranks has been made uniform. Plans are progressing for standardization of uniforms and equipment wherever feasible. Requirements for recruits and length of enlistment periods vary somewhat in accordance with the demands peculiar to each Service. Generally, educational and physical requirements are the same.

The strengths of the active (permanent) components of the Armed Forces as at Oct. 31, 1948, were: Navy 7,278; Army 16,650; and Air Force 13,341. Table 1 shows rates of pay for the Armed Forces and includes the increases made effective October, 1947.

1.—Monthly Rates of Pay for the Armed Forces, as at May 31, 1948

Rank or Rating			Basic Rate	Subsistence[1]	Total[2]	After 3 Years in Rank[3]	After 6 Years in Rank[3]
Navy	Army	Air Force					
			$	$	$	$	$
Ordinary Rating (on entry).	Private (on entry)	Aircraftman 2nd Class (on entry).	58	54	112	-	-
Ordinary Rating.....	Private (trained)	Aircraftman 1st Class.	62	54	116	-	-
Able Rating.....	Private 1st Class	Leading Aircraftman.	69	54	123	126	129
Leading Rating.....	Corporal.....	Corporal.....	78	54	132	135	138
Petty Officer 2.....	Sergeant.....	Sergeant.....	91	60	151	156	161
Petty Officer 1.....	Staff Sergeant....	Flight Sergeant.....	106	65	171	176	181
Chief Petty Officer 2 (Artisan).	Warrant Officer 2..	Warrant Officer 2....	121	65	186	191	196
Chief Petty Officer 1 (Technician)	Warrant Officer 1..	Warrant Officer 1....	136	70	206	211	216
Midshipman (Naval Service only).	-	-	82	54	136	-	
Acting Sub-Lieutenant	Second Lieutenant	Pilot Officer.....	143	55	198	-	-
Sub-Lieutenant.....	Lieutenant.....	Flying Officer.....	171	73	244	259	274
Warrant Officer (Naval Service only)	-	-	188	73	261	276	291
Officers in All Services Commissioned from W O 1 Rank.....			193	73	266	281	296
Lieutenant.....	Captain.....	Flight Lieutenant...	203	73	276	291	306
Lieutenant-Commander.	Major.....	Squadron Leader...	268	83	351	366	381
Commander.....	Lieutenant-Colonel.	Wing Commander...	313	88	401	426	451
Captain.....	Colonel.....	Group Captain.....	434	94	528	563	598
Commodore.....	Brigadier.....	Air Commodore....	578	98	676	-	-
Rear-Admiral.....	Major-General....	Air Vice-Marshal...	660	100	760	-	-
Vice-Admiral.....	Lieutenant-General.	Air Marshal.....	747	102	849	-	-

[1] Subsistence allowance, in all cases, includes $20 for rations and the balance for quarters. [2] Amounts shown do not include marriage allowance of: Officers, $30 per month; Other Ranks, $20 per month. [3] Includes subsistence allowance.

Subsection 1.—The Royal Canadian Navy

Administration.—The administrative and operational headquarters of the Royal Canadian Navy is located at Naval Headquarters, Ottawa, Ont. The Chief of the Naval Staff is responsible for policy and direction in all matters concerning the Royal Canadian Navy. He is advised by the Naval Board, consisting of four senior officers who are heads of the main branches of Naval activity—Staff, Personnel, Supply and Technical, and Air.

The Naval Staff, which deals with the organization and operation of the Royal Canadian Navy, is composed of the heads of the various Staff Directorates—Operations, Plans, Intelligence, Communications, Air, Weapons and Tactics.

The Navy maintains operational bases and training centres at Halifax, N.S., and Esquimalt, B.C. In command of all ships and establishments in these areas are the Flag Officer, Atlantic Coast and the Flag Officer, Pacific Coast.

External representation includes the Naval Member of the Canadian Joint Staff, Washington, D.C., U.S.A., and Senior Canadian Naval Liaison Officer, London, England.

The Fleet.—On Feb. 25, 1947, the Minister of National Defence announced the constitution of the Royal Canadian Navy's peacetime fleet. While naturally reduced from the 378 warships served by more than 90,000 men in the spring of 1945, it represented a fleet far superior to anything previously maintained by Canada in peacetime. Designed as a balanced two-ocean organization, it was, for the first time in Canadian naval history, built around big ships and made allowance for the increasing importance of air power.

The keynote of the following twelve months was that of intensive training, and particularly training afloat. Operational ships put in a notable amount of sea time, from the "local" cruises designed for the instruction of Reserves with only two weeks to spend on the water, to far-flung movements combined with fleet exercises and, on occasion, co-operation with ships of the Royal Navy.

The largest unit of the new Force was a "light fleet" aircraft carrier of 18,000 tons. Two 8,000-ton cruisers, seven large Tribal Class destroyers, and four lighter destroyers made up the balance of the fleet. Six frigates and nine Algerine type minesweepers were also maintained, as well as five auxiliary vessels and four motor launches. As at Nov. 15, 1948, the following were the ships in commission or being retained in reserve:—

Light Fleet Aircraft Carrier—
H.M.C.S. *Magnificent*

Six-Inch Cruisers—
H.M.C.S. *Ontario*
H.M.C.S. *Uganda*

Tribal Class Destroyers—
H.M.C.S. *Iroquois*
H.M.C.S. *Huron*
H.M.C.S. *Haida*
H.M.C.S. *Micmac*
H.M.C.S. *Nootka*
H.M.C.S. *Cayuga*
H.M.C.S. *Athabaskan*

"V" Class Destroyers—
H.M.C.S. *Sioux*
H.M.C.S. *Algonquin*

Crescent Class Destroyers—
H.M.C.S. *Crescent*
H.M.C.S. *Crusader*

Frigates—
H.M.C.S. *St. Stephen*
H.M.C.S. *Antigonish*
H.M.C.S. *Swansea*
H.M.C.S. *La Hulloise*
H.M.C.S. *Beacon Hill*
H.M.C.S. *New Waterford*

Algerine Type Minesweepers—
H.M.C.S. *New Liskeard*
H.M.C.S. *Portage*
H.M.C.S. *Wallaceburg*
H.M.C.S. *Fort Francis*
H.M.C.S. *Kapuskasing*
H.M.C.S. *Rockcliffe*
H.M.C.S. *Oshawa*
H.M.C.S. *Sault Ste. Marie*
H.M.C.S. *Winnipeg*

Auxiliary Vessels—
H.M.C.S. *Lloyd George*
H.M.C.S. *Ehkoli*
H.M.C.S. *Llewellyn*
H.M.C.S. *Revelstoke*
H.M.C.S. *Cedarwood*

Motor Launches—
H.M.C. *M.L. 116*
H.M.C. *M.L. 121*
H.M.C. *M.L. 106*
H.M.C. *M.L. 124*

The aircraft carrier H.M.C.S. *Magnificent* is of the Colossus type, with a flight deck 700 feet long and a speed of 25 knots. Though Belfast-built she has a number of Canadian innovations, including a system of cafeteria messing for feeding her crew of more than 1,000. Sea Fury single-seater fighters and Firefly IV fighter-reconnaissance two-seaters constitute her aircraft. The first mentioned are among the fastest carrier-borne fighters in the world. Royal Canadian Navy airmen are trained to "wings" standard by the Royal Canadian Air Force but deck landing and other advanced instruction are provided by the Navy.

H.M.C.S. *Shearwater*, recently commissioned at Dartmouth, N.S., is the shore base for the 18th and 19th Carrier Air Groups, the Training Air Groups, Fleet Requirement Unit and schools for Air Branch personnel. Formerly administered by the Royal Canadian Air Force, *Shearwater* was turned over to the R.C.N. just prior to commissioning.

The 8,000-ton cruisers, 500 feet long, mount nine six-inch guns and heavy anti-aircraft armament. They carry crews of nearly 800 each and have a speed of more than 30 knots. H.M.C.S. *Ontario*, just completed at the end of the War, is currently in commission after a lengthy refit that made her one of the best equipped ships of her type.

The Tribals, fleet destroyers, are of about 2,000 tons and are the most heavily armed vessels of their type. Three of them, British-built, saw much action in the closing years of the War. These are, in order of completion, H.M.C.S. *Iroquois*, H.M.C.S. *Huron* and H.M.C.S. *Haida*. The remaining four are products of Canadian shipbuilders and are the first turbine warships ever built in the Dominion. Two of them, H.M.C.S. *Cayuga* and H.M.C.S. *Athabaskan* were completed in 1947.

H.M.C.S. *Crescent* and H.M.C.S. *Crusader* are smaller destroyers than the Tribals, displacing 1,700 tons, and are thoroughly modern. They are on loan from the Royal Navy.

H.M.C.S. *Algonquin* and H.M.C.S. *Sioux* are Canadian "V" class fleet destroyers. They displace 1,700 tons and, while comparatively new ships, both have battle records to their credit.

The frigates and Algerine minesweepers, war-developed as anti-submarine vessels, displace 1,445 and 1,000 tons, respectively.

The allocation of major units maintained in commission calls for an aircraft carrier and three destroyers on the Atlantic Coast, based in Halifax, N.S., and a cruiser and three destroyers operating from the Pacific base at Esquimalt, B.C. Frigates and Algerines are commissioned with an eye on training requirements, the greater number being called for in the summer months when the flow of Reservists, coming from inland Divisions for their annual sea time, reaches its peak.

While specialized training for both officers and men prior to the War was almost entirely dependent on Royal Navy facilities, the development and modernization of the Halifax and Esquimalt bases, plus the facilities made available by the increased Canadian fleet, have brought the Royal Canadian Navy to a position where, with the exception of a few very highly specialized qualifications, it handles all its own instructional activity.

The actual strength of the R.C.N. permanent Force as at Oct. 31, 1948, was 7,278. Recruits, on enlistment, sign a five-year agreement, with succeeding periods of the same length where a man wishes to continue until he is pensionable.

Officers of the Royal Canadian Navy come from three main sources: (1) graduates from Royal Roads, the Pacific Coast Canadian Services College at Esquimalt, B.C.—the other Canadian Services College, Royal Military College at Kingston, Ont., will graduate its first naval cadets in 1950—see also p. 1139; (2) direct entry of certain specialists from the universities; (3) promotions from the ranks. In addition a number of short-term commissions are held by Naval Air Crew.

Royal Canadian Navy (Reserve).—All Canadian naval reserves are incorporated in a single body, the Royal Canadian Navy (Reserve). Twenty Divisions of this organization are established in the following centres:—

"H.M.C.S. Scotian", Halifax, N.S.
"H.M.C.S. Queen Charlotte", Charlottetown, P.E.I.
"H.M.C.S. Carleton", Ottawa, Ont.
"H.M.C.S. Cataraqui", Kingston, Ont.
"H.M.C.S. Brunswicker", Saint John, N.B.
"H.M.C.S. Montcalm", Quebec, Que.
"H.M.C.S. Donnacona", Montreal, Que.
"H.M.C.S. York", Toronto, Ont.
"H.M.C.S. Star", Hamilton, Ont.
"H.M.C.S. Hunter", Windsor, Ont.
"H.M.C.S. Griffon", Port Arthur, Ont.
"H.M.C.S. Chippawa", Winnipeg, Man.
"H.M.C.S. Queen", Regina, Sask.
"H.M.C.S. Unicorn", Saskatoon, Sask.
"H.M.C.S. Tecumseh", Calgary, Alta.
"H.M.C.S. Nonsuch", Edmonton, Alta.
"H.M.C.S. Discovery", Vancouver, B.C.
"H.M.C.S. Malahat", Victoria, B.C.
"H.M.C.S. Chatham", Prince Rupert, B.C.
"H.M.C.S. Prevost", London, Ont.

These Naval Divisions are not only the local training centres for Reservists, but are recruiting offices for the Royal Canadian Navy. Drawing heavily on surplus war equipment for basic-training gear, and making use in many instances of new buildings, the Divisions are well fitted to meet modern high instructional requirements. They are commanded by R.C.N. (R) Active Officers, under whom are R.C.N. staff officers and instructors, the latter being instructional specialists.

Approximately 2,500 officers and men of the R.C.N. (R) including members of the University Naval Training Divisions, took part in more than 30 training cruises during the summer of 1948. Ships of the R.C.N. logged more than 35,000 miles and visited ports from Hudson Bay to the Caribbean Sea and from Hawaii to Alaska.

Apart from annual training, officers and men of the R.C.N. (R) may perform voluntary service and special naval duty as required by Naval Headquarters. In the latter case they take the place of permanent Service officers or men where vacancies exist in complement.

There are two types of enlistment in the R.C.N. (R). Officers may be either Active or Retired. The first mentioned do periodic training. Retired officers may volunteer for training if they wish but it is not compulsory. Both classes are liable to mobilization in a time of emergency.

Men are placed on Active or Emergency Lists and are governed by the same conditions as apply to officers. They sign on for five-year periods. Enlistments as at Oct. 31, 1948, totalled 3,847, of whom 955 were men of the University Naval Training Divisions. There is no limitation of complement for retired officers and emergency men.

University Naval Training Divisions.—Divisions for naval training are established at 29 universities and colleges across Canada: Acadia University, Dalhousie University, Nova Scotia Technical College, St. Francis Xavier University, University of King's College, University of St. Mary's College, Mount Allison University, University of New Brunswick, Collège Saint-Alexandre de la Gatineau,

Ecole Polytechnique, Laval University, McGill University, Sir George Williams College, University of Montreal, Assumption College, Carleton College, McMaster University, Ontario Agricultural College, Ottawa University, Queen's University, St. Patrick's College, University of Toronto, University of Western Ontario, University of Manitoba, University of Saskatchewan, Mount Royal College, University of Alberta, University of British Columbia, Victoria College.

The University Naval Training Divisions' program offers undergraduates of all faculties four years of instruction leading to a commission in the Royal Canadian Navy and Royal Canadian Navy (Reserve). It is designed to produce officers in all branches and, to this end, offers training both ashore and afloat.

Training is taken at Naval Divisions and at universities during the academic year. Summer vacation training is taken both in the schools at the coasts and in H.M.C. ships.

Approximately 1,000 undergraduates took training in the 1947-48 academic year. In 1946-47, 16 commissions were obtained and 30 University Naval Training Divisions' men were commissioned upon graduation during 1948.

The Royal Canadian Sea Cadets.—The R.C.S.C. consists of 89 authorized corps, sponsored by the Navy League of Canada and trained and supervised by the Naval Service. The authorized strength is 10,000 cadets between the ages of 14 and 18 years. During a period of two summer months, at seven different camps maintained for their training, 4,000 cadets averaged 14 days each.

Subsection 2.—The Canadian Army

Command.—The system of command of the present peacetime Canadian Army includes:—

Army Headquarters—Ottawa, Ont. (subdivided)
The General Staff Branch
The Adjutant-General Branch
The Quartermaster-General Branch*

Western Command—Headquarters, Edmonton, Alta.
British Columbia Area—Headquarters, Vancouver.

Prairie Command—Headquarters, Winnipeg, Man.
Saskatchewan Area—Headquarters, Regina.

Central Command—Headquarters, Oakville, Ont.
Western Ontario Area—Headquarters, London.
Eastern Ontario Area—Headquarters, Kingston.

Quebec Command—Headquarters, Montreal.
Eastern Quebec Area—Headquarters, Quebec City.

Eastern Command—Headquarters, Halifax, N.S.
New Brunswick Area—Headquarters, Fredericton.

Northwest Highway Command—Headquarters, Whitehorse, Yukon.

Canadian Army Liaison Staff—Washington, D.C.

Canadian Army Liaison Staff—London, England.

Army Headquarters conducts the planning and policy for the administration and training of the Active and Reserve Forces of the Canadian Army. It administers corps schools and other training establishments. Matters affecting Public Relations, Cadet Services, Military Intelligence, Chaplain Services, Provost and associated activities are directed by Army Headquarters through Commands.

* Includes the Branch of the Master-General of Ordnance.

The authority formerly invested in Military District Command has been given considerably wider scope in the new Command organization. The five principal Commands are charged with complete military responsibility, under Army Headquarters, for all matters affecting their territorial areas and the command and administration of all troops within these areas.

Organization.—There is but one Canadian Army which includes all the Ground Forces of Canada. Service is on a voluntary basis. The organization of the Army provides for six component parts as follows:—

The Active Force.—The Active Force is available for General Service and comprises a Field Force, Coast and Anti-Aircraft Defence Units, Headquarters, Command and Area Staffs; also training, intercommunication, administration, research and development staffs, units and establishments, officers and men permanently employed but not borne on any regimental establishment.

The conditions for enlistment in the Active Force provide for men who were on Active Service in the Army during the Second World War, if they meet the physical requirements, have a Grade VIII education or the equivalent and are between 18 and 40 years of age. Young men are preferred. Men who were not on Active Service during the War may enlist if they meet the physical requirements, have a Grade X education or the equivalent and are between 18 and 25 years of age. Men qualified in a particular trade may be accepted up to the age of 35 years.

Officers of the Canadian Army come from three main sources: (1) graduates of the Canadian Services Colleges—Royal Roads at Esquimalt, B.C., and the Royal Military College at Kingston, Ont.; (2) the Canadian Officers Training Corps; (3) promotions from the ranks.

The Reserve Force.—The Reserve Force provides the basis for the organization of a field force in the event of emergency. It is employed on a part-time basis and subject to annual military training.

The Supplementary Reserve.—The Supplementary Reserve maintains lists of units and a list of individuals required in the event of mobilization to complete the organization of the Army. Such personnel will not be subject to, yet not precluded from, annual military training.

The Canadian Officers Training Corps.—The C.O.T.C. is the fourth element of the Canadian Army and responsible for training officer candidates during peace and war; personnel are subject to the same obligations in respect of military service as apply to other sections of the Army.

The Cadet Services of Canada.—Cadet Services are administered by commissioned officers of the Canadian Army, serving on a basis comparable to that of officers of the Reserve Force. These officers also handle training and are under direction of Active Force general staff officers at Command Headquarters. The peacetime reorganization of the Royal Canadian Army Cadet Corps has been completed. New regulations authorize a total of 50,000 Army Cadets across Canada. There are approximately 490 separate cadet corps functioning throughout the Dominion. All service is voluntary. Free uniforms are provided and the opportunity is extended annually to attend a summer camp in one of the five military Commands.

The Reserve Militia.—The Reserve Militia provides for units for home security duties which could not logically be performed by the Reserve Forces. Most prominent of Militia units is the corps of Canadian Rangers, organized in June, 1947.

The role of Canadian Rangers includes the provision of guides to organized troops, coast watching, rescue work in remote localities, assistance to civilian law enforcement agencies and immediate local defence in times of emergency. Authorized strength of the organization is 5,000. Terms of service are somewhat similar to the Reserve Force, though there are no uniforms provided in times of peace nor any training parades. Service duties as Rangers generally parallel the civilian pursuits of members.

Additional to but not integral parts of the Canadian Army are: (1) officially authorized rifle associations and clubs; (2) such training centres as may be authorized from time to time by the Minister.

Training.—Actual training of Active and Reserve Force personnel is under General Officers Commanding the five Commands as directed by the appropriate branch of Army Headquarters.

Basic and advanced training for recruits, as well as refresher courses for all ranks, is conducted in a number of Army Corps Schools. These schools are organized on a permanent peacetime basis and are located as follows:—

Royal Canadian Armoured Corps School, Camp Borden, Ont.
Royal Canadian School of Artillery, Camp Shilo, Man.
Royal Canadian School of Artillery (Anti-Aircraft), Picton, Ont.
Royal Canadian School of Artillery (Coast and Anti-Aircraft), Esquimalt, B.C.
Royal Canadian School of Military Engineering, Chilliwack, B.C.
Royal Canadian School of Signals, Barriefield, Ont.
Royal Canadian School of Infantry, Camp Borden, Ont.
Royal Canadian Army Service Corps School, Camp Borden, Ont.
Royal Canadian Army Medical Corps School, Camp Borden, Ont.
Royal Canadian Ordnance Corps School, Montreal, Que.
Royal Canadian Electrical and Mechanical Engineers School, Barriefield, Ont.
Canadian Provost Corps School, Camp Borden, Ont.

Through international agreements, arrangements have been made for a large number of Canadian Service personnel to attend military schools and training establishments in the United Kingdom and the United States. A similar arrangement is in force for the training of military personnel from these countries in Canadian Service schools.

C.O.T.C. Cadets and certain Reserve Force personnel are also given training at corps schools during the summer months. The bulk of Reserve Forces receive their annual training—generally a two-week period—at large camps across Canada. Active Force instructors and personnel handle training of reserves and their administration during camp periods.

Army High School Cadet Corps are given the opportunity of summer training each year on a voluntary basis. Camps for High School Cadets are conducted in each military command.

Subsection 3.—The Royal Canadian Air Force

The Royal Canadian Air Force is organized to provide for six components: Regular, Auxiliary, Reserve, Air Cadets, Women's Division and University Air Squadrons. At present, the two last components are dormant. The Royal Canadian Air Cadets, while not members of the Force, are affiliated with it for training and instruction, and the Air Cadet officers hold commissions in the R.C.A.F.

The Royal Canadian Air Force is administered from Air Force Headquarters at Ottawa, Ont. There are two geographical Air Commands. Central Air Command, with Headquarters at Trenton, Ont., embraces also No. 10 Group Headquarters, Halifax, N.S. North West Air Command (Headquarters at Edmonton, Alta.) includes two groups, one at Winnipeg, Man., and the other at Vancouver, B.C. In addition to the Air Commands, Maintenance Command (Ottawa, Ont.) directs and co-ordinates supply, equipment, aeronautical and construction engineering and aeronautical inspection services throughout the Air Force; and Air Transport Command (Rockcliffe, Ont.) co-ordinates and directs military air transport and photographic air-survey operations. The last two are functional Commands.

Air Attachés are maintained at Washington, D.C. (U.S.A.), Prague (Czechoslovakia), Paris (France), Brussels (Belgium), Stockholm (Sweden), and Moscow (Russia). In addition, the R.C.A.F. is represented by Senior Canadian Air Force Liaison Officers at London (England) and Washington, D.C. (U.S.A.).

Organization.—Plans for operational units of the Regular Force include a Mobile Tactical Wing, an Interceptor Wing, a Bomber Reconnaissance Squadron, two Transport Squadrons, and two Photographic Survey Squadrons. Fifteen squadrons are projected for the Auxiliary Force which will have an authorized establishment of 4,500 officers and men. The auxiliary units now in existence or to be formed in 1948 are as follows:—

No. 400 (Fighter) Squadron	Toronto, Ont.
No. 401 (Fighter) Squadron	Montreal, Que.
No. 402 (Fighter) Squadron	Winnipeg, Man.
No. 403 (Fighter) Squadron	Calgary, Alta.
No. 406 (Tactical Bomber) Squadron	Saskatoon, Sask.
No. 418 (Tactical Bomber) Squadron	Edmonton, Alta.
No. 420 (Fighter) Squadron	London, Ont.
No. 424 (Fighter) Squadron	Hamilton, Ont.
No. 438 (Fighter) Squadron	Montreal, Que.
No. 442 (Fighter) Squadron	Vancouver, B.C.

The R.C.A.F. (Reserve) is intended to provide a pool of partially trained personnel who can be mobilized, if the necessity should arise, and trained quickly to operational standards. Its members will be drawn initially from former personnel of the Force who served during the Second World War.

The Royal Canadian Air Cadets, a corps of 15,000 boys between the ages of 14 and 18, come under the ægis of a volunteer civilian organization—the Air Cadet League of Canada. The R.C.A.F. co-operates with the League in bringing aviation and citizenship training to the air cadets who, in addition to receiving a standard course of instruction, may also qualify for trips to summer camps, flying training courses, educational scholarships and exchange visits with cadets of other countries. While the air cadets make no commitments regarding entry into the R.C.A.F., their pre-training is considered valuable as a basis for a Service career. Graduate air cadets constitute a high percentage of the enlistments in the Regular Force.

Operations.—From Apr. 1, 1947, to Mar. 31, 1948, Air Transport Command flew 16,897 hours on transport operations, a total of over 2,000,000 air transport miles. More than 23,000 passengers and over 4,000,000 lb. of freight were carried. Approximately 5,500 hours were flown on photographic operations and special projects such as ferrying of aircraft, mercy flights, carrying passengers, and co-operation on combined Services exercises.

The R.C.A.F. photographed 280 square miles in 1921, the first year that photographic air survey was attempted by the Air Force. Since that date, one-half of Canada has been photographed by the R.C.A.F. In 1947 the R.C.A.F. covered more than 400,000 square miles, and in 1948 covered 911,000 square miles. Since the War, better cameras, navigational aids and aircraft have greatly increased efficiency. The two Photographic Squadrons—a part of Air Transport Command with Headquarters at Rockcliffe, Ont.—which carry out this work, send out detachments each year between Apr. 15 and Oct. 1. They operate from many bases, including: Calgary and Edmonton, Alta.; Vancouver and Fort Nelson, B.C.; Fort Chimo, Que.; Goose Bay, Labrador; Churchill and The Pas, Man.; Whitehorse, Yukon; Frobisher (Baffin Island), Yellowknife, and Norman Wells, N.W.T. In co-operation with the Canadian Army, the Department of Mines and Resources, and other Government departments, the R.C.A.F. helps to map uncharted areas and to correct existing maps. It also assists in such work as timber and geological surveys, flood control, land development, town planning, water-power development, irrigation projects, and soil reclamation. One squadron, equipped with Canadian-built Lancasters, specializes in tri-camera photography for basic exploration; the other is used primarily for vertical photography in detailed analysis of terrain.

Approximately 40 search and rescue operations were carried out in 1947. The R.C.A.F.'s Search and Rescue Organization is co-ordinated with contributing arms of the Army and Navy. Search and Rescue Control Centres are located at No. 10 Group Headquarters (Halifax, N.S.), Central Air Command Headquarters (Trenton, Ont.), No. 11 Group Headquarters (Winnipeg, Man.), North West Air Command Headquarters (Edmonton, Alta.), and No. 12 Group Headquarters (Vancouver, B.C.). These Headquarters are responsible for initiating, conducting and terminating search and rescue operations within their respective areas of control.

Search and rescue aircraft, marine craft, and special para-rescue personnel are located at the following places: Greenwood, N.S.; Trenton, Ont.; Winnipeg, Man.; Edmonton, Alta.; Fort Nelson, B.C.; Vancouver, B.C.; Whitehorse, Yukon; and Goose Bay, Labrador.

Enlistment.—The R.C.A.F. offers enlistment of skilled or unskilled men. Veterans who were on Active Service may enlist if they meet the physical requirements, and are under the age of 30 years plus their number of years of Active Service. Applicants who were not on Active Service may be accepted if they meet the physical requirements, are unmarried, and are between 17 and 30 years of age. Applicants under 18 must have written consent of parent or guardian. The majority of trades open for recruiting call for an educational standard of two years less than junior matriculation or equivalent.

Commissions.—Graduation from either of the Canadian Services Colleges (Royal Military College, Kingston, Ont., or Royal Roads, Esquimalt, B.C.) qualifies young men for acceptance in the R.C.A.F. as officer trainees. Technical officer positions are granted to selected university graduates. Six-year short-service commissions are available to qualified high-school graduates and selected serving airmen.

Training.—The R.C.A.F. Staff College at Armour Heights, Toronto, Ont., trains officers for command and staff positions (see also p. 1139). At the Institute of Aviation Medicine, Toronto, Ont., there are facilities for consultant and specialist officers, laboratories for nutritional research, a human centrifuge, a cold low-pressure chamber, a tropical room, a statistical section, and well-equipped laboratories for the study of all branches of aviation medicine.

Ground training came into full operation during 1947. Schools at Trenton, Aylmer, Camp Borden, Rockcliffe, Clinton, and Centralia in Ontario, worked to capacity instructing recruits in the skills of the various Air Force trades, and at the same time gave additional courses to many veteran airmen who had re-engaged in the peacetime Force. Ground schools were run for officers also, and large classes were graduated by No. 1 KTS (no longer operative), a school of administration for junior officers most of whom had no chance during their wartime flying days to learn the administrative jobs required of the peacetime officer.

Initiated in 1947 was the R.C.A.F.'s Summer Employment Plan, under which veteran officers attending university were brought back into uniform, to work and train with the Air Force during the summer months. Eighty-four such students from leading Canadian universities returned on a Reserve basis, and were engaged in medical and technical research and survey work. The plan is designed to train the students in the various specialist branches of the Service during their university careers, and the type of work done by each fits in as closely as possible with the course taken by the student. Qualified students may be offered commissions in the R.C.A.F. upon completion of their professional training.

There was increased activity on flying training stations in 1947 as new entries began aircrew training. The first class of young flight cadets started their careers as aircrew officers during the autumn, having qualified for short-service commissions in the R.C.A.F. The first group, small by comparison with wartime courses but to be followed by further intakes at regular intervals, passed through No. 1 Manning Depot, Toronto, to the Flying Training School, Centralia, Ont., or to the Radar and Communications School, Clinton, Ont., depending upon whether the cadets were taking pilot or radio-navigator training. Flying began for them before the end of the year, and upon completion of their training they will become flying officers.

Flying training was also given to university undergraduates, who entered under the new University Summer Flying Training Scheme, which began during 1947. Thirty-six such undergraduates from ten universities across the country took pilot or radio-navigator training. Such students, after spending three summer training periods with the Air Force, and successfully finishing their university course, will be offered commissions in the Regular, Auxiliary or Reserve Air Forces.

Air Force Day.—Instituted in 1947, the R.C.A.F.'s annual "Open House" falls on the first or second Saturday in June. The purpose is to give the Canadian public an opportunity to see the equipment and personnel of the Air Force, with the hope of establishing a better understanding of Service activities and operations.

Subsection 4.—The Defence Research Board

The Department of National Defence Act was amended on Apr. 1, 1947, to provide for the establishment of a Defence Research Board. The Board consists of five ex officio and six appointed members serving under a full-time chairman. The ex officio members are the Chiefs of Staff of the three Armed Services, the President of the National Research Council and the Deputy Minister of National

Defence. The remaining six members are appointed by the Governor General in Council and are members with scientific and technical qualifications drawn from the universities and industry. The organization consists of a headquarters staff, advisory committees and field research stations.

The Defence Research Board is an essential part of the defence of Canada and as such has been described as a fourth Service. Its fundamental purpose is to correlate the special scientific requirements of the Armed Forces with the general research activities of the scientific community at large. This task is the main function of the Headquarters Staff. Its work is strengthened by the expert counsel of comprehensive advisory committees.

In order to avoid unnecessary duplication of research facilities, the research stations of the Board deal only with those problems that are peculiar to national defence. In other fields, such as electronics and aeronautics which touch upon related civilian researches, it collaborates with existing research laboratories, especially those of the National Research Council.

In all its work, the Board gives priority to problems in which Canada has special interest or for which national facilities are specially suited. Experience has already shown that well-directed defence research produces results that are of value, both direct and indirect, to the civilian economy.

It was, for example, revealed in 1947 that, as a result of wartime research into defensive measures against possible bacteriological warfare, Canadian scientists in collaboration with United States colleagues produced a vaccine to immunize cattle against the highly destructive rinderpest disease. The results of this research have been given freely to the world.

In planning this organization, the Government had in mind the vital need for continuity in research and planned the Defence Research Board as a fully integrated and permanent part of the defences of the country. To assist co-ordination at the highest level, the Chairman of the Board has the status of a Chief of Staff and is a member of the Chiefs of Staff Committee and of the Defence Council.

Section 3.—Service Training

Co-ordination of service training in all its stages is carried out in Services Colleges and Staff Colleges. Services Colleges are cadet institutions qualifying graduates for commissions in the Permanent Forces and accept applicants for any of the Services. National Defence and Staff Colleges are more specialized but operate jointly to a great degree.

Canadian Services Colleges.—Canadian Services Colleges at present comprise two institutions designed to train future officers required for the Armed Forces of Canada. Candidates for admission to either college must be Canadian citizens, or other British subjects normally resident in Canada. They must be 16 years of age but under 20 by Jan. 1 preceding entrance. Naval candidates are not accepted over the age of 19. A high standard of physical fitness is required. Applicants must have senior matriculation in most subjects and pass a qualifying examination before acceptance. Annual tuition fees at either college are $100. Payment for board, uniforms, books, laundry, etc., is $450 for the first year and $200 for each year thereafter. During the summer terms, officer cadets are paid as junior

officers and are provided with quarters and board while training at the various Active Force establishments of the Service selected. Inquiries should be addressed to the Registrar of either College.

(1) *Royal Roads*, Esquimalt, B.C., offers a two-year course leading up to commissions in any of the Services. Formerly a Naval college, Royal Roads continues under Naval administration but has instructors from the three Services as well as a professional academic faculty. Graduates may return to civilian life and pursue their studies at university in order to obtain a degree, but they must accept a commission in the Reserve component of the chosen Service. Excepting certain Naval appointments, graduates of Royal Roads seeking commissions in the Active (Permanent) Forces of one of the Services must continue studies either at the Royal Military College or a Canadian university, depending upon the corps or branch of Service chosen.

(2) *Royal Military College*, Kingston, Ont., offers a four-year course leading up to commissions in any of the Services. Formerly a military college, R.M.C. continues under Army administration but has instructors from the three Services as well as a professional academic faculty. R.M.C. opened for its first course in the autumn of 1948. Graduates returning to civilian life and pursuing their studies at universities may obtain engineering degrees in one year or be accepted for other professions on the same basis as university graduates in the faculty of arts. R.M.C. graduates not continuing a Service career must accept commissions in a Reserve component.

Advanced Training Colleges.—The Canadian Army and the Royal Canadian Air Force operate the undermentioned staff colleges for giving Staff and Command training while the National Defence College provides facilities for advanced study of defence problems.

The National Defence College, Kingston, Ont., is a senior Canadian Defence College with a primary objective of co-ordinating defence measures with external and economic policies. It was first opened on Jan. 5, 1948, with senior officers and civil servants from the Armed Forces and Government departments attending. The course is of nine months' duration and includes the study of new and foreseeable developments in science, economics and international politics, and their effects upon national security. The curriculum includes lectures by prominent men from all fields of endeavour.

The Canadian Army Staff College, Kingston, Ont., is a military staff college operating on a permanent basis to train officers for positions of staff and command. The course covers a period of ten months. A joint instructional staff includes faculty members from the three Services as well as from the United States and British armies. The student body contains members from the three Services and five different nations. Aside from purely military subjects, the curriculum provides for intensive study of current world affairs and lectures by prominent guest speakers in this field. Graduates are qualified for Grades I and II Staff appointments or commands in the Service.

The Royal Canadian Air Force Staff College, Toronto, Ont., is a permanent Air Force Staff College whose training program is designed to give officers of Squadron Leader to Group Captain rank the necessary background and knowledge to fit them for Staff and Command positions. The Directing Staff includes officers from the Royal Canadian Air Force, the Canadian Army and the Royal Air Force, while

the student body consists of officers from the Royal Canadian Navy, the Canadian Army, the Royal Air Force, the United States Air Force, as well as the Royal Canadian Air Force. Besides the normal organizational and administrative subjects, the curriculum includes an advanced study of the three aspects of air power; air strategy and its relation to ground and sea forces; current world affairs and their effect on the Canadian strategic position; and the industrial potential of the country. Subjects are presented and discussed under the guidance of the Directing Staff or guest speakers, many of whom are prominent in Canadian and United States diplomatic, university and industrial life.

Section 4.—The Industrial Defence Board*

The Industrial Defence Board was created in 1948 by virtue of an Order in Council P.C. 1739. The duties and functions of the Board are: (1) to advise the Government of Canada and the Minister of National Defence on all matters relating to the industrial war potential of Canada; (2) to prepare and keep up to date a plan for industrial production in the event of war; (3) to arrange for such liaison between the Naval, Military and Air Forces of Canada, the Canadian Ordnance Association, Canadian Arsenals Limited and other agencies and industries as will ensure an understanding of defence needs and the active co-operation required to meet such needs; (4) to encourage the standardization of specifications and industrial practices; (5) to advise on the location of industries and on the development, procurement, inspection, storage and distribution of material and equipment and the maintenance of reserve stocks; (6) to take such action in respect of other matters as may be requested by the Governor in Council or the Minister of National Defence.

Matters of immediate concern to the Board include: (1) examination of the various agencies concerned in planning and initiating procurement and production of war equipment in Canada so as to recommend a division of responsibilities which will ensure that these responsibilities are effectively met without overlapping; (2) consideration of requirements in the light of plans and possible programs of the Armed Forces and the assessment of the capacity to make available the materials, manpower and manufacturing facilities that may be required, with special recommendations regarding materials, industry or plants which are regarded as essential and for which some special provision should be made.

In addition to seven members representing industry, from among whom the Chairman and Vice-Chairman of the Board have been appointed by the Governor in Council, the Board is composed of: the Chairman of the Defence Research Board, the President of Canadian Arsenals, the three Principal Supply Officers of the Armed Forces, the Deputy Minister of National Defence, the Deputy Minister of Trade and Commerce and the Deputy Minister of Labour. The appointed members of the Board hold office for a period not exceeding three years but they are eligible for reappointment. The Board may, with the approval of the Minister: (1) appoint committees for the purpose of assisting the Board in the performance of its duties and functions; (2) set up an executive committee to deal with business of the Board between meetings; (3) make by-laws and rules for the regulation of its proceedings and for the performance of its duties and functions.

* Prepared from a release of the Department of National Defence.

CHAPTER XXIX.—VETERANS AFFAIRS*

CONSPECTUS

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The basis of administration of the Department of Veterans Affairs, established in October, 1944, is dealt with in the 1946 edition of the Year Book at pp. 1053-1054. The work of the Department as it had developed up to Mar. 31, 1947, is outlined at pp. 1134-1155 of the 1947 edition and is brought up to Mar. 31, 1948, in the present volume.

Section 1.—The Department of Veterans Affairs

There was a somewhat changed emphasis in the work of the Department of Veterans Affairs in the year ended Mar. 31, 1948. The fact that the majority of veterans had adjusted themselves to civilian life, and that the right to apply for certain strictly rehabilitation benefits came to an end, resulted in some decrease in the phase of the Department's operations which came under the Veterans' Rehabilitation Act. However, the continuing phases of the Department's work showed a definite up-swing. For instance the number of disability pensioners from the Second World War increased substantially as did the number of older veterans with no pension entitlement, but who were eligible for consideration under the War Veterans' Allowance Act because of their service in a theatre of war. There was a decrease in the number being treated in departmental institutions, but the load in this category still remained a fairly heavy one.

It is estimated that, assisted by the rehabilitation legislation, more than 95 p.c. of veterans have found peacetime occupations, or are completing training for their chosen careers. While this ratio does not apply to veterans with serious disabilities, nevertheless employers have become conscious of the fact that physical disability need not be an occupational handicap and the majority of even the most seriously disabled, who are ready to work, have found their place in civilian employment.

Medical treatment and care for veterans, which occupies the time of almost one-half of the departmental staff, is provided by approximately 33 institutions administered by the Department of Veterans Affairs. Other similar institutions are under contract with the Department and the services of many general practitioners have been made available to all these institutions. The remainder of the

* Material for this Chapter has been contributed by the various Branches of the Department of Veterans Affairs through E. B. Reid, Director of Public Relations of Veterans Affairs.

departmental staff deals with the other branches: the Veterans' Land Act Administration; the Rehabilitation Branch; the Canadian Pension Commission; the War Veterans' Allowance Board; General Administration; etc.

The Department has 17 District Offices and two Sub-District Offices in Canada, and maintains a District Office at London, England. The Administration of the Veterans' Land Act also maintains District and Regional Offices in readily accessible locations. Travelling rehabilitation units operating in certain of the more isolated parts of the country have greatly assisted the rehabilitation of many veterans who otherwise would have been unable to take advantage of their rights and privileges or, if they did, would have incurred excessive expense to both themselves and the Department.

Section 2.—Discharge Gratuities and Re-Establishment Credits

Gratuities granted under the War Service Grants Act were nearly all paid by the end of the fiscal year 1946-47. In the year ended Mar. 31, 1948, the amount paid covered veterans who became qualified under the Allied Veterans Benefits Act for the payment of gratuities at Canadian rates, and also amounts paid in the settlement of estates in the case of those who were killed in action or who died during service.

1.—Gratuity Payments Under the War Service Grants Act, Years Ended Mar. 31, 1945-48

Year and Service	Navy	Army	Air Force	Total
	$	$	$	$
1945—[1]				
Forces	973,957	14,663,621	3,468,852	19,106,430
Auxiliary Services	Nil	Nil	Nil	-
1945-46—				
Forces	27,277,981	121,003,583	64,157,015	212,438,579
Auxiliary Services	180	58,646	36,115	94,941
1946-47—				
Forces	17,766,165	170,585,767	32,926,652	221,278,584
Auxiliary Services	730	327,176	121,253	449,159
1947-48—				
Forces	891,968	11,191,667	1,310,435	13,394,070
Auxiliary Services	Nil	309,823	Cr. 5,198[2]	304,625
Totals	**46,910,981**	**318,140,283**	**102,015,124**	**467,066,388**

[1] January, February and March only. [2] This credit is the result of a bookkeeping adjustment from 1946 to 1948.

Re-Establishment Credits.—During the fiscal year 1947-48 the amount of re-establishment credit authorized for use by veterans was slightly over $67,100,000, some $29,000,000 less than the amount authorized in 1946-47 when disbursements reached a peak of more than $96,500,000.

The percentage of re-establishment credit used for the various purposes remained relatively static. The purchase of furniture continued to be the main purpose, although it dropped from 74 p.c. of the total credits used up to Mar. 31, 1947, to 57 p.c. at Mar. 31, 1948. It is interesting to note that, by Mar. 31, 1948, of the approximately $192,000,000 re-establishment credit authorized for veterans, about

$150,000,000 was spent on tangible assets connected with a home, either in the actual purchase or repair of a home or the reduction of mortgages and the purchase of furniture and equipment. Some 6,550 veterans used their re-establishment credit for the payment of insurance premiums under the Veterans Insurance Act, policies having been issued with a face value of $18,779,000.

2.—Re-Establishment Credits Paid, by Required Purposes, Years Ended Mar. 31, 1945-48

Item	1945	1946	1947	1948[1]	Total[1]	P. C. of Total
	$	$	$	$	$	
Homes—						
Purchased under National Housing Act	4,776	221,777	750,140	693,647	1,670,340	0·9
Purchased not under National Housing Act	320,659	6,306,043	11,739,328	5,711,894	24,077,924	12·6
Repairs, etc	85,750	1,763,591	5,181,285	3,567,743	10,598,369	5·5
Furniture and equipment	443,099	11,942,200	56,306,510	40,985,408	109,677,217	57·1
Reduction of mortgages	551	556,351	2,203,660	729,164	3,489,726	1·8
Totals, Homes	**854,835**	**20,789,962**	**76,180,923**	**51,687,856**	**149,513,576**	**77·9**
Business—						
Purchase of a business	15,429	530,549	1,784,659	797,230	3,127,867	1·6
Working capital	87,541	3,458,688	10,116,248	5,344,953	19,007,430	9·9
Tools and equipment	151,705	2,158,850	7,635,696	5,545,761	15,492,012	8·1
Totals, Business	**254,675**	**6,148,087**	**19,536,603**	**11,687,944**	**37,627,309**	**19·6**
Miscellaneous—						
Insurance, annuities, pensions, etc	10,899	138,218	708,955	3,405,791	4,263,863	2·2
Special equipment for training	1,514	69,475	116,325	105,602	292,916	0·1
Allied veterans	Nil	1,170	54,770	242,713	298,653	0·2
Totals, Miscellaneous	**12,413**	**208,863**	**880,050**	**3,754,106**	**4,855,432**	**2·5**
Grand Totals	**1,121,923**	**27,146,912**	**96,597,576**	**67,129,906**	**191,996,317**	**100·0**

[1] Subject to revision.

Section 3.—Post-Discharge Treatment

Subsection 1.—General Policy

The general policy with regard to post-discharge treatment is based on two fundamental principles designed to provide the best possible professional medical and surgical care for veteran patients. The first principle is close co-operation with the universities, so that veterans' hospitals may be used for undergraduate or post-graduate teaching. As at Mar. 31, 1948, a total of 193 internes were employed in those departmental hospitals, the majority of which have been approved by the Canadian Medical Association for junior interneship. Applications have been submitted to the Royal College of Physicians and Surgeons to have the larger hospitals approved for post-graduate training.

The second principle is that consultant staffs at the departmental hospitals should, as far as possible, be employed on either a part-time or a temporary basis, thus permitting the Department to secure the services of highly qualified professional men who, for the most part, are engaged in university teaching. This expedient has proved of benefit both to the veteran and to the departmental resident staff. The veteran patient is assured of the most modern methods of diagnosis and treat ment, and the interne benefits by close association with leaders in the profession.

Special centres for the treatment of such conditions as arthritis, paraplegia and tuberculosis have been established in many of the larger departmental hospitals and clinical research is being carried out along with treatment. Where departmental hospital facilities are not available, veterans with service-related disabilities and others in case of necessity may still continue to receive medical services through the doctor of their choice.

As at Mar. 31, 1948, medical social work was being conducted at 15 departmental hospitals to assist in the treatment of the social and emotional problems adversely affecting the health of patients. To achieve this purpose, a direct case-work service is projected for those patients whose doctors desire it, using all appropriate sources of assistance for the patient within the Department and in the community. The service is designed for in-patients but is capable of expansion to out-patients and to the after-care of patients following discharge.

Subsection 2.—Treatment Facilities

The veteran patient load reached its peak in 1946 and has since slowly and steadily declined to a level which will probably remain fairly constant for some years. Eligibility for the post-discharge year of treatment has expired and very few veterans of this class are now under treatment. Similarly, with demobilization of the Armed Forces completed, eligibility for treatment of conditions present on discharge has also ceased. The patient load now consists mainly of pensioners with service-related disabilities and those in reduced circumstances who are eligible for treatment because of meritorious service. It was thus possible, during the calendar year 1947, to close 12 hospitals representing some 3,000 beds. Most of these institutions had been taken over from the Armed Forces.

Seven new and modern institutions containing 945 beds were opened during the year, representing replacement of obsolete facilities rather than increased bed capacity. These were:—

Name and Location	*Bed Capacity*	*Date*	*Type*
Sunnybrook Hospital, Toronto, Ont.	200	Feb. 28, 1947	General treatment
George Derby Health and Occupational Centre, Burnaby, B.C.	200	Mar. 31, 1947	Active convalescent
Veterans Hospital, Victoria, B.C.	220	Mar. 31, 1947	General treatment
Ridgewood Health and Occupational Centre, Saint John, N.B.	100	May 31, 1947	Active convalescent
Bellevue Veterans Home, Amherstburg, Ont.	25	July 21, 1947	Domiciliary care
Senneville Health and Occupational Centre, Montreal, Que.	100	Nov. 3, 1947	Active convalescent
York Health and Occupational Centre, Toronto, Ont.	100	Nov. 30, 1947	Active convalescent

As at Dec. 31, 1947, the Department had in operation 10,647 beds in 39 institutions. Of these, 13 were general treatment hospitals, six were health and occupational centres for convalescents, six were special institutions, ten were veterans homes and four were veterans pavilions maintained as units of existing general hospitals.

The permanent building program is proceeding according to plan (described in detail at pp. 1057-1058 of the 1946 Year Book). It is expected that about 1,250 beds will be available during 1948 including 250 replacement beds at Camp Hill Hospital, Halifax, 700 additional beds at Sunnybrook Hospital, Toronto, and a 300-bed addition at Westminster Hospital, London. It is anticipated that 500 beds will be dispensed with during 1948.

In the year ended Mar. 31, 1948, hospital admissions totalled 60,579.

Subsection 3.—Dental Services

A brief history of dental services from their organization in 1919 to Mar. 31, 1947, is contained in the 1946 and 1947 editions of the Year Book at pp. 1059-1060 and pp. 1138-1139, respectively. The volume of dental treatment reached its peak during the year ended Mar. 31, 1947, when services supplied increased more than five-fold over the preceding year. Applications for post-discharge treatment up to Mar. 31, 1948, numbered 662,481; of this total more than 650,000 had been completed or otherwise closed out. In addition to post-discharge treatment given in the first year after release from the Armed Forces adequate dental services were maintained for all treatment classifications defined in Order in Council P.C. 4465 and amendments thereto.

Year Ended Mar. 31—	*Treatments*	*Patients Completely Treated*
	No.	No.
1940	121,604	9,587
1941	99,590	8,020
1942	73,113	7,380
1943	102,554	10,817
1944	66,562	11,841
1945	249,170	23,672
1946	509,703	56,416
1947	2,700,052	284,216
1948	1,191,218	160,313

Subsection 4.—Prostheses and Surgical Appliances

The Prosthetic Services Branch of the Department of Veterans Affairs, established in August, 1916, has as its first responsibility the provision of prostheses and orthopædic appliances to veterans and other persons entitled to such supply under Order in Council P.C. 2048 as amended. Appliances are supplied upon request to Provincial Workmen's Compensation Boards, Canadian National Railways, Department of National Defence, Department of Mines and Resources and others.

The organization consists of a main manufacturing and fitting centre at Toronto and 11 district centres established in the major Canadian cities, equipped with facilities for measuring, fitting, adjusting and maintaining artificial limbs, orthopædic boots, splints, braces, artificial eyes and other appliances. Minor orthopædic appliances such as trusses, glasses, hearing aids, elastic hosiery, etc., are supplied through purchase from private manufacturers.

The number of persons supplied with appliances during the year ended Mar. 31, 1948, was 45,238 as compared with 76,774 during the previous fiscal year. Appliances supplied since Apr. 1, 1940, were as follows:—

Year Ended Mar. 31—	*Total Production Jobs*	*Stock and Purchases*	*Total Issues*
	No.	No.	No.
1940	15,703	15,920	31,623
1941	15,167	15,944	31,111
1942	16,625	16,460	33,085
1943	19,601	17,024	36,625
1944	21,990	17,847	39,837
1945	27,472	27,423	54,895
1946	36,484	61,327	97,811
1947	37,947	84,958	122,905
1948	32,626	59,924	92,550

The Department maintains special liaison with the Canadian National Institute for the Blind, which extends training and after-care service to blinded veterans, the National Institute for the Deaf and the Hard of Hearing on matters relating to veterans with loss of hearing, and the War Amputations of Canada on veteran amputation cases.

The Branch conducts its own prosthetic research and development program and also keeps abreast of developments in Great Britain, the United States and other countries.

Section 4.—Pensions and Allowances

Subsection 1.—The Pension System

Pensions Legislation.—The Pension Act of 1919 established a Board consisting of three members vested with exclusive power and authority to adjudicate upon pension claims and to award pensions for disability or death related to military service in the First World War. The Canadian pensions legislation as it developed following the First World War is outlined at pp. 759-760 of the 1943-44 Year Book. The machinery which then took form has been adapted and applied to present circumstances, and the Commission now consists of 14 members.

Following the outbreak of the Second World War, the provisions of the Pension Act, with certain modifications, were tentatively made applicable to members of the Armed Services serving in that War and, in 1941, Parliament appointed a Select Committee to consider the provisions of the Pension Act, including ex-service men's problems generally, and to make suitable recommendations in regard thereto. After consideration of the Committee's report, which was framed to meet prevailing conditions and based on experience gathered in the administration of the Pension Act since the First World War, Parliament decided to make the provisions of that statute, with appropriate amendments, applicable to claims arising out of the Second World War.

The provisions of the Pension Act, as originally enacted in 1919, although wide and generous in their scope as compared with pension legislation in other countries, have been considerably broadened and extended by various amendments enacted from time to time during the past 29 years. Amendments to the statute since 1919 have:—

(1) substantially increased the actual amounts of pension payable;
(2) widened the grounds on which pension might be awarded;
(3) authorized certain additional benefits, such as clothing allowances for pensioners compelled to wear artificial appliances, allowances for parents, and special provisions for disability due to tuberculosis;
(4) introduced the principle of personal appearance and public hearings for applicants;
(5) with respect to the War of 1939-45 provided that service anywhere outside of Canada should be regarded as service in a theatre of actual war.

Application Procedure.—The procedure followed in dealing with applications for pension, arising out of the First World War, is laid down in Sect. 52 of the Act. Briefly, it consists of three stages for applicants whose claims are not initially granted. On first application the evidence presented is considered at what is known as a first hearing. If the Commission's decision is adverse to the applicant, he is entitled to a second hearing, provided he applies within 90 days of the first hearing. When presenting his claim for second hearing, he is required to include

all disabilities which he claims to be due to his military service. Prior to second hearing the applicant is furnished with a complete and detailed summary of all evidence available in the departmental records pertaining to his case and is allowed six months in which to prepare his claim. If the decision of the Pension Commission on the second hearing is adverse to the applicant, he then has the right to appear before an Appeal Board of the Commission sitting in his district and to call witnesses if he so desires. The judgment of the Appeal Board is final and the application cannot be considered again, except by special permission of an Appeal Board when it is shown, to the satisfaction of such a board, that an error has been made by reason of evidence not having been presented or otherwise.

This procedure has proved eminently satisfactory for claims arising out of the First World War. Not only is the applicant made fully aware of the reasons which preclude entitlement to a pension, but he is given adequate expert assistance by the Veterans' Bureau or by ex-service men's organizations in the preparation of his claim. It has resulted in making final settlement of claims where the Commission contended that the evidence adduced by the petitioner was insufficient to show that the cause of disability or death was contingent on conditions or events in the Service.

The procedure governing cases arising out of the Second World War was revised in 1944, when all time limits for preparation and submission of applications in such cases were suspended by Order in Council, the main provisions of which were incorporated in the Pension Act in 1946. When a claim is not wholly granted, the applicant may renew his application without the imposition of any time limits and may advise the Commission of his intentions as to the further prosecution of his claim, either by renewed hearing or appeal. The procedure followed is very similar to that for veterans of the First World War, the main difference being the non-existence of time limits and the applicant's right to by-pass the "renewal hearing" and take his case direct to an Appeal Board sitting in his district.

In 1945-46, a thorough revision of all legislation affecting veterans of the Second World War, passed since the commencement of the War, was carried out by a Select Committee of the House of Commons which was appointed to: (1) consider all legislation passed since the commencement of the War with the German Reich relating to the pensions, treatment, and re-establishment of former members of His Majesty's Armed Forces and other persons who have otherwise engaged in pursuits closely related to war; and (2) prepare and bring in one or more Bills to clarify, amend or supplement the above legislation. This Committee completed its deliberations in July, 1946, and comprehensive legislation based on its recommendations was incorporated in amendments to the Pension Act (10 Geo. VI, c. 62) assented to Aug. 31, 1946.

The most important legislative change resulting from the Committee's recommendations was the restoration of the so-called "insurance principle" for members of the Services who, in the Second World War, did not serve in a theatre of actual war. The operation of this principle which applies to the First World War and, in effect, provides pension coverage for disabilities incurred during service, whether due to service or not, was modified in 1940 so as to apply only to cases in which the member of the Services had served outside Canada. Following the restoration of the insurance principle, a review of all cases affected by this change was carried out by the Canadian Pension Commission, action being taken to institute awards where indicated. Other changes provided for the extension of the benefits of the Canadian Pension Act to persons domiciled in Canada at the commencement of

the Second World War, who served in Commonwealth Forces, or in Forces of the Allied Nations, and broadened the scope of the statute in its application to Canadians who served in Services, other than those of Canada, in the First World War.

Peacetime Service.—In respect of claims arising out of service during peacetime, pension may be awarded if the injury or disease or aggravation thereof resulting in disability or death arose out of, or was directly connected with, such service. The procedure governing such claims is that prescribed by Sect. 52 of the Pension Act.

Civilian War Pensions and Allowances.—Under the Civilian War Pensions and Allowances Act, administered by the Commission, provision is made for consideration of claims by: merchant seamen and salt-water fishermen; Auxiliary Services personnel; the Corps of (Civilian) Canadian Fire Fighters for service in the United Kingdom; Royal Canadian Mounted Police; Royal Canadian Mounted Police—special constables; air raid precaution workers; those sustaining injury during remedial treatment; Voluntary Aid Detachment; overseas welfare workers; and Canadian civilian air crew of the Royal Air Force Transport Command.

Detailed particulars are available on application to the Secretary of the Commission at Ottawa or to the Commission's representatives, the pension medical examiners, at the District offices.

3.—Pensions in Force as at Mar. 31, 1941-48

NOTE.—Figures for the years 1918-40 are given at p. 871 of the 1945 Year Book.

Year Ended Mar. 31—	To Dependents		For Disability		Totals	
	Pensions	Liability	Pensions	Liability	Pensions	Liability
	No.	$	No.	$	No.	$
First World War—						
1941	17,941	10,539,876	79,204	29,058,304	97,145	39,598,180
1942	17,730	10,484,192	77,971	28,194,967	95,701	38,679,159
1943	17,549	10,457,012	76,625	27,354,865	94,174	37,811,877
1944	17,243	10,389,778	75,244	26,595,094	92,487	36,984,872
1945	17,221	10,597,308	73,863	26,543,361	91,084	37,140,669
1946	16,982	10,606,770	72,396	26,523,887	89,378	37,130,657
1947	16,799	10,647,524	70,803	25,957,054	87,602	36,604,578
1948	16,510	10,592,877	69,390	25,507,254	85,900	36,100,131
Second World War—						
1941	319	262,592	319	76,682	638	339,274
1942	929	695,465	1,291	409,556	2,220	1,105,021
1943	2,748	1,949,128	3,917	1,362,110	6,665	3,311,238
1944	5,332	3,794,258	7,231	2,693,855	12,563	6,488,113
1945	11,419	8,333,406	15,506	5,382,842	26,925	13,716,248
1946	16,839	11,982,717	36,454	11,402,255	53,293	23,384,972
1947	17,600	12,027,726	70,633	20,676,689	88,233	32,704,415
1948	17,654	11,564,311	86,309	25,316,487	103,963	36,880,798

Payment of Pecuniary Grants for Gallantry Awards.—Certain gallantry awards, such as the Victoria Cross, Military Cross, Distinguished Flying Cross, Distinguished Conduct Medal, Conspicuous Gallantry Medal and Distinguished Flying Medal, carry with them pecuniary grants which were formerly paid by the United Kingdom Government. To these were added during the Second World War, the Distinguished Service Medal and the Military Medal which formerly were not accompanied by pecuniary benefits. By Order in Council P.C. 4736, dated June 17, 1943, the Canadian Government, through the Canadian Pension

Commission, assumed the payment out of Canadian funds for all awards arising out of the Second World War and the United Kingdom was reimbursed for such awards already paid. As at Mar. 31, 1948, 2,273 such awards had been authorized.

The Pension Act was further amended by 11-12 Geo. VI, c. 23, assented to on May 14, 1948. The principal changes were as follows:—

(1) Basic rates of pension for disability and death were increased by approximately 25 p.c. for all ranks up to and including lieutenant. All ranks to captain now receive the same basic rate. Additional pension for wives and children of all ranks was increased;

(2) increased allowances for helplessness were authorized; the new rates provide a minimum of $480 per annum with a maximum of $1,400 per annum, and are payable to all ranks;

(3) the date line for the marriage or re-marriage of First World War pensioners was advanced from May 1, 1944, to May 1, 1948;

(4) the disability pension schedule was amended so that all disability pensions are assessed at the nearest multiple of 5; e.g., 48 p.c. disability becomes 50 p.c.; 46 p.c. disability becomes 45 p.c.;

(5) the expression "was wilfully and deliberately concealed" was deleted from the clause which defines the grounds on which pension entitlement may be granted for pre-enlistment disabilities which were aggravated during service;

(6) the benefits of the Pension Act were extended to widows of deceased members of Canada's forces who served in the South African War who previously could not be awarded pension from Canadian funds unless an award had been made by United Kingdom authorities.

Veterans' Bureau.—The Veterans' Bureau was established in 1930 to assist the applicant for war disability pension and present his claim to the Canadian Pension Commission. (See 1947 Year Book, p. 1142.) The services of the Bureau are free to the applicant. Bureau Advocates assist not only ex-members of the military forces, but also those given disability pension rights under the Civilian War Pensions and Allowances Act. Claimants have been represented by Bureau Advocates in practically 100 p.c. of appeals.

The policy of the Canadian Pension Commission is to make a ruling as to pensions, without application by claimants, in respect to all members of the military forces who are discharged with a disabling condition. In the large majority of pension claims, therefore, the Veterans' Bureau first appears in a case on a claim by the applicant that the Pension Commission decision is wrong. The move against a Commission decision may take several forms. The applicant may apply for a renewal hearing with additional evidence. He may make several such applications. He may ask for an Appeal Board hearing with or without having had renewal hearings and with or without any additional evidence. With very limited exception, the Appeal Board ruling is a final disposition of the claim. The Appeal Board hearing is held in the applicant's district, and is made before three members of the Pension Commission who have not previously dealt with the claim and the applicant is there given an opportunity to appear personally with his representative who may be an Advocate from the Veterans' Bureau or any other person whom he may nominate. He may call witnesses to support his claim and his Advocate has the right to examine and cross-examine witnesses and present argument to the Board.

In addition to assisting applicants on entitlement claims, Bureau Advocates are charged with the duty of advising and assisting ex-service personnel or other persons entitled to claim for pension on any phase of pension law or procedure which may have a bearing on the pension claim. In all offices across Canada they are called upon daily to advise and assist in matters quite apart from war disability pensions.

Departmental reports covering the period from Sept. 1, 1939, to Mar. 31, 1947, show that 5,042 applications for Appeal Board hearing were filed in connection with First World War claims. Of these, 965 were granted and 3,728 refused. Withdrawal of claims and deferred decisions accounted for the rest. During the same period, 7,047 applications were filed by Second World War applicants and of these, 1,558 were granted and 3,886 refused. The Veterans' Bureau had approximately 9,480 pension claims under preparation, in varying stages of activity, as at Mar. 31, 1948.

Subsection 2.—War Veterans Allowances

The War Veterans' Allowance Act was introduced in 1930 to make provision for the maintenance of veterans of the Canadian Expeditionary Force; veterans of His Majesty's Forces or the Forces of His Majesty's Allies who were domiciled in Canada at the time of enlistment for the First World War, provided they were incapable of maintaining themselves on attaining the age of 60 or at any age, if permanently unemployable.

The War Veterans' Allowance Act, 1946, was enacted in August, 1946, to replace the former legislation, and it was further amended in June, 1948. It enables the Board to grant allowances to the following:—

(1) a veteran of the North West Field Force;
(2) a veteran of the South African War;
(3) a veteran of the First World War, 1914-18;
(4) a veteran of the Second World War, 1939-45;
(5) a member of the South African Military Nursing services, domiciled and resident in Canada prior to becoming a member and who has served any place outside Canada;
(6) a person domiciled and resident in Canada certified by the Under Secretary of State for External Affairs as having been enrolled by the United Kingdom authorities for special duty in war areas during the Second World War;
(7) duly selected and approved supervisors of—
    (a) Canadian Legion War Services Incorporated;
    (b) The National Council of the Young Men's Christian Association of Canada;
    (c) Knights of Columbus Canadian Army Huts; or
    (d) Salvation Army Canadian War Services who served outside the Western Hemisphere;
(8) dual service veterans—
    (a) a person who served during the First World War and the Second World War as a member of His Majesty's Canadian Forces and was enlisted or obligated to serve in such forces without territorial limitation; or
    (b) a person who served during the First World War as a member of His Majesty's Forces other than Canadian forces, was domiciled in Canada when he became a member of the said forces, and was a member of His Majesty's Canadian forces during the Second World War, enlisted or obligated to serve without territorial limitations, and who has been honourably discharged or has been permitted honourably to resign or retire from such forces;
(9) a member of the U.S.A. Forces of the First World War domiciled in Canada at the time of enlistment and has again taken up domicile in Canada;
(10) widows and orphaned children of the above veterans.

The War Veterans' Allowance Act provides for three classes of veterans:—

(1) the veteran who has attained the age of 60 years;
(2) the veteran of any age who, because of physical or mental disabilities, is permanently unemployable;
(3) the veteran, regardless of age, who is, in the opinion of the Board, incapable of maintaining himself and unlikely to become capable due to a combination of reasons or handicaps, physical, mental or economic.

Veterans must have served in a "theatre of actual war", or be in receipt of pension or have received a final payment by agreement in commutation of pension. Widows and orphans of veterans are admitted to the benefits of the Act providing the veteran himself was eligible during his lifetime.

While the amount of any allowance is discretionary with the Board, the maximum permissive income from all sources (including War Veterans' Allowances) for a single veteran is $610 per annum and $1,100 for a married veteran or widower with dependent children. The basic allowance under the Act is $40·41 and $70·83 per month to single and married veterans, respectively, but the maximum permissive income from all sources remains as outlined above.

Provision has been made for (veterans' care) treatment for recipients of War Veterans' Allowance, other than widows. Provision has been made also for the continuation of an allowance on behalf of a child until the age of 21 years, for educational purposes. Allowances are not payable outside the Dominion of Canada. Old Age Pension and War Veterans' Allowance or Widows' Allowance cannot be paid concurrently.

The basic allowances for widows are:—

(1) $485 per annum to a widow without dependent children;
(2) $850 per annum to a widow with dependent children.

The basic allowances for orphans are:—

(1) $360 per annum for one orphaned child;
(2) $648 per annum for two orphaned children;
(3) $730 per annum for more than two orphaned children.

The following exemptions from income are allowed:—

(1) single recipient; income from any source not exceeding $125 per annum;
(2) married recipient; income from any source not exceeding $250 per annum.

In addition, the following exemptions are provided for all groups of recipients where applicable:—

(1) casual earnings;
(2) unearned income not exceeding $25 per annum;
(3) provincial or municipal relief or Mothers' Allowance paid on behalf of dependent children;
(4) any gratuity paid or credit grant under the War Service Grants Act, 1944;
(5) any sum payable under Sect. 26 of the Pension Act;
(6) any additional allowance paid under the Pension Act on account of any children;
(7) any pension or grant received by reason of a military decoration;
(8) any allowance payable under the Family Allowances Act, 1944;
(9) property in which the recipient resides is not taken into account providing its capital value does not exceed $4,000.

Since the enactment of the legislation to Mar. 31, 1948, a total of 52,529 awards have been made by the War Veterans' Allowance Board. Of these, 24,172 were discontinued because of death and other reasons, leaving 28,357 recipients representing an annual liability of $14,169,036.

The financial benefits available to veterans under the Veterans' Land Act will be found in Section 5, Subsection 3, pp. 1156-1158.

Section 5.—Rehabilitation of Veterans

The Veterans' Welfare Division of the Rehabilitation Branch of the Department of Veterans Affairs is responsible for the efficient administration of benefits available to discharged members of the Forces, under the terms of the Veterans' Rehabilitation Act and regulations drawn up under that Act, other than matters relating to vocational, technical or university training. Briefly, these functions are as follows:—

(1) *Administration of out-of-work allowances.* Payment of such allowances, under an agreement with the Unemployment Insurance Commission, is now being made by the Department of Labour on authorization of the Department of Veterans Affairs. As applications for this allowance must be made within 18 months after discharge, it naturally follows that the numbers receiving this allowance are declining rapidly.

Administrative machinery to place veterans in employment comes under the jurisdiction of the Department of Labour, which Department is also charged with the administration of the Reinstatement in Civil Employment Act. Under arrangements made between the two Departments, however, the Department of Veterans Affairs is accorded the privilege of finding employment for the seriously disabled in collaboration with officials of the National Employment Service.

As a result of this close liaison between the Departments in all centres where the National Employment Service maintains an office, other than in those centres where the Department of Veterans Affairs maintains a District or Sub-district Office, the Employment Service has on its staff a Veterans Officer who is available to give advice and guidance to veterans on matters relating to their rehabilitation which come within the jurisdiction of the Department of Veterans Affairs.

(2) *Administration of allowances for veterans awaiting returns from private enterprise engaged in on their own account, including allowances available to veterans who have taken up full-time farming or commercial fishing under the terms of the Veterans' Land Act.* Close liaison is maintained by the Veterans' Welfare Division and the Re-establishment Credits Division of the Rehabilitation Branch and officials of the Veterans' Land Act Administration and care is exercised to ensure that the veteran will get the best possible advice before embarking upon an enterprise or business. In this connection also it should be noted that members of Citizens' Committees, familiar with business opportunities in the particular centre in which the veteran wishes to establish himself, have co-operated in advising the Department and these veterans of the chances of the veteran succeeding in his proposal.

(3) *Administration of allowances available to veterans who are temporarily incapacitated.* This benefit is designed particularly to care for veterans who do not require any active remedial hospital care to which they may be entitled under the Department's enabling authority but where, because of some ailment, they may be debarred from working for a short period.

(4) *Administration of the Unemployment Insurance contributions, payable for the period of service (or from June 30, 1941) on the completion of 15 weeks in insurable employment after discharge.*

Officials of the Veterans' Welfare Division also act as the veteran's friend in advising with regard to rights and privileges under regulations administered by other government departments, federal, provincial and municipal.

Subsection 1.—Discharges, Employment and Allowances

Discharges and Employment.—By Feb. 28, 1947, the work of demobilization was completed. Cumulative discharges from September, 1939, to September, 1947, are given in the following statement. These figures are subject to revision since certain duplications of records have not yet been eliminated.

Service	*Male*	*Female*	*Total*
	No.	No.	No.
Navy	90,321	6,565	96,886
Army	656,158	25,155	681,313
Air Force	201,146	16,987	218,133
TOTALS	947,625	48,707	996,332

Although the numbers of veterans who have taken advantage of the Vocational Training, Educational Training, and Veterans' Land Act provisions seem large, the majority of veterans have returned to civil employment. Return to civil life was greatly aided by the National Employment Service of the Department of Labour, which, through a policy of veterans preference, made 930,346 placements on behalf of veterans from September, 1943, to March, 1948, 810,816 of these placements being made on behalf of veterans of the Second World War. These figures do not represent the number of veterans placed as two or more placements are often made in an attempt to settle a veteran after discharge.

Unemployment among veterans of the Second World War has not, on the whole, been serious so far. The peak of unemployment was reached during the first quarter of 1946, when it followed the seasonal trend. Table 4 shows the number of veterans registered monthly with the National Employment Service as unemployed from Jan. 1, 1947, to Mar. 31, 1948.

4.—Veterans Registered with the National Employment Service as Unemployed, by Months and Sex, January, 1947, to March, 1948

Year and Month	Veterans of the First World War		Veterans of the Second World War		Veterans with Dual Service	
	Men	Women	Men	Women	Men	Women
	No.	No.	No.	No.	No.	No.
1947—						
January	6,887	2	51,481	1,114	2,165	Nil
February	7,129	2	50,569	1,124	2,422	1
March	6,784	[1]	47,617	1,007	2,478	[1]
April	6,453	[1]	42,368	965	2,500	[1]
May	4,967	[1]	30,204	868	2,124	[1]
June	4,322	[1]	22,829	803	1,724	[1]
July	4,263	[1]	18,653	714	1,495	[1]
August	3,839	[1]	16,516	718	1,349	[1]
September	3,799	[1]	15,554	828	1,367	[1]
October	4,066	[1]	16,704	837	1,375	[1]
November	4,741	[1]	20,866	890	1,590	[1]
December	5,446	[1]	25,502	732	1,766	[1]
1948—						
January	6,548	[1]	34,017	1,006	2,058	[1]
February	6,901	[1]	36,078	1,066	2,200	[1]
March	4,714	[1]	20,273	536	1,563	[1]

[1] Not recorded separately after February, 1947, but included with women veterans of the Second World War.

Out-of-Work Allowance.—Up to Mar. 31, 1948, 161,874 veterans were assisted in their rehabilitation through this Allowance, paid if the veteran is fit and available for work but no work is available for him. As would be expected the majority of these veterans made use of the Allowance during the calendar year 1946 when they were being discharged from the Armed Forces in large numbers.

5.—Veterans Receiving Out-Of-Work Allowances, by Sex, Years Ended Mar. 31, 1943-48

Year Ended Mar. 31—	Men	Women	Total
	No.	No.	No.
1943[1]	2,045	Nil	2,045
1944	823	123	946
1945	3,145	83	3,228
1946	39,176	436	39,612
1947	98,055	1,983	100,038
1948	15,654	351	16,005
Totals	**158,898**	**2,976**	**161,874**

[1] November, 1941, to Mar. 31, 1943.

The number of veterans receiving the Allowance at any given time is rapidly decreasing compared with the number of veterans unemployed. For the period March to June, 1946, the number was from 60 to 70 p.c. of those registered as unemployed; for January and February of 1947, it was 45 p.c., and for February and March, 1948, it fell to a low of 8·3 p.c. The reason for this is that the Allowance was payable only in the 18 months immediately following discharge and time has now ruled out most veterans.

Experience has shown that, although it has been necessary to carry some individuals on the Allowance for a period in excess of 40 weeks (the maximum allowable is 52 weeks) the majority of veterans who received this type of assistance required it for a period of less than ten weeks.

6.—Veterans in Receipt of Out-Of-Work Allowances, Classified by Sex, by Months, April, 1946, to March, 1948

Year and Month	Men	Women	Total	Year and Month	Men	Women	Total
	No.	No.	No.		No.	No.	No.
1946—				**1947—concluded**			
April	48,104	417	48,521	April	19,187	271	19,458
May	42,948	483	43,431	May	11,910	210	12,120
June	32,957	395	33,352	June	6,989	147	7,136
July	25,502	401	25,903	July	4,430	134	4,564
August	22,059	410	22,469	August	2,845	78	2,923
September	19,057	295	19,352	September	2,145	44	2,189
October	17,560	235	17,795	October	1,823	45	1,868
November	16,112	256	16,368	November	1,788	47	1,835
December	17,651	242	17,893	December	2,246	46	2,292
1947—				**1948—**			
January	22,056	234	22,290	January	2,740	39	2,779
February	24,482	285	24,767	February	2,617	35	2,652
March	24,058	297	24,355	March	2,210	28	2,238

Awaiting Returns Allowance.—This Allowance has been instrumental in assisting, up to Feb. 28, 1948, about 54,489 veterans who, in order to become settled in civilian life, have attempted to take up an occupation on their own account.

7.—Veterans in Receipt of Awaiting Returns Allowances, Classified by Sex, by Months, April, 1946, to March, 1948

Year and Month	Men	Women	Total	Year and Month	Men	Women	Total
	No.	No.	No.		No.	No.	No.
1946—				1947—concluded			
April	10,654	36	10,690	April	10,878	[1]	10,878
May	14,757	48	14,805	May	13,089	71	13,160
June	19,766	58	19,824	June	14,207	67	14,274
July	23,558	69	23,627	July	14,336	76	14,412
August	24,762	72	24,834	August	13,825	67	13,892
September	18,840	60	18,900	September	11,874	56	11,930
October	16,428	61	16,489	October	7,163	37	7,200
November	13,534	64	13,598	November	2,658	24	2,682
December	12,447	62	12,509	December	2,019	21	2,040
1947—				1948—			
January	12,285	60	12,345	January	1,896	20	1,916
February	11,986	64	12,050	February	2,044	20	2,064
March	12,162	60	12,222	March	2,189	24	2,213

[1] Included with men.

The occupational distribution of these veterans is interesting and is shown in Table 8; the district centre is the location of the Department of Veterans Affairs district office and the figures quoted cover the areas administered by these offices.

8.—Applications Approved for Awaiting Returns Allowance, by Geographic Areas and by Nature of "Own Account" Business, as at Feb. 28, 1948

(V.L.A.=Veterans' Land Act)

District Centre for Area	Full-Time Farming		Commercial Fishing		General Business	Total
	Not V.L.A.	V.L.A.	Not V.L.A.	V.L.A.		
	No.	No.	No.	No.	No.	No.
Charlottetown, P.E.I.	458	408	221	66	428	1,581
Halifax, N.S.	684	304	437	40	1,376	2,841
Saint John, N.B.	782	336	92	24	458	1,692
Quebec, Que.	145	253	33	8	558	997
Montreal, Que.	211	457	Nil	Nil	1,901	2,569
Ottawa, Ont.	269	266	"	"	1,131	1,666
Kingston, Ont.	212	397	11	6	867	1,493
Toronto, Ont.	454	554	3	4	1,845	2,860
North Bay, Ont.	151	114	2	Nil	150	417
Hamilton, Ont.	142	215	6	"	533	896
London, Ont.	631	832	11	5	1,373	2,852
Winnipeg, Man.	2,387	1,989	39	5	2,040	6,460
Regina, Sask.	4,480	546	Nil	Nil	580	5,606
Saskatoon, Sask.	4,349	1,250	2	1	647	6,249
Calgary, Alta.	1,705	873	Nil	Nil	1,629	4,207
Edmonton, Alta.	3,528	1,780	5	"	1,327	6,640
Vancouver, B.C.	1,033	644	228	5	3,553	5,463
Totals	**21,621**	**11,218**	**1,090**	**164**	**20,396**	**54,489**

Because of the large number of veterans settling in agriculture, the payment of this Allowance has shown a decided seasonal variation, reaching a peak in August, 1946, when approximately 25,000 veterans received the Allowance, and declining to approximately 2,064 veterans receiving the Allowance in February, 1948.

A considerable number who received the Allowance during the summer, while engaged on their own account, became employed in wage-earning occupations during the winter with the intention of returning to their farms in the spring.

The value of the legislation authorizing this Allowance is best shown by the number of veterans utilizing the Allowance and by the results so far produced. Of the number of veterans who, up to Feb. 28, 1948, had discontinued the use of the Allowance, about 89 p.c. had been satisfactorily established and had drawn the Allowance for an average of 29 weeks only.

Unemployment Insurance Contributions.—During the calendar year 1947 there was a great increase in the numbers of veterans established in insurable occupations and on whose behalf contributions to the Unemployment Insurance Fund were paid. From November, 1941, to March, 1948, contributions were paid on behalf of 314,827 veterans as follows: 1942, (November, 1941, to Mar. 31, 1942), 7; 1943, 334; 1944, 4,388; 1945, 15,289; 1946, 31,940; 1947, 84,205; and 1948, 178,664.

Temporary Incapacity Allowances.—The number of veterans who have received assistance under this provision has been relatively small compared with the numbers utilizing the other allowances. The Temporary Incapacity Allowances have rarely exceeded 120 at any one time since the end of the War. During March, 1948, they numbered only 13 cases. Up to Mar. 31, 1948, about 4,711 veterans had received this Allowance.

Subsection 2.—Vocational Training

The vocational training program, authorized under the Veterans' Rehabilitation Act, is dealt with in the Labour Chapter at pp. 654-657, and the University Training for Veterans program in the Education Chapter at pp. 321-323.

Subsection 3.—The Veterans' Land Act

The Veterans' Land Act is designed to assist the veteran who is eligible by reason of required Active Service, and qualified for the particular undertaking, in becoming established on the land in full-time farming, part-time farming (small holding), or commercial fishing. Its financial benefits enable the veteran to start off with a substantial equity, which past experience has demonstrated is essential to sound credit land-settlement operations. The Director of the Act may:—

(*a*) contract with any veteran duly certified as qualified, for the sale of land and the provision of permanent improvements, live stock and farm equipment or fishing gear up to a total cost of $6,000; or

(*b*) contract with such veteran occupying suitable farm land under private agreement of sale, or lease of reasonably long duration, for the sale of land, permanent improvements, building materials, live stock and farm equipment, up to a total of $5,800; or

(*c*) loan on the security of a first mortgage, on a farm already owned by the veteran, up to $4,400 for the consolidation of debts and improvement of farm—including the purchase of live stock and farm machinery; or

(*d*) grant to such veteran up to $2,320 to assist in his establishment on Provincial Crown land; or in the case of an Indian veteran on Indian Reserve land.

Space does not permit mention of the various financial terms other than that each settlement except item (*c*) above, carries with it a grant of up to $2,320, conditional on satisfactory fulfilment of settlement contract for 10 years. The loan portion of a contract may be amortized over a period of up to 25 years with interest at 3½ p.c. Item (*c*) is wholly repayable, but it does not extinguish right to re-establishment credit as is the case in items (*a*), (*b*) and (*d*).

The Act is more fully dealt with at pp. 1072-1073 of the 1946 Year Book, while two important changes made during 1946 are given at pp. 1148-1149 of the 1947 edition. An additional amendment was made in 1947 whereby veterans, established under the Act in the spring wheat areas of Canada, may elect to alter the terms of payment provided for in their contracts by entering into a crop-share agreement as collateral to the terms of their original agreements for sale. This crop-share agreement provides that the veteran shall deliver to the Director one-half of his crop in excess of six bushels per acre, but not exceeding 18 bushels per acre. When the proceeds from the grain thus delivered to the Director is less than the amount due under the firm term agreement, the amount of the deficiency is extended to the end of the firm agreement and interest accrues only on the principal so extended. Thus, the account of such a veteran is never in arrears.

The calendar year 1947 witnessed continued heavy settlement operations under the Veterans' Land Act, a total of approximately 17,779 veterans being qualified, and financial assistance being approved for about 15,535; 1,908 houses were constructed and were ready for occupancy during the year, 294 of which were built under multiple-unit contracts on departmental subdivisions, and 1,614 under individual contracts for specific veterans. Agreements have been reached with all provinces, other than Nova Scotia and Prince Edward Island, for settlement of veterans on Provincial Crown lands.

9.—Summary of Operations Under the Veterans' Land Act, 1942, as at Dec. 31, 1947

Item		Full-Time Farming	Small Holdings	Commercial Fishing	Provincial Lands	Dominion Lands	Total
Applications for Qualification—							
Applications (net)	No.	[1]	[1]	[1]	5,478	151	89,739[1]
Qualified (net)	"	26,585	23,176	857	4,067	109	54,794
Lands Appraised and Purchased—							
Approved	No.	19,098	11,806	556	Nil	Nil	31,460
Purchase completed	"	14,427	9,496	476	-	-	24,399
Average price per acre with existing improvements	$	20·04	366·50	77·10	-	-	-
Applications for Financial Assistance (Sect. 9-1)—							
Approved (net)	No.	15,777	13,873	578	Nil	Nil	30,228
Average amount for land and permanent improvements	$	4,102	4,949	2,592	-	-	-
Average amount for stock and equipment	$	1,129	319	1,156	-	-	-
Applications for Financial Assistance (Sect. 9-3)—							
Approved (net)	No.	710	Nil	Nil	Nil	Nil	710
Average amount for stock and equipment	$	2,251	-	-	-	-	-
Applications for Financial Assistance (Sect. 13 — Mortgage Loans)—							
Approved (net)	No.	363	92	Nil	Nil	Nil	455
Average amount for removal of encumbrance and for permanent improvements	$	876	1,870	-	-	-	-
Average amount for stock and equipment	$	1,216	99	-	-	-	-

[1] Total cannot be classified entirely.

9.—Summary of Operations Under the Veterans' Land Act, 1942, as at Dec. 31, 1947—concluded

Item		Full-Time Farming	Small Holdings	Commercial Fishing	Provincial Lands	Dominion Lands	Total
Applications for Financial Assistance (Sect. 35)—							
Approved (net)	No.	Nil	Nil	Nil	2,525	66	2,591
Average amount for permanent improvements	$	-	-	-	933	2,261	-
Average amount for stock and equipment	$	-	-	-	1,261	37	-
Applications for Financial Assistance (Sect. 35A—Indian Veterans on Indian Reserves)—							
Approved (net)	No.	Nil	Nil	Nil	Nil	689	689
Average amount for land and permanent improvements	$	-	-	-	-	966	-
Average amount for stock and equipment	$	-	-	-	-	1,145	-

10.—House Construction Under the Veterans' Land Act, 1942, as at Dec. 31, 1947

Item	Full-Time Farming	Small Holdings	Commercial Fishing	Provincial Lands	Dominion Lands	Total
	No.	No.	No.	No.	No.	No.
Houses completed	218	4,098	31	140	24	4,511
Houses under construction	320	1,686	35	182	23	2,246
Houses projected	489	1,490	120	587	11	2,697
Net applications for new housing	1,027	4,601	186	909	58	6,781

11.—Summary of Operations Carried Out Under the Soldier Settlement Act, 1919, as at Dec. 31, 1947

Province	Applications Made	Persons Established	Still in Scheme	Repaid in Cash	Repaid by Time Sale	Adjustment Cases
	No.	No.	No.	No.	No.	No.
Maritime Provinces	4,553	1,556	147	584	63	762
Quebec	2,796	494	19	109	23	343
Ontario	8,462	1,972	204	776	89	903
Manitoba	10,123	3,715	269	607	61	2,778
Saskatchewan	15,165	6,164	1,037	1,700	247	3,180
Alberta	15,285	7,158	1,004	1,990	378	3,786
British Columbia	11,131	3,734	339	1,093	310	1,992
Totals	**67,515**	**24,793**	**3,019**	**6,859**	**1,171**	**13,744**

Subsection 4.—Casualty Rehabilitation

The rehabilitation of veterans with physical disabilities is a process that commences at the time a disabling condition is diagnosed. The objective of this rehabilitation is the return of the disabled veteran to the best possible physical, mental, social, economic, and vocational adjustment and usefulness of which he is capable. This definition sets not only the standards to be attained, but also indicates the problem areas encountered most frequently.

The compass of rehabilitation for the disabled is so broad that every division of the Department of Veterans Affairs, together with many other Government and private agencies, may be required to contribute to the provision of the total range of services necessary in any individual case. As it is the aim of the Government of Canada's rehabilitation program that disabled veterans be prepared to return to the successful performance of jobs in normal competitive industry, industry must itself co-operate by receiving the disabled into its employ. Finally, the disabled themselves play the most important role in this program. They must use intelligently the services provided and must justify the confidence of employers. The vast majority of disabled veterans are demonstrating in their efforts to rehabilitate themselves qualities of initiative and determination of the highest possible order and are proving to be efficient, safe and reliable employees.

The Casualty Rehabilitation Division, the function of which is to provide vocational guidance, assistance in securing suitable employment and vocational after-care, maintains a register of all those veterans whose disabilities in relation to other factors, such as education, previous employment experience, and personality, constitute a serious problem in occupational adjustment. The most common disabilities of veterans so registered, and the number in each group as at Mar. 31, 1948, were:—

Disability	*No.*
Amputation	2,055
Other serious disabilities of the muscular and skeletal systems	10,117
Partial and total losses of hearing and sight	1,891
Injuries to the central nervous system involving paralysis of one, two or more limbs or organs; epilepsy and other conditions	1,026
Diseases of the heart and vascular system	2,423
Tuberculosis and other respiratory disabilities	8,439
Mental and emotional disabilities	745
Others	3,344
TOTAL REGISTRATION	30,040

Rehabilitation progress of seriously disabled veterans made between May 31, 1947, and Mar. 31, 1948, was as follows:—

Status	*May 31, 1947*[1]	*Mar. 31, 1948*
Employed	12,701	20,384
Unemployed	1,987	1,785
Receiving treatment, training or other services	10,680	6,472
Rehabilitation not feasible	180	785
Status unknown	2,914	614
TOTALS	28,462	30,040

[1] First month for which comparable figures available.

The continued increase in the proportion of disabled veterans who are employed is quite satisfactory. At the same time, it cannot be overlooked that at Mar. 31, 1948, there were still over 6,000 veterans receiving treatment, training or other services from the Department, and almost 2,000 more who were unemployed.

Also, the increase in the number of registrations over the ten-month period, namely 1,578, or approximately 150 per month, does not give a true picture of the number of new cases of disability occurring. Approximately 400 new cases of severe disability among veterans arise each month, but this is offset by the fact that about 250 cases are struck from the registration roll in the same period. These latter are struck from the registration roll because their conditions have been improved more

than had been first expected and their disabilities have disappeared. The approximately 400 new cases per month arise mainly in departmental hospitals. The principal source of these cases is from among veterans entitled to treatment for an exacerbation of pensionable disabilities or otherwise entitled to free treatment from the Department for conditions not connected with the Service.

Table 12 shows the rehabilitation status of registered disabled veterans as at Nov. 15, 1947, in accordance with the extent of their disabilities, as measured by the Canadian Pension Commission.

12.—Rehabilitation Status of Seriously Disabled Veterans According to Percentage of Entire Disability as at Nov. 15, 1947

NOTE.—Veterans are registered only when their disability in relation to their experience, education and other factors presents a problem in occupational adjustment. This table covers all veterans whose disabilities are assessed at 75 p.c. and over, and a constantly decreasing proportion of those whose disabilities are assessed at lower percentages.

Item	Not in Receipt of a Pension[1]	1 to 24 p.c. Pension	25 to 49 p.c. Pension	50 to 74 p.c. Pension	75 to 100 p.c. Pension *without* helplessness allowances[2]	75 to 100 p.c. Pension *with* helplessness allowances	Total
Registered.....No.	5,966	4,277	7,680	5,601	5,568	269	29,361
Status—							
Employed.....p.c.	40·31	72·97	79·86	77·91	53·75	55·39	65·26
Unemployed..... "	5·05	6·08	4·52	5·00	5·48	6·69	5·15
Receiving treatment, training and other services..... "	50·31	15·50	11·37	12·74	34·97	30·11	24·79
Rehabilitation not feasible..... "	0·92	0·94	0·60	1·14	3·09	5·58	1·34
Unknown..... "	3·41	4·51	3·65	3·21	2·71	2·23	3·46
Totals..... "	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**	**100·00**

[1] Includes cases in which entitlement has been conceded but where disability has not been assessed pending completion of medical treatment, as well as cases of non-pensionable disability. [2] Does not include the war blinded.

While almost any kind of assistance might be important in the rehabilitation of a given case, the following rehabilitation services are those that experience has proven to be generally the most important: (1) medical treatment, including medical rehabilitation; (2) provision of artificial limbs, braces, appliances and similar devices including hearing aids; (3) vocational guidance; (4) vocational, technical, or university training; (5) maintenance allowances; (6) assistance towards securing suitable employment; (7) land settlement; (8) job placement; (9) medical, social and vocational after-care. The provision of these services calls for the careful co-ordination of the skills of many professional and semi-professional workers; physicians, surgeons and nurses; physical and occupational therapists; rehabilitation officers and instructors; limb and brace fitters; psychologists and social workers, to name but a few.

Disabled persons do not face common problems. Only a rehabilitation program that can be modified to meet the needs of each individual is suitable. The doctor co-ordinates the medical aspects of the patient's rehabilitation, and gives direction as to how the patient's medical condition may affect his social and vocational re-establishment. The Department has long recognized that it is just

as necessary to deal with the non-medical aspects of the patient's rehabilitation in an equally co-ordinated manner. It is for this reason that the Casualty Rehabilitation Division has been organized.

A continuous service directed to public and employer relations is maintained. During the year, leaflets were issued and Casualty Rehabilitation Officers addressed gatherings of employers and community groups giving information about the employment of the disabled.

The Casualty Rehabilitation Division is also responsible for the provision of certain welfare services within departmental hospitals to all patients whether they are seriously disabled or not.

Among the agencies working with the Department in its program for the rehabilitation of disabled veterans are the National Employment Service, the Canadian Vocational Training organization, the Canadian National Institute for the Blind, the War Amputations of Canada, the National Society for the Deaf and the Hard of Hearing, and the Canadian Paraplegic Association.

Subsection 5.—Rehabilitation of Women

During the First World War only the Nursing Service was open to women, but the Second World War saw women serving in the Army, Navy and Air Force in almost every capacity. By December, 1946, all of the nearly 50,000 women members of the Canadian Armed Forces had been demobilized, with the exception of a few Nursing Sisters and Dietitians.

As a natural sequence to the established ratio of one woman to every 20 men in the Armed Forces, vacancies were designated on the Staff of the Rehabilitation Branch of the Department of Veterans Affairs for women executives, counsellors and interviewers.

Training for ex-service women under the auspices of the Department of Veterans Affairs is on the same basis and at the same rates as for the male veterans. Up to the end of 1947, a total of 13,276 women veterans had availed themselves of opportunities for training, 27 p.c. of the total number of ex-service women. Of that number 10,283 women had entered into some phase of vocational training and 2,993 had chosen university courses or matriculation courses leading to university. Follow-up on these cases by district staffs indicates that little difficulty has been encountered to date with respect to employment on completion of vocational training. In most instances, through a three-way liaison, Department of Veterans Affairs-Canadian Vocational Training-National Employment Service, employment for individuals is arranged as the classes draw to a conclusion. Many have taken training-on-the-job in such diversified occupations as florist, fur finisher and cutter, photographer, etc. Altogether, women have trained for approximately 100 occupations.

At the end of December, 1947, 43,337 applications for re-establishment credit to the amount of approximately $4,107,049 had been approved for ex-service women. As at the same date, 147 had qualified under the Veterans' Land Act. Most of these are established on small holdings, but a few own and operate farms under the full-time farming arrangement.

Pensioners among the women up to December, 1947, numbered 1,235. They receive the same pension rates as the men and the same consideration in the matter of training and employment. Liaison between the Women's Section of the Depart-

ment of Veterans Affairs and the Casualty Rehabilitation Section has resulted in hospital visiting for the purpose of counselling toward employment or training upon discharge from hospital, or arranging for correspondence courses during hospitalization.

During their service careers, many women formed new concepts of the opportunities for employment available in civilian life. For the first time, in many cases, these women could choose a career. With the co-operation of the National Employment Service, women veterans who wish it are assisted in obtaining employment in keeping with their experience and academic background. Each time an application for Out-of-Work Allowance is received, personal follow-up is carried out in the hope that the applicant may be trained for, or recounselled into suitable alternative employment. The Department of Veterans Affairs has made Armed Service contributions to the Unemployment Insurance Fund on behalf of 10,066 ex-service women.

Citizens Committees, Women's Clubs and organizations have been invaluable in helping the ex-service woman to fit into and take part in community life. Full co-operation with the Department of Veterans Affairs has been given, particularly in the matter of finding accommodation for the women who have moved to other centres to take training or employment. Clubs in many communities have given their support in making personal contact with the veteran on her return home, and have been instrumental in helping her face her problems.

Subsection 6.—Rehabilitation of Older Veterans

The Department of Veterans Affairs in 1946 added to its establishment a Special Adviser to the Deputy Minister to deal with matters concerning veterans of both World Wars. Since then considerable progress has been made in the establishment of a continuous employment and welfare service for veterans over 45 years of age.

As the employment rehabilitation services for some 50,000 veterans of the First World War, who also served in the Second World War, were being planned it was discovered that there was a very considerable number of veterans of the First World War who had made a worthwhile contribution during the years 1939-45 but were handicapped in the post-war employment market. Likewise, older veterans of the South African campaign and the First World War, including ex-members of His Majesty's Imperial Forces domiciled in Canada many years, required assistance from the Department.

It is estimated that this grouped class numbers 350,000, many of whom have acquired age but not security. There has developed a great reluctance in business and industry to hire workers of middle age, and a greater reluctance to employ those in the late fifties and early sixties. Yet the economy of the country demands the productive capacity of such workers be fully utilized in gainful employment.

The Department of Veterans Affairs has established throughout its District Offices small specialist staff sections whose responsibility it is, in co-operation with the National Employment Service, to screen, classify and counsel these older veteran applicants and to assist them to obtain work suited to their capacity and ability.

Constant studies are maintained of employers' objections to hiring older workers, the effect on pension retirement plans, group insurance, industrial accident figures, and productivity records, etc. Efforts are made through mailings, press, radio, public addresses, etc., to offset these objections and employers are responding well to the proved values of the stable older worker in industry.

Progress has been made too, through such agencies as the Civil Service Commission, and the Corps of Commissionaires in the allocation of non-career work not requiring skill or physical endeavour.

The screening process finds those veterans unable or only partially able to perform gainful work. These veterans are referred to the War Veterans Allowance Board or other agencies.

On Apr. 1, 1947, 9,262 older veterans were registered for employment at National Employment Service Offices. During the following 12 months, there were 46,329 additional applications and 46,690 veterans were assisted into employment or other means of maintenance.

Subsection 7.—Assistance in Social Problems

The social adjustment of individual veterans is of real concern to both the Treatment and Rehabilitation Branches of the Department of Veterans Affairs and the highest degree of skill in dealing with individual social problems is desirable on the part of all personnel in the Department.

The Social Service Division consists of trained social workers whose purpose is to increase the social work knowledge and understanding of members of the Department who see the veteran at first hand. It is also the function of the Division to see that existing social services are utilized to the maximum in dealing with problems presented by the veteran who comes to the Department for assistance. It is a basic assumption that the Department must not establish any social service for the veteran which is already available to him as a member of the community in which he lives. In order to prevent such duplication of service, it is necessary for the Social Service Division to work in close co-operation with local social agencies, community chests and councils, municipal, provincial and federal welfare departments, as well as schools of social work.

Section 6.—Veterans Insurance

The Veterans Insurance Act which came into force on Feb. 20, 1945, provides that veterans who were engaged in service during the Second World War, the widows and widowers of veterans, disability pensioners under the Pension Act in receipt of pensions relating to the War, most members of the Active Forces, and certain merchant seamen, may contract with the Government of Canada for life insurance, usually without medical examination. The period of eligibility ends six years after the coming into force of the Act or six years after discharge from Service, whichever is later. For the Active Forces generally it will end on Apr. 1, 1952, and for the eligible merchant seamen it will end on Feb. 20, 1951.

The amount of insurance may be any multiple of $500 up to a maximum of $10,000. The plans of insurance available are 10-payment life, 15-payment life, 20-payment life, and life with premiums payable until age 65 or age 85. The policies are non-participating.

Premiums on veterans insurance may be paid monthly, quarterly, semi-annually or annually. They may be paid in cash or from re-establishment credit or by deduction from any pension granted under the Pension Act. The policy contracts include a waiver-of-premium disability provision. No extra premiums are charged for residence, travel or occupational hazards.

At the end of the second policy year a liberal cash value is available. It may be used alternatively to provide reduced paid-up insurance or extended term insurance. A veteran's insurance policy is not assignable, nor is a loan value granted.

The maximum amount of insurance money that will be paid in a lump sum at death is $1,000; the balance must be paid to the beneficiary as an annuity certain or as a life annuity with or without a guaranteed period.

13.—Summary Statistics of Veterans Insurance, Years Ended Mar. 31, 1946-48

Year Ended Mar. 31—	Insurance Issued During Year		Insurance in Force at End of Year		Death Claims Approved During Year	
	No.	$	No.	$	No.	$
1946	4,013	11,971,500	3,914	11,708,500	1	500
1947	6,442	18,783,000	10,077	29,658,000	17	55,500
1948	8,825	24,599,000	18,433	52,594,612	38	100,500

CHAPTER XXX.—MISCELLANEOUS ADMINISTRATION

CONSPECTUS

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Note.—Certain phases of Federal Government activity, such as the operations of the International Joint Commission and certain scientific activities of the Department of Mines and Resources were dealt with in this Chapter of the 1930 edition of the Year Book (pp. 1014-1017). These branches of Miscellaneous Administration have not undergone wide change and, therefore, the material has not been republished since that time.

Section 1.—Public Lands

In Table 1, summarizing the land area of Canada, items 2, 3 and 4 are obtained from Federal Government sources and items 5 and 6 from Provincial Government sources. In the majority of cases the area of lands alienated from the Crown or in process of alienation (item 1), as calculated by balancing the figures, agrees with the area as estimated by the Provincial Departments concerned.

1.—Classification of Lands in Canada, by Tenure, (*circa*) 1948

Note.—The land area of Canada classified by surface resources is shown at pp. 28-29.

Tenure	P.E.I.	N.S.	N.B.	Que.	Ont.
	sq. miles	sq. miles	sq. miles	sq. miles	sq. miles
1. Alienated from the Crown or in process of alienation	2,173	16,695	16,661	43,510	40,643
2. Dominion lands other than National Parks and Indian Reserves	Nil	13	38	30	161
3. Dominion National Parks	7	391	80	26[1]	12
4. Indian Reserves	4	29	58	277	2,114
5. Provincial lands, including leased lands and forest reserves, but not Provincial Parks	Nil	3,615	10,636	471,982	315,123
6. Provincial Parks	"	Nil	Nil	8,035	5,229
Totals, Land Area	**2,184**	**20,743**	**27,473**	**523,860**	**363,282**

For footnote, see end of table, p. 1166.

1.—Classification of Lands in Canada, by Tenure, (*circa*) 1948—concluded

Tenure	Man.	Sask.	Alta.	B.C.	Yukon and N.W.T.	Canada
	sq. miles	sq. miles	sq. mile	sq. miles	sq. miles	sq. miles
1. Alienated from the Crown or in process of alienation	44,196	104,401	78,016	18,991	62	365,348
2. Dominion lands other than National Parks and Indian Reserves	3	47	103	161	1,455,088[2]	1,455,644
3. Dominion National Parks	1,149	1,496	20,739[3]	1,671	3,625[4]	29,196[1]
4. Indian Reserves	816	1,879	2,217	1,301	9	8,704
5. Provincial lands, including leased lands and forest reserves, but not Provincial Parks	173,559	128,468	147,713	320,259	Nil	1,571,355
6. Provincial Parks	Nil	1,684	12	16,896	"	31,856
Totals, Land Area	**219,723**	**237,975**	**248,800**	**359,279**	**1,458,784**	**3,462,103**

[1] Includes the Gatineau Park (25 sq. miles) and the Quebec Battlefields Park (0·36 sq. mile) which are under Dominion jurisdiction but which are not technically National Parks. [2] Includes 952,849 sq. miles set aside by Order in Council as native game preserves in which only Indians and Eskimos may hunt, as game sanctuaries in which hunting and trapping is forbidden, and as reserves for reindeer grazing, but which are not regarded as National Parks. [3] Includes Wood Buffalo Park (which, although reserved by the Dominion, is not administered as a National Park) and the Tar Sands Reserve (2,068 acres). [4] Includes that portion of the Wood Buffalo Park in N.W.T.

Subsection 1.—Dominion Public Lands*

The public lands under the administration of the Federal Goverment comprise: lands in the Northwest Territories, including the Arctic Archipelago and the islands in Hudson Strait, Hudson Bay and James Bay; lands in Yukon Territory; National Parks and National Historic Sites; Forest Experiment Stations; Experimental Farms; Indian Reserves; Ordnance and Admiralty Lands; and, in general, all lands held by the several Departments of the Federal Government for various purposes connected with Dominion administration, including the Tar Sands Reservation comprising four areas, amounting in all to 2,068 acres, in the Fort McMurray District of Alberta. The lands and other natural resources lying within the boundaries of Manitoba, Saskatchewan, Alberta and British Columbia, formerly administered by the Federal Government, were transferred in 1930 to the administration of the provinces concerned.

The largest areas under Dominion administration are those of Yukon and the Northwest Territories, amounting to about 1,458,784 square miles or 42 p.c. of the land surface of Canada. In general, the southern border of both Yukon and the Northwest Territories is 60°N. latitude. In Europe, the cities of Oslo, Stockholm, and Leningrad are near this line; about three-quarters of Norway, two-thirds of Sweden, Finland, and a large portion of Russia are north of it. This northern part of the national domain is under the administration of the Lands and Development Services Branch of the Department of Mines and Resources. The Royal Canadian Mounted Police maintain law and order.

The Northwest Territories.—Developments in the mining industry, particularly in the Yellowknife District, accounted for much of the activity in the Northwest Territories in 1947. The wave of prospecting and staking that reached a peak in 1945 continued to show a decline, but systematic examination of ground already staked was continued and the development of promising properties planned. Gold production in the Territories was maintained, transportation facilities were improved, and many projects designed to provide better municipal and other services in Yellowknife Settlement and district were undertaken.

* Prepared under the direction of R. A. Gibson, I.S.O., Director, Lands and Development Services Branch, Department of Mines and Resources, Ottawa.

Some interest in mining and prospecting activities was shown in the area immediately west of Hudson Bay and in the Arctic area in the vicinity of Bathurst Inlet. In the Mackenzie mining district, interest was revived in the lead-zinc deposits near Pine Point on the south shore of Great Slave Lake. The location at depth on the Con and Negus properties of the continuation of ore bodies similar in structure to those occurring on the Giant Yellowknife property was felt to have ensured these mines a long productive life. The Con-Rycon mines were still the largest gold producers in the Northwest Territories, milling about 300 tons of ore a day. Negus Gold Mines Limited, the second largest producer in the Territories, milled about 125 tons a day during 1947. The other mine producing gold during that year was the Thompson-Lundmark; after being reconditioned, this mine milled about 100 tons of ore daily. The Giant Yellowknife Gold Mines Limited production began during the summer of 1948. Shaft sinking operations and other development work are being continued at the properties of Discovery Yellowknife Gold Mines Limited; Sunset Yellowknife Gold Mines Limited; Diversified Mining Interests (Canada) Limited; North Inca Mines, and several other companies. In general, mining enterprise in the Territories was handicapped by lack of finance and power, but the latter deficiency will be overcome by the completion of the Snare River power development. The new plant will supplement power furnished at present by a development on the Yellowknife River, near Prosperous Lake.

The production of pitchblende concentrates was continued at the mine of the Crown Company, Eldorado Mining and Refining (1944) Limited, on Great Bear Lake. Production figures are not available for publication. This property is one of the world's principal sources of radium and uranium.

Production of petroleum products was continued by Imperial Oil Limited at Norman Wells in the lower Mackenzie Basin. The greater part of this output was processed at the Norman Wells refinery, and oil products, including gasoline and fuel oil, were shipped for consumption at the Eldorado mine and in the Yellowknife district.

The total value of mineral production in the Northwest Territories in 1947 was $2,720,988. The value of gold was $2,188,095, silver, $32,655 and crude petroleum, $500,238.

During the fiscal year ended Mar. 31, 1948, 1,466 miners' licences, 2,301 quartz grants and 1,933 assignments of mineral claims were issued. In addition, 23 leases comprising 1,078·74 acres were issued under the Quartz Mining Regulations. Three annual permits were issued under the Domestic Coal Mining Regulations, and one lease issued under the Coal Mining Regulations was in good standing.

Work is being continued on the installation of a modern water and sewer system at Yellowknife townsite and an airport has been established at Long Lake, four miles from that settlement. During 1947, a large number of buildings were constructed at Yellowknife including a 40-bed Red Cross hospital and a combined public and high school. In addition, day schools are being erected at Hay River, Rocher River, Fort Smith and Fort Norman. These are well constructed, modern buildings designed to serve as community centres.

Construction work commenced in 1944 and is now well advanced on the all-weather highway from the railhead at Grimshaw, Alta., to Hay River Settlement on Great Slave Lake. The cost of this project is being shared by the Federal Govern-

ment and the Province of Alberta. This new highway will enable heavily loaded trucks to convey goods to the south shore of Great Slave Lake.

The Geological Survey of Canada maintained six mapping parties in the Northwest Territories during the summer of 1947, covering the Canso River area, the Lac de Gras area, Indin Lake, the Ranji Lake and Chalco Lake areas, and the McAlpine Channel area. The detailed study of the complex Yellowknife Bay gold belt was continued from 1946, and embraced the Con, Rycon, and Negus mining properties. In addition to these standard mapping projects, other geological investigations and reconnaissance surveys were undertaken by qualified officers of the Federal Government.

The fur trade continued to be an important factor in the economy of the Territories. A catch of 488,039 pelts worth a total of $1,658,754 was recorded for the year ended June 30, 1947. The trapping of fine furs is the chief occupation of most of the native population, and hunting and trapping in the Territories are restricted mainly to natives and to half-breeds leading the life of natives.

Considerable progress was made in the organization and development of an improved forest conservation and wildlife protection service. Headquarters are at Fort Smith, and regular patrols are maintained. Modern fire fighting equipment has been provided, and it is anticipated that the improved operations will show satisfactory results in restoring wildlife in the Mackenzie district.

The annual Eastern Arctic Patrol was carried out in 1947 and, following the wreck of R.M.S. *Nascopie* off Cape Dorset in Hudson Strait on July 21, 1947, arrangements were made to service northern Baffin Island posts by the Hudson's Bay Company chartered vessel *North Pioneer*, which was despatched from Montreal soon after the loss of the *Nascopie*. Posts in the Hudson Bay region were serviced from railhead at Churchill through the facilities of the Hudson's Bay Company.

Yukon Territory.—The gold production of Yukon showed a favourable increase during 1947. As in past years, most of the gold was obtained from placer operations in the Dawson district. A new find on the Firth River, with promising prospects, was a significant feature of the year's activities, and it is anticipated that more prospectors will be attracted to this area. Development continued of the Keno Hill silver-lead deposits in the Mayo district with an increased amount of ore being mined and concentrated. Work in this area was handicapped, however, by transportation difficulties due to extremely low water in the Stewart River.

The total value of gold produced in Yukon during 1947 was $1,671,075. The deposits in the Keno Hill area of the Mayo district produced 573 tons of lead valued at $156,556 and silver production in Yukon was valued at $267,877.

Yukon Consolidated Gold Corporation Limited, continued to be the principal producer in the placer mining field, with six dredges in operation. Yukon Gold Placers Limited, Clear Creek Placers Limited, and a number of individual miners carried on operations in the Dawson mining district, while Mayo Mines Limited, Yukon Northwest Exploration Limited, United Keno Hill Mines Limited, and a number of smaller companies carried out development work in Mayo district. In the Whitehorse mining district, the greatest placer activity was on Burwash Creek, where the Burwash Mining Company operates company claims, as well as

those owned by other interests. Lode mining was featured by extensive development operations in the Victoria Creek, Crescent Lake, Whitehorse Copper Belt, Nansen Creek and other areas, as well as at various points on the Alaska Highway.

The increased mining activity in Yukon gave rise to the problem of supplying the various properties with fuel, and to meet this situation the Tantalus Butte coal mine near Carmacks was brought into production during the summer of 1947.

The Geological Survey of Canada maintained three parties in Yukon during the summer of 1947, all mapping on a scale of 1 inch to 4 miles. Particular attention was paid to the Whitehorse and Dezadeash areas, both of which are readily accessible by road and contain important copper deposits. In the north, mapping was continued in the McQuestin area between Mayo silver-lead mining camp and the Klondike.

Maintenance of the Alaska Highway passed from United States authority to the Northwest Highway System (Canadian Army) on Apr. 1, 1946, but owing to limited accommodation the route remained closed to all travellers except maintenance personnel, prospectors, organized hunting parties, and others having business in the region or in Alaska. As a result of improvements, however, restrictions on tourist travel on the Highway were lifted early in 1948. In connection with the maintenance of the Alaska Highway in Yukon, there are now in force 11 leases of privately owned lands.

In the field of agriculture, the Federal Government experimental substation, opened in 1945 on the Alaska Highway approximately 100 miles west of Whitehorse, was continued. Field tests were conducted and garden plot trials were undertaken in 1947 with encouraging results.

The fur trade continued to be a source of revenue for the inhabitants of Yukon, especially the native population, and during the year ended June 30, 1947, the total catch numbered 58,777 pelts valued at $373,176.

Subsection 2.—Provincial Public Lands

In the Maritime Provinces and in Quebec, Ontario and British Columbia (except the Railway Belt and the Peace River Block), the public lands have been administered by the Provincial Governments since Confederation. Since the transfer by the Federal Government of the natural resources of the Prairie Provinces and of sections of British Columbia, public lands in all provinces have been under provincial administration. In Prince Edward Island, all of the land is alienated and there are no provincial public lands.

In certain of the provinces extensive areas have been set aside from provincial lands as parks and reserves. These provincial areas are dealt with in Chapter I, pp. 36-40.

Information regarding provincial public lands may be obtained from the following officials of the respective provinces: Deputy Minister of Lands and Forests, Halifax, N.S.; Deputy Minister of Lands and Mines, Fredericton, N.B.; Deputy Minister of Lands and Forests, Quebec, Que.; Deputy Minister of Lands and Forests, Toronto, Ont.; Director of Lands, Department of Mines and Natural Resources, Winnipeg, Man.; Director of Lands, Department of Natural Resources, Regina, Sask.; Director of Lands, Department of Lands and Mines, Edmonton, Alta.; Deputy Minister of Lands, Victoria, B.C.

Section 2.—The Indians and Eskimos of Canada

Subsection 1.—The Indians of Canada*

History.—The Indians, it is believed, came in successive migrations in prehistoric times from North Asia. They are divided into a number of distinct linguistic stocks and many tribal subdivisions with widely differing physical and psychological characteristics.

As early as 1670, during the reign of Charles II, instructions were given to the Governors of the colonies to the effect that Indians who desired to place themselves under British protection should be well received and protected. Records exist of numerous agreements and treaties dating back as far as the year 1664, made by the British with the Indians of New England, while Canada was still under French government. Later, it was found necessary to establish an office devoted solely to the administration of Indian Affairs and, in 1755, Sir William Johnson was appointed Indian Superintendent with headquarters in the Mohawk Valley, the country of the Six Nations Confederacy, in what is now the State of New York. The establishment of this office was the genesis of future Indian administrative organization in English-speaking North America. Following the American Revolution, the British Indian Office was removed to Canada, and a similar organization was established in the newly formed United States.

Before the advent of the European, the number of Indians was undoubtedly larger, but little reliable information is available as to the aboriginal population, during either the French or the early British regimes. The best estimate, however, of the aboriginal or Indian population of what is now Canada is slightly in excess of 200,000 or about double the present figure.

Shortly after the intrusion of White settlers throughout their domains the Indian population began to dwindle. The major contributing factors for this decrease were: (1) the necessity for sudden and often complete change in habits of life caused by inevitable contact with White settlers; (2) the near extinction of the buffalo and other species of wild game as major food, clothing and shelter items in the economy of Indian life, and the adoption of White man's foods; (3) the introduction of White man's diseases, such as measles, whooping cough, scarlet fever, smallpox, tuberculosis and venereal diseases; (4) the comparative closer confinement and congestion and the adoption of houses at permanent locations as contrasted with the former nomadic life in temporary tipis; (5) slowness to comprehend and appreciate the White man's way of life, which was so completely different from their own.

Succeeding generations slowly adopted White man's ways and, during the twentieth century, the Canadian Indian population has been increasing gradually but steadily until at present it is estimated at 126,000. There are some 600 separate communities known as "bands"—the administrative unit of the Indian population.

The Indian Affairs Branch takes a quinquennial census of the Indians under its control. The results of the latest of these censuses, taken in 1944, show a total of 125,686 Indians as compared with 118,378 in 1939 and 112,510 in 1934, an increase of 11·7 p.c. in ten years. Details are given in the Annual Report of the Department of Mines and Resources for 1947. The figures given in Table 2 are those of the

* Prepared under the direction of R. A. Hoey, Director, Indian Affairs Branch, Department of Mines and Resources, by T. R. L. MacInnes.

eight Dominion Decennial Censuses since Confederation, and include some thousands of persons of Indian racial origin who are not on the reserves but are living as ordinary citizens of Canada.

2.—Indian Population of Canada at the Decennial Censuses of 1871-1941

Province or Territory	1871[1]	1881[1]	1891[2]	1901	1911	1921	1931	1941
Prince Edward Island	323	281	314	258	248	235	233	258
Nova Scotia	1,666	2,125	2,076	1,629	1,915	2,048	2,191	2,063
New Brunswick	1,403	1,401	1,521	1,465	1,541	1,331	1,685	1,939
Quebec	6,988	7,515	13,361	10,142	9,993	11,566	12,312	11,863
Ontario	12,978	15,325	17,915	24,674	23,044	26,436	30,368	30,336
British Columbia	23,000	25,661	34,202	28,949	20,134	22,377	24,599	24,875
Manitoba				16,277	7,876	13,869	15,417	15,473
Saskatchewan				26,304	11,718	12,914	15,268	13,384
Alberta	56,000	56,239	51,249		11,630	14,557	15,258	12,565
Yukon				3,322	1,489	1,390	1,543	1,508
Northwest Territories				14,921	15,904	3,873[3]	4,046	4,052
Canada	**102,358**	**108,547**	**120,638**	**127,941**[4]	**105,492**	**110,596**	**122,920**	**118,316**

[1] Census figures in the organized provinces and estimates for the rest of Canada. [2] Racial origin not taken in 1891; the figures have been taken from the report of the Department of Indian Affairs for that year. [3] The decrease in the Indian population of the Northwest Territories is due to the extension of the boundaries of Quebec, Ontario and Manitoba in 1912. This also accounts for the increase in the 1921 Indian population of these provinces. [4] Includes 34,481 'half-breeds'.

Administration.—After Confederation the administration of Indian Affairs, which had been under the management of the several provinces, came under the control of the Dominion of Canada. Pursuant to this authority the Dominion Parliament enacted various legislation concerning Indians, which was first consolidated in the Indian Act, in 1876. That Dominion statute under which Indian administration is still conducted, contains nearly all the Canadian law dealing expressly with Indians. Probably there is no other legislation that deals with so many and such varied subjects in a single Act. It may be said to deal with the whole life of a people. The present Act was consolidated in 1880 and has not been completely revised since that year, although it has been changed and amplified by amendments from time to time. It is the subject of a complete review and investigation by a Special Joint Committee of the Senate and the House of Commons.

Immediately following Confederation, Indian Affairs was attached to the Department of the Secretary of State. In 1873, when the Department of the Interior was created, Indian Affairs was transferred to it, as the Indian Affairs Branch. In 1880, under the provisions of the Indian Act, the Indian Affairs Branch became a separate Department and remained so until Dec. 1, 1936, when, by the Mines and Resources Act, it became a Branch of the newly created Department of Mines and Resources.

The activities of the Indian Affairs Branch include: management of Indian lands and reserves; trust funds; welfare projects; relief; family allowances; education; descent of property; rehabilitation of Indian veterans on reserves; Indian treaty obligations; enfranchisement of Indians; and a variety of other matters. The organization consists of a headquarters office at Ottawa, with about one hundred local agencies in the field, each agency being responsible for one or more reserves and bands.

Reserves.—Reserves, or lands set aside by the Federal Government for the use of Indian bands, number more than 2,000. They vary in size from a few acres to 500 square miles. Except by special expropriation for public purposes, these reserves cannot be alienated without the mutual consent of the Government and the Indian owners. All reserve land is community property and the individual holding, in so far as the land is concerned, is only the right of occupation, although the individual holder owns his improvements. Most Indians live on these reserves, which were designed primarily to provide them with a refuge where they could live, move, and have their being without fear of exploitation or molestation. In the far north, however, where the lands are unsettled, there is no need for reserves, though the Indians living there are organized into bands and dealt with as band groups for purposes of administration.

Trust Funds.—Many of the Indian bands have community trust funds which are administered for their benefit by the Indian Affairs Branch. These funds, derived mainly from the sale of natural resources, have increased from some $200,000 in 1870, to more than $18,400,000 in 1948. They represent the total of approximately 480 separate accounts.

Education.—Until about a century ago, Indian education was largely a missionary effort carried on by the churches and by the Indians themselves. Gradually the Government entered into the field and Indian education was developed under the joint auspices of the Government and leading religious denominations. At present, practically the entire cost of Indian education is being borne by the Government. Statistics of enrolment and attendance in Indian schools are given in the Education Chapter at pp. 323-324.

Paralleling the education of Indian children through day-school services, are the many and varied adult-education services which are specially designed to encourage economic adjustment of the Indians to modern life. This important work is receiving the close attention of the Department in all settled parts of the Dominion. The policy of the Department and the efforts of the staff are directed towards making the Indians self-supporting.

Welfare.—For humanitarian reasons and in the interests of national economy, the Indian Affairs Branch promotes farming, fishing, lumbering, trapping and other sound ventures on Indian reserves and throughout northern Canada at public expense. Pure-bred herd sires are purchased for use on Indian reserves in western Canada. In addition, during the years 1947-48, three pure-bred experimental herds have been established. Farm machinery for use by the Indians, under direction of local Indian agents and farm instructors, is purchased by the Department and remains the property of the Government. Lumbering is promoted on Indian reserves on which timber is mature, and assistance is rendered Indians in the preparation of lumber for building purposes. The Indian Affairs Branch operates 12 sawmills across the Dominion, owned outright or on a partnership basis with certain groups of Indians. This is in addition to numerous portable mills owned by the Indians themselves. The 1948-49 Indian Affairs Welfare Appropriation included an amount of $802,315 for assistance to Indians in a modern home and related buildings program.

During 1948-49 special assistance was granted to needy Indians who reached the age of 70 years, $241,590 being provided for this purpose. Payment started in September, 1948.

Handicraft and Home Industries.—In 1938, a small section of the Indian welfare and training service was established for the purpose of encouraging handicrafts and home industries. Loans from a revolving fund were made available to groups of Indians desiring to produce and market articles made on Indian reserves, and assistance was given in securing necessary materials.

In order to build up a stock of various lines and to assist in the setting of standards of quality, all goods produced on organized reserves are sent to a central warehouse at Ottawa. The articles produced are inspected by senior Indian workers on the reserves, and carefully inspected again by the Departmental craft supervisor when received at the warehouse. In addition to the production of basketry, bark and wooden articles of various types, several other projects were promoted in schools and on reserves, such as metal work, loom weaving, etc. During the war years, it was necessary to cancel some of these projects because of the scarcity of metal, fine weaving yarns and other materials and the Indian workers who were trained were profitably employed in craft studios.

Indian Medical Services. — Concern for the health of the Canadian aborigines began with the first landings of the European explorers and has persisted in varying degrees of intensity until the present. The sick were brought to Jacques Cartier for his blessing; surgeons accompanying troops of the Crown were instructed to give such attention as they could to the Indians, and by the 1820's physicians in the employ of Indian Affairs were devoting their full attention to the health of Indians.

Government health services for Indians have gradually expanded, until to-day there are 20 hospitals administered by the Federal Government together with a number of mission hospitals and nursing stations almost exclusively concerned with the care of Indians. Larger reserves have a full-time Departmental medical officer; smaller bands have attention on a part-time basis or, in some cases, the local physician receives fees for services rendered to Indians. Nursing care is provided by departmental nurses, field matrons or dispensers.

The present marked expansion of Indian health services began in 1928 when a separate Medical Branch was established in the Department of Indian Affairs. In 1945, Indian health services were transferred to the Department of National Health and Welfare and are now conducted through a small headquarters staff. A Dominion-wide staff of physicians, nurses and field matrons and dispensers arranges for medical attention and hospitalization, field nursing and general health services.

Fur Conservation.—Almost one-half, or some 60,000, of the Indian population of Canada are still located in the northern and outlying regions, and are very largely dependent on hunting and fishing for their livelihood. Their fortunes, therefore, fluctuate with fur catches and prices.

In recent years, the Government has made successful efforts to assist the Indian hunters and trappers by fur conservation and development projects. By special arrangements with the provinces, large areas have been set aside as Indian hunting preserves. Fur preserves, used as illustration stations and training grounds, are proving highly successful in helping the Indian to practise fur conservation which, in turn, is resulting in annually increasing benefits for participating Indians. Remarkable results have been achieved in these protected areas, particularly with muskrat and beaver.

An area of 425,000 acres in the district surrounding The Pas, Man., has been developed into a highly successful muskrat project. It was started about 1936 as a joint Dominion-Provincial scheme, and for the past seven years has been administered by the Province, subject to the recommendations of the Joint Dominion-Manitoba Fur Advisory Board.

Two beaver preserves in Ontario and five in Quebec, exclusively for Indians, are being administered by the Federal Government in co-operation with the provinces concerned. Two older preserves, on the Nottaway River and in the Abitibi district in the Province of Quebec, produced more than 1,000 beaver each in 1948, realizing an amount in excess of $100,000 for the trappers.

Similar projects are progressing in Saskatchewan and Alberta. In addition to these community hunting preserves, Indian participation in individual registered traplines is proving an increasingly important factor in the rehabilitation of the hunting Indian. This system has been evolved because experience has shown that trapping under the former ordinary permit system led to recurring periods of depletion necessitating complete close seasons every few years.

Revolving Fund Loans.—Under an amendment to the Indian Act, passed in 1938, the Department may grant Revolving Fund Loans to Indian bands, groups, or individual Indians for the purchase of farm implements, machinery, live stock, fishing and hunting equipment, seed grain and materials to be used in native handicrafts. Such loans to individuals are not generally approved, however, and are considered only under exceptional circumstances. Money may be expended and loaned from the Revolving Fund Loan for the carrying out of co-operative projects on behalf of the Indians.

Treaties.—From their first contact with the Indians of North America, the British recognized an Indian title or interest in the soil, and considered such interest as one to be parted with or extinguished only by formal bilateral agreement. This was the beginning of the system of Indian treaties and surrenders which has been the fundamental basis of Indian policy, both in Canada and the United States. Only about one-half of the Canadian Indian population are actually adherents to formal treaties with the Dominion. The welfare of Indians not under treaties, however, receives no less attention from the Government on that account.

Economic Adjustment.—With the spread of settlement, the Indians entered a difficult transition period from their simple, primitive economy to a modern and rapidly changing life. Their economic adjustment problems vary greatly in different parts of the country, according to local conditions and opportunities and associations with the rest of the community. Originally, all Indians were hunters and the depletion of game following colonization, amounting to virtual disappearance of game and fur-bearing animals in many areas, played havoc with their native economy.

In the Prairie Provinces, the Government has followed a policy of agricultural and stock-raising education among the Indians, which has met with worthwhile success, considering the fact that these Indians had no previous agricultural experience.

After the disappearance of the buffalo in 1878, the prairie Indians were left destitute and had to be cared for. To-day, they are successful ranchers and grain-growers—a remarkable transition in a few generations.

On the Pacific Coast, the Indians have always been fishermen and seafarers and they have taken readily to the fishing industry in which to-day they are commercially efficient and prosperous. Many own boats and the shipshape and spick-

and-span fishing fleets of the west coast Indians are a tribute to their native industry. Indian women are preferred workers in the canneries where the patience and regularity of their operations is recognized as outstanding. In the settled areas of the eastern provinces, the Indians are engaged, mainly, in mixed farming. Some have been successful in specialized industrial pursuits.

For statistics of the agricultural and stock-raising activities, real estate and personal effects of the Indians, see the Annual Report of the Department of Mines and Resources.

3.—Indian Lands, by Classes and Provinces, as at Mar. 31, 1947

Province or Territory	Uncleared and Uncultivated	Cleared but not Cultivated	Under Cultivation	Total Area of Reserves[1]
	acres	acres	acres	acres
Prince Edward Island	1,320	800	200	2,741
Nova Scotia	12,720	556	1,066	18,187
New Brunswick	33,140	1,127	339	36,962
Quebec	139,243	13,978	9,271	177,338
Ontario	1,121,193	104,267	27,814	1,352,948
Manitoba	210,075	158,121	18,390	522,395
Saskatchewan	501,410	714,610	70,066	1,202,743
Alberta	327,834	797,633	63,513	1,419,047
British Columbia	445,373	247,356	41,491	832,782
Yukon and Northwest Territories	3,575	32	35	5,634
Canada	**2,795,883**	**2,038,480**	**232,185**	**5,570,778**

[1] Includes areas under water and waste lands.

4.—Values and Sources of Income of Indians, by Provinces, 1946

Province or Territory	Income Received from—					Wages Earned	Total Income of Indians[1]
	Farm Products, including Hay	Beef Sold or Used for Food	Fishing	Hunting and Trapping	Other Income		
	$	$	$	$	$	$	$
Prince Edward Island	3,000	600	650	750	4,500	1,400	10,900
Nova Scotia	7,150	220	900	1,300	10,992	98,500	119,062
New Brunswick	4,450	900	4,400	3,100	29,820	72,800	115,470
Quebec	132,210	22,882	6,922	526,887	214,291	979,795	1,882,987
Ontario	295,340	56,910	342,933	960,085	1,046,934	1,771,000	4,473,202
Manitoba	245,648	42,840	141,640	260,575	230,301	153,600	1,074,604
Saskatchewan	527,903	124,174	37,258	115,038	528,417	429,191	1,761,981
Alberta	470,087	263,140	11,130	386,294	510,091	257,156	1,897,898
British Columbia	842,666	222,560	1,866,670	439,730	623,384	2,197,600	6,192,610
Northwest Territories	5,476	Nil	14,975	471,000	24,805	19,970	536,226
Totals	**2,533,930**	**734,226**	**2,427,478**	**3,164,759**	**3,223,537**	**5,981,012**	**18,064,942**

[1] Includes income received from timber and mining dues, from annuities earned as interest on Indian trust funds, and from money received from land rentals.

Political Adjustment.—Aboriginal political organization among the Indians varied considerably in the different tribes and races. Usually it was very simple, involving only the recognition of a chief and headmen or councillors, either hereditary or chosen for their prowess or ability. Among some of the tribes, however, the clan and totem system gave effect to a fairly elaborate social structure. The nearest approach to established government was among the Iroquois, whose League of the Six Nations constituted an effective mutual aid pact, with quite modern

connotations. None of the aboriginal Indian tribal organizations are really adaptable to the economic and social life of the present era. Therefore, an effort has been made to introduce democratic, local self-government on Indian reserves. As early as 1869, election of Indian chiefs and councillors, corresponding roughly to the reeve and councillors of a rural municipality, was provided for in the Indian Act. Later, in 1884, what is known as the Indian Advancement Act was passed, providing a more elaborate system with greater powers for the more progressive bands. In both cases the elective system is applied by special Order in Council and only to those bands considered fitted for it. At the present time practically all the bands in Ontario, Quebec and the Maritime Provinces are under the elective system. In the West, with some exceptions, the Indians continue to follow their tribal methods. As settlement continues, however, and the Indians become more closely associated with the surrounding community, the application of the elective system among them will doubtless become more general.

Loyalty to the Crown is traditional and deep-rooted in Canadian Indians. In early wars they were indomitable and indispensable allies. In the two world wars of the present century, they volunteered readily and their enlistment figures ran into the thousands. They made good soldiers and won their share of commissions and decorations, and many graves on foreign battlegrounds testify to their devotion. The settlement of Canada has been largely free from Indian wars.

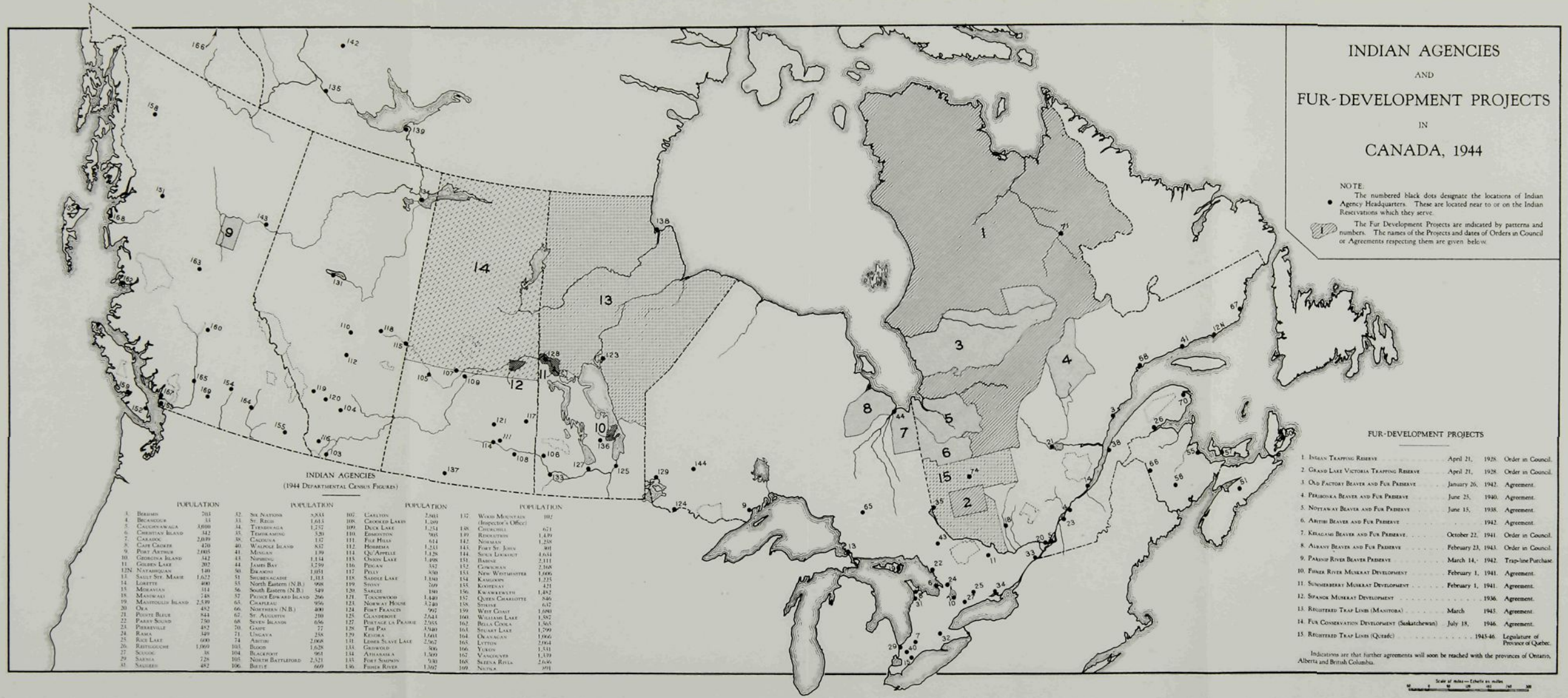
Under a section of the Veterans' Land Act, grants may be provided for Indian veterans who desire to settle on Indian reserves. These grants are paid over to the Indian Affairs Branch for control and management on behalf of Indian veterans. In addition, the services of the Branch and its agents are available to all Indian veterans needing advice and assistance in matters pertaining to any special re-establishment benefits to which they may be entitled as war veterans.

Indian Status.—Under the Indian Act, Indian status is acquired and retained in the male line and lost by departure therefrom. A White woman who marries an Indian becomes an Indian. An Indian woman who marries a non-Indian ceases, thereupon, to be of Indian status.

Legal Rights and Restrictions.—Apart from special provisions contained in the Indian Act, Indians are subject to the laws of the land in the same manner as all other people. It is a mistaken conception that Indians are "minors" under the law. Indians may independently and freely enter into contractual obligations, and they may sue and be sued. Indian real and personal property held on a reserve is exempt from taxation, and such property, except on suit by another Indian, is also exempt from seizure for debt or by hypothecation of any kind.

Indians habitually resident on a reserve or in receipt of annuities from the Government under Treaty are disenfranchised under the Dominion Elections Act, with the exception of veterans of the First and Second World Wars. Most of the provincial electoral laws, with some variations, have similar disqualifications of Indians. In municipal elections, reserve residence is not involved, and Indians are not disqualified.

Indians are disqualified under Dominion legislation from participation in the benefits provided by the Old Age Pensions Act and are thus contingently disqualified also from receiving pensions for the blind. On the other hand, Indians



INDIAN AGENCIES AND FUR-DEVELOPMENT PROJECTS IN CANADA, 1944

NOTE.

The numbered black dots designate the locations of Indian Agency Headquarters. These are located near to or on the Indian Reservations which they serve.

The Fur Development Projects are indicated by patterns and numbers. The names of the Projects and dates of Orders in Council or Agreements respecting them are given below.

FUR-DEVELOPMENT PROJECTS

1. Indian Trapping Reserve	April 21,	1928.	Order in Council.
2. Grand Lake Victoria Trapping Reserve	April 21,	1928.	Order in Council.
3. Old Factory Beaver and Fur Preserve	January 26,	1942.	Agreement.
4. Peribonka Beaver and Fur Preserve	June 25,	1940.	Agreement.
5. Nottaway Beaver and Fur Preserve	June 15,	1938.	Agreement.
6. Abitibi Beaver and Fur Preserve		1942.	Agreement.
7. Kesagami Beaver and Fur Preserve	October 22,	1941.	Order in Council.
8. Albany Beaver and Fur Preserve	February 23,	1943.	Order in Council.
9. Parsnip River Beaver Preserve	March 14,	1942.	Trap-line Purchase.
10. Fisher River Muskrat Development	February 1,	1941.	Agreement.
11. Summerberry Muskrat Development	February 1,	1941.	Agreement.
12. Spanok Muskrat Development		1936.	Agreement.
13. Registered Trap Lines (Manitoba)	March	1945.	Agreement.
14. Fur Conservation Development (Saskatchewan)	July 18,	1946.	Agreement.
15. Registered Trap Lines (Quebec)		1945-46.	Legislature of Province of Quebec.

Indications are that further agreements will soon be reached with the provinces of Ontario, Alberta and British Columbia.

INDIAN AGENCIES

(1944 Departmental Census Figures)

		Population			Population			Population			Population
3.	Berens	703	32.	Six Nations	4,333	107.	Carlton	2,661	137.	Wood Mountain (Inspector's Office)	102
4.	Bicancour	33	33.	St. Regis	1,615	108.	Crooked Lakes	1,209	148.	Churchill	651
5.	Caughnawaga	3,010	34.	Tyendinaga	1,257	109.	Duck Lake	1,254	149.	Resolution	1,439
6.	Christian Island	342	35.	Temiskaming	320	110.	Edmonton	705	150.	Norman	1,258
7.	Caradoc	2,039	38.	Caledonia	137	111.	File Hills	614	145.	Fort St. John	301
8.	Cape Croker	470	40.	Walpole Island	847	112.	Hobbema	1,243	144.	Sioux Lookout	1,634
9.	Port Arthur	2,005	41.	Mingan	139	114.	Qu'Appelle	1,128	151.	Babine	2,111
10.	Georgina Island	342	43.	Nipissing	1,114	115.	Onion Lake	1,498	152.	Cowichan	2,168
11.	Golden Lake	202	44.	James Bay	3,759	116.	Pigeon	347	153.	New Westminster	1,606
12N.	Natashquan	140	50.	Eskimo	1,051	117.	Pelly	850	154.	Kamloops	1,235
13.	Sault Ste. Marie	1,622	51.	Shubenacadie	1,111	118.	Saddle Lake	1,140	155.	Kootenay	421
14.	Lorette	400	53.	North Eastern (N.B.)	998	119.	Stony	569	156.	Kwawkewlth	1,482
15.	Moravian	314	56.	South Eastern (N.B.)	549	120.	Sarcee	180	157.	Queen Charlotte	846
18.	Maniwaki	748	57.	Prince Edward Island	266	121.	Tobacwood	1,440	158.	Stikine	647
19.	Manitoulin Island	2,599	63.	Chapleau	956	123.	Norway House	3,240	159.	West Coast	1,680
20.	Oka	482	66.	Northern (N.B.)	400	124.	Fort Frances	992	160.	Williams Lake	1,587
21.	Pointe Bleue	844	67.	St. Augustin	210	125.	Clandeboye	2,643	162.	Bella Coola	1,565
22.	Parry Sound	750	68.	Seven Islands	656	127.	Portage la Prairie	2,935	163.	Stuart Lake	1,299
23.	Pierreville	482	70.	Gaspe	77	128.	The Pas	3,940	164.	Okanagan	1,966
24.	Rama	349	71.	Ungava	258	129.	Kenora	1,603	165.	Lytton	2,064
25.	Rice Lake	600	74.	Abitibi	2,068	131.	Lesser Slave Lake	2,967	166.	Yukon	1,531
26.	Restigouche	1,069	103.	Blood	1,628	133.	Griswold	306	167.	Vancouver	1,139
27.	Scugog	38	104.	Blackfoot	961	134.	Athabaska	1,309	168.	Skeena Rivla	2,636
29.	Sarnia	728	105.	North Battleford	2,321	135.	Fort Simpson	930	169.	Nootka	391
35.	Saugeen	482	106.	Birtle	669	136.	Fisher River	1,397			

Scale of miles—Echelle en milles

0 50 100 150 200 300

receive full benefits under the Family Allowances Act. This divergent treatment of young and old Indians may be accounted for by the fact that family allowances are entirely a federal matter, whereas the old age pensions and pensions for the blind are paid on a joint arrangement between the Dominion and the provinces in which the Indians do not participate because they are regarded as the responsibility of the Dominion only.

From early times, the use of intoxicating liquor by Indians and the supplying of it to them has been prohibited under heavy penalties, as a protective measure. Another protective measure restricts trading with Indians on reserves and disposal by Indians of their property in certain areas.

Enfranchisement.—The Indian Act provides for the enfranchisement of Indians. When an Indian is enfranchised, he ceases to be an Indian under the law and acquires the full rights and responsibilities of Canadian citizenship. In the older provinces, where the Indians have been longer in contact with civilization, many are becoming enfranchised. Great discretion, however, is exercised by the Government in dealing with this problem, as Indians who become enfranchised lose the special protection attached to their Indian status, so that it is necessary to guard against premature enfranchisement.

Subsection 2.—The Eskimos of Canada

Information on the Eskimos of Canada will be found at p. 1133 of the 1946 edition of the Year Book.

Section 3.—Department of the Secretary of State*

The Department of the Secretary of State was constituted in its present form in 1873, through the merging of the previously existing offices of the Secretaries of State for Canada and for the provinces. The Secretary of State is the official spokesman of the Government, as well as the medium of communication between the Federal and Provincial Governments, all correspondence between the Governments being conducted by him with the Lieutenant-Governors. He is also the custodian of the Great Seal of Canada and the Privy Seal as well as being the channel by which the general public may approach the Crown.

The Secretary of State is also the Registrar General, registering all proclamations, commissions, licences, warrants, writs and other instruments issued under the Great Seal and the Privy Seal. He is further charged with the administration of the Canadian Citizenship Act, the Boards of Trade Act, the Companies Act, the Canada Temperance Act, the Copyright Act, the Patent Act, the Trade Unions Act, the Ticket of Leave Act, the Unfair Competition Act (1932), the Trading with the Enemy (Transitional Powers) Act, and with the collection and tabling of parliamentary returns. The Secretary of State deals with the organization and administration of the Office of the Custodian of Enemy Property (see the 1945 Year Book, p. 475). Statistics regarding patents and copyrights appear at pp. 845-846 of this volume.

* Revised under the direction of the Under Secretary of State, Department of the Secretary of State.

Subsection 1.—Incorporation of Dominion Companies

Charters of Incorporation.—Statistics of companies incorporated under the Companies Act are given in Table 5.

5.—Numbers and Capitalizations of Companies Incorporated Under the Dominion Companies Act and Amendments, Years Ended Mar. 31, 1942-47

NOTE.—Statistics for the years 1900-25 will be found at p. 1061 of the 1938 Year Book and for 1926-41 at p. 934 of the 1942 edition. Capitalization includes consideration of the amounts of capital received on the issue of shares without nominal or par value.

Year	New Companies		Old Companies with—				Gross Increase in Capitalization	Net Increase in Capitalization
			Increased Capitalization		Decreased Capitalization			
	No.	Capitalization	No.	Amount	No.	Amount		
		$		$		$	$	$
1942.....	211	50,606,141	40	15,760,300	39	54,964,907	66,366,441	11,401,534
1943.....	205	51,630,000	35	56,198,739	29	7,728,436	107,828,739	100,100,303
1944.....	217	53,462,000	59	31,351,380	52	18,204,490	84,813,380	66,608,890
1945.....	412	56,719,900	51	108,411,400	20	10,680,250	165,131,300	154,451,050
1946.....	649	187,588,775	88	129,163,798	32	15,407,127	316,752,573	301,345,446
1947.....	910	206,547,650	121	147,084,194	60	157,365,948	353,631,844	196,265,896

During the year ended Mar. 31, 1947, 150 Supplementary Letters Patent were granted for variation of corporate powers, changes of name, confirmation of compromises or arrangements with shareholders and for various other purposes. In addition to the companies with share capital, 35 corporations without share capital were granted Letters Patent under Part II of the Companies Act, 1934.

Subsection 2.—Citizenship

On Jan. 1, 1947, the Canadian Citizenship Act came into force. By this legislation all previous Naturalization Acts in force in Canada were repealed; this included the Canadian Nationals Act, R.S.C. 1927, c. 21. The purpose of the Citizenship Act is to give a clear and simple definition of Canadian citizenship and to provide an underlying community of status for all the people of Canada that will help to bind them together as Canadians. Heretofore, the only definition of Canadian citizenship was to be found in the Immigration Act, and that was a limited one, for it defined citizenship for purposes of immigration only.

Natural-Born Canadian Citizens.—The Canadian Citizenship Act, 1947, defines clearly the status of natural-born Canadians before and after the coming into force of the Act. It covers those persons born in and outside Canada. Provision is also made for the citizenship of a Canadian-born person born abroad, out of wedlock. Such a person is a Canadian citizen if his mother was born in Canada, or on a Canadian ship, and had not become an alien. Heretofore, a person in that category had no claim to Canadian citizenship. A person born abroad of a Canadian parent before the commencement of the Canadian Citizenship Act, 1947, is not deemed to have the status of a Canadian citizen, unless he has been lawfully admitted to Canada for permanent residence, or is a minor. A person born abroad of a Canadian parent after the new Act came into force is a Canadian citizen, but

there is a proviso that his birth must be registered at a Canadian consulate, or with the Secretary of State of Canada, within two years after its occurrence, or within such extended period as may be authorized in special cases by the Minister, if his parents wish him to retain Canadian citizenship. In addition, a Canadian born outside Canada, either before or after the commencement of this Act, ceases to be a Canadian citizen unless, within one year after he reaches the age of 21, he files a declaration of retention of Canadian citizenship and, if he is also a citizen of a country other than Canada (dual nationality), he divests himself of such nationality by declaration of alienage, or otherwise. In special cases, the Minister may extend the time during which any such person may assert his Canadian citizenship and divest himself of other nationality or citizenship. One of the important features of the new Act is that it permits a natural-born Canadian citizen to apply for a certificate of Canadian citizenship. Previously, birth certificates were deemed sufficient evidence of status. Any Canadian may now apply to the Secretary of State of Canada for a certificate and obtain it upon payment of $1.

CITIZENSHIP CERTIFICATES GRANTED TO CANADIAN-BORN AND OTHER BRITISH-BORN CITIZENS, 1947 AND 1948

		1947	*1948*
		No.	No.
Sect. 39 (*i*)[1]	Certificates of proof of citizenship issued to Canadians—		
	(*a*) Canadians by birth	2,753	1,828
	(*b*) Canadians by naturalization	4,933	3,626
	(*c*) Canadians by marriage (wives)	841	1,564
	(*d*) Canadians by residence (British subjects)	3,533	2,030
Sect. 10 (2)[2]	British subjects	12	80
Sect. 10 (3)[3]	Minors whose parents have been granted Certificates	85	236
Sect. 11 (*a*)[4]	Certificates in case of doubt	20	41
Sect. 11 (*b*)[5]	Minors in special cases	49	198
Sect. 11 (*c*)[6]	Persons naturalized in Canada before the Act of 1914	1,789	1,847

[1] (*a*) Canadians by birth mean natural born Canadian citizens; (*b*) Canadians by naturalization mean persons who were naturalized in Canada between Jan. 1, 1915 and Dec. 31, 1946; (*c*) Canadians by marriage mean wives who automatically acquired British nationality through their husbands prior to Jan. 1, 1947, and were thus automatically Canadian citizens on that date; (*d*) Canadians by residence mean British subjects who had a residence of 5 years in Canada prior to Jan. 1, 1947, and thus became automatically Canadian citizens. [2] British subjects in the classes entitled to become Canadians as defined in this Section and subsection. [3] Minors whose responsible parents had been granted certificates of citizenship under the Canadian Citizenship Act. [4] Persons with respect to whose status as Canadian citizens there was a doubt. [5] Certificates granted to minors in special cases other than Sect. 10 (3). [6] Persons who were naturalized locally in Canada before the date of the coming into force of the Naturalization Act, 1914.

British Subjects and Canadian Citizens.—British subjects, as distinct from Canadian citizens, have their status defined under the new Act. It should be explained that, under previous Acts, persons born or naturalized within the British Commonwealth of Nations were officially designated as British subjects. Officially, a Canadian could not describe himself as a Canadian citizen; the term was 'British subject'. This was one of the principal reasons why the Act was passed, viz., to permit a Canadian to call himself a *Canadian*. The authority for this procedure is found in Sect. 3 of the new Act, which reads:—

> "Where a person is required to state or declare his national status, any person who is a Canadian citizen under this Act shall state or declare himself to be a Canadian citizen and his statement or declaration to that effect shall be a good and sufficient compliance with such requirement."

Although the designation 'British subject' will be dropped in future insofar as it applies to Canadians, this does not mean that a Canadian loses the status of a British subject. Sect. 26 of the new Act reads that a Canadian citizen is a British

subject, and Sect. 28 reads that a person who has acquired the status of a British subject by birth or naturalization under the laws of any country of the British Commonwealth, other than Canada, to which he was subject at the time of his birth or naturalization, shall be recognized in Canada as a British subject.

It should be emphasized that the rights of non-Canadian British subjects have not been changed or infringed upon by the new Act. They will continue to have the right to vote, to obtain old age pensions, and the right of permanent entry after five years' residence in Canada. But they are not Canadian citizens until they have established a residence of five years in Canada. Those who have that residence at the commencement of the Act are Canadian citizens, and those who attain it after that date must apply for certificates of citizenship before being granted the status of Canadian citizens.

However, any British subject, whether or not he is a Canadian citizen, may apply for a certificate of citizenship. The British subject who is not a Canadian citizen may apply for a certificate direct to the Secretary of State of Canada or, alternatively, he may apply to the court of the district in which he resides. If the Secretary of State is in any doubt as to the qualifications of the person who applies direct to him, he may refer the case to the court for consideration.

Canadian Citizens Other Than Natural-Born.—Under Sect. 9 of the Act, naturalized persons and British subjects who had Canadian domicile before the passing of this Act, are Canadian citizens and may obtain a Canadian Citizenship Certificate upon payment of $1. Sect. 9 also defines the status (as Canadian citizens) of women and children, other than natural-born, and the conditions under which they qualify for Canadian citizenship.

Status and Procedure of Non-Canadians to Canadian Citizenship.—In Sect. 10 (1) of the Act will be found the provisions which apply to the granting of citizenship to a person who is not a Canadian citizen. Although the word 'alien' is not used in the subsection, nevertheless its principal purpose is to define the circumstances under which an alien may apply for and be granted a certificate of citizenship. The application is made to a court and, whereas the alien *must* apply to the court, the British subject has the option of applying to the court or direct to the Secretary of State. Furthermore, the alien must commence his application by filing a Declaration of Intention, which the British subject is not required to do.

The applicant for a certificate of citizenship may file his application at any time after his admission to Canada, and after he has attained the age of 18 years, in the form of a Declaration of Intention in the office of the clerk of the court of the district in which he resides. He must then wait not less than one year before filing with the court his application for a decision that he is qualified for citizenship. In any case, when he files his final application, he must satisfy the court that he has had a residence of one year in Canada immediately prior to the date of filing the application, and a further period of four years in Canada during the six years immediately preceding the date of the application, making a total residence of five years. In the case of an applicant who has served outside of Canada in the Armed Forces of Canada during time of war, or where the applicant is the wife of, and resides in Canada with, a Canadian citizen, a residence of only one year immediately preceding the date of the application is required.

In addition to the requirements of residence the applicant must satisfy the judge that he has been lawfully admitted to Canada for permanent residence; that he is of good character; that he has an adequate knowledge of English or French (knowledge of language is not necessary if he has resided continuously in Canada for more than 20 years—the 20-year clause is new); that he has an adequate knowledge of the responsibilities of Canadian citizenship; and that he intends, if his application is granted, either to reside permanently in Canada or to enter or continue in the public service of Canada or of a province thereof.

When the judge has given his decision, the papers and the decision are forwarded to the Secretary of State of Canada. He may grant the certificate of citizenship or, if he is in doubt whether the certificate should be granted, refer the application to the court for a rehearing. When a certificate is granted, it is forwarded to the clerk of the court, who then notifies the applicant to appear in court for the purpose of taking the oath of allegiance and declaration of renunciation of foreign allegiance and receiving his certificate of citizenship.

NATIONALITY OF ALIENS GRANTED CERTIFICATES OF CITIZENSHIP UNDER THE CITIZENSHIP ACT, 1947

Nationality	*1947*	*1948*	*Nationality*	*1947*	*1948*
	No.	No.		No.	No.
Albania	3	5	Lebanon	3	10
Argentina	1	1	Liechtenstein	2	Nil
Armenia	1	4	Lithuania	49	106
Austria	301	507	Luxembourg	5	19
Belgium	96	232	Macedonia	1	5
Brazil	1	Nil	Norway	143	286
Bulgaria	14	32	Palestine	4	3
China	34	276	Paraguay	Nil	1
Cuba	Nil	1	Persia	"	1
Czechoslovakia	437	859	Peru	"	1
Danzig	4	3	Poland	1,322	2,887
Denmark	145	209	Portugal	3	1
Egypt	1	1	Roumania	320	614
Estonia	6	15	Russia	394	1,736
Finland	433	737	Spain	1	5
France	55	72	Sweden	131	233
Germany	590	1,006	Switzerland	78	127
Greece	61	120	Syria	16	27
Hungary	354	723	The Netherlands	150	271
Iceland	3	7	Turkey	1	9
Iraq	Nil	1	United States of America	303	508
Italy	329	578	Yugoslavia	194	391
Japan	Nil	371	Stateless	4	24
Latvia	7	13			
			TOTALS	6,000	13,038

Status of Married Women.—One of the important changes in the new Act is the citizenship emancipation of married women. Hitherto, an alien woman marrying a British subject became a British subject. Contrariwise, the woman of British nationality who married an alien and acquired his nationality upon marriage ceased to be a British subject. In fact, prior to 1932, a woman of British nationality who married an alien lost British nationality regardless of whether or not she acquired

her husband's nationality. Under the new law, all this is changed. A Canadian woman does not lose Canadian citizenship upon marriage to an alien, and an alien woman who marries a Canadian does not, by reason of the marriage, become a Canadian citizen. In the former case, if she has acquired her husband's nationality, the married woman may divest herself of Canadian citizenship by filing with the Secretary of State of Canada a declaration of alienage and she shall thereupon cease to be a Canadian citizen. In the latter case, an alien woman must apply to the court for a certificate of citizenship. The only concession is that a residence of only one year in Canada is required.

In the past, married women were classed with minors, lunatics, and idiots as persons under disability. They could not become naturalized or control their national status as independent persons, except in very special circumstances. These disabilities have been removed and under the new Act married women have equal status with men.

Status of Minors, Foundlings, Posthumous Births, etc.—Under Sect. 10 (3) of the Act, a certificate of citizenship may be granted to a minor child of a person to whom a certificate of citizenship is, or has been, granted under the Act, on the application of that person if the person is the responsible parent of the child, if the child was born before the date of the grant of the certificate and has been lawfully admitted to Canada for permanent residence. Under Sect. 11 (*b*), the Secretary of State may, in his discretion, grant a certificate to a minor in any special case whether or not the conditions of the Act have been complied with. For the first time, a Canadian Act on nationality or citizenship defines the status of a deserted infant. Under previous Acts there was no mention of the status of a child left on somebody's doorstep. Under the new Act, it is provided that every foundling, who is or was first found as a deserted infant in Canada, shall, until the contrary is proved, be deemed to have been born in Canada. Another new provision in the Act, which did not appear in previous Acts, is the case of a child born after the death of his father. For purposes of definition of natural-born Canadian citizen, the child shall be deemed to have been born immediately before the death of the father. Under Sect. 11 (*a*) of the Act, a certificate may be granted for the purpose of removing any doubts as to whether the person to whom it is granted is a Canadian citizen, and it is specifically provided that the granting of the certificate shall not be deemed to establish that the person to whom it is granted was not previously a Canadian citizen.

Citizenship of Persons Naturalized Locally Prior to 1914.—Persons who were naturalized locally in Canada prior to the passing of the Naturalization Act of 1914, were permitted, under the various Imperial Acts which were in force from 1914 to 1946, to exchange their local naturalization for Imperial certificates. This provision has been carried forward in the Canadian Citizenship Act, so that these persons, and particularly their children who were naturalized with them but who have no certificates to identify them as citizens, may apply for and obtain certificates of Canadian citizenship upon payment of a fee of $1.

Protection of Status Prior to the Canadian Citizenship Act.—Sect. 46 of the Act provides that, notwithstanding the repeal of the Naturalization Act and the Canadian Nationals Act, the Canadian Citizenship Act is not to be construed

or interpreted as depriving any person who is a Canadian national, a British subject or an alien as defined in the said Acts, or in any other law in force in Canada, of the national status he possesses at the time of the coming into force of this Act.

Loss of Canadian Citizenship.—A Canadian citizen who, when outside of Canada and not under a disability, by any voluntary and formal act, other than marriage, acquires the nationality or citizenship of a country, other than Canada, shall cease to be a Canadian citizen. This is the usual way in which Canadian citizenship is lost. There are other causes, such as service in the Armed Forces of a country when it is at war with Canada; a minor child who acquires a foreign citizenship with his responsible parent; or a woman who acquires her alien husband's nationality and files a declaration of alienage. The minor child who loses Canadian citizenship through his parent may, within one year of reaching the age of 21, file a declaration of retention of Canadian citizenship, and he shall thereupon again become a Canadian citizen.

A Canadian citizen, other than natural-born or one who has served in the Armed Forces of Canada in time of war, ceases to be a Canadian citizen after a residence of at least six consecutive years outside Canada, except in specific cases wherein the principle of maintenance of some connection with Canada is proved. There is authority, however, to extend the period of residence outside Canada for more than six years, by registration with a consulate and the issue of a certificate of extension.

Revocation of Citizenship.—The revocation procedure which obtained under the Naturalization Act has been carried forward into the new Act. This provides for the establishment of a revocation commission to inquire into and report upon the proposed revocation of certificates of citizenship. Revocation can take place only by order of the Governor in Council, upon recommendation of the Secretary of State. Revocation proceedings may be instituted on the grounds of residence outside of Canada for not less than six years; trading with the enemy during time of war; false representation or fraud, or the concealment of material circumstances at the time of naturalization; disaffection or disloyalty to His Majesty, while out of Canada or, if in Canada, the naturalized citizen has been convicted of treason or sedition by a competent court.

Where a person ceases to be a Canadian citizen or a British subject under the circumstances outlined in the preceding paragraph, the citizenship of the spouse and minor children of that person shall not be affected unless, in the case of a wife, she became a British subject (legislation prior to this Act), by reason only of her marriage to the said person, or the said person is the responsible parent of a child. In such case it may be directed that the wife and children shall cease to be Canadian citizens or British subjects, as the case may be. The wife of a person who has ceased to be a Canadian citizen or a British subject may, within six months of the date of revocation of her husband's certificate, make a declaration renouncing her Canadian citizenship and thereupon any minor children of her husband and herself shall cease to be Canadian citizens or British subjects, as the case may be.

Where a person ceases to be a Canadian citizen or a British subject, he shall be regarded as having the nationality or citizenship which he had before he became a Canadian citizen or a British subject.

The Oath of Allegiance.—In conformity with the new conception of Canadian citizenship as defined in the Act, the form of oath of allegiance has been changed. Under the Naturalization Act it read as follows:—

> "I (AB) swear by Almighty God that I will be faithful and bear true allegiance to His Majesty King George the Sixth, his Heirs and Successors, according to law. So help me God."

Under the new Act, the oath has been altered to read:—

> "I (AB) swear that I will be faithful and bear true allegiance to His Majesty King George the Sixth, his Heirs and Successors, according to law, and that I will faithfully observe the laws of Canada and fulfil my duties as a Canadian citizen. So help me God."

Canadian Citizenship Ceremonies.—Of the innovations in the new Act the ceremonies attendant upon the presentation of certificates of citizenship at special sittings of the courts are significant. Machinery has been set up by which the courts across the country will be given every assistance possible in the arrangement of ceremonies in connection with the presentation of certificates of citizenship.

It is planned, also, to provide the newcomer to Canada with special facilities for training and education in the fundamentals of citizenship and a manual on Canadian citizenship will be issued to the alien when he files his Declaration of Intention.

Section 4.—The Civil Service of Canada*

In the largest sense the Dominion Civil Service comprises all servants of the Crown—other than those holding political or judicial office—who are employed in a civil capacity and whose remuneration is paid wholly and directly from moneys voted by Parliament. Collectively, they form the staffs of the various Departments, Commissions, Boards, Bureaus, and other agencies of the Federal Government. Nearly every category of occupation is represented in the Civil Service, and personnel are further differentiated in terms of the several authorities under which they derive their appointments. Some few are appointed by either or both Houses of Parliament directly, a considerable number by departments and other agencies in accordance with the provisions of certain statutes, generally with executive approval of the Governor in Council, and the remainder—by far the majority—are selected and appointed by the Civil Service Commission.

As the central personnel agency of the Federal Government, the Civil Service Commission is the custodian of the "merit principle" in respect to both initial appointments and promotions. The steps by which the Commission, in its present form, came to be constituted is the record of Civil Service reform in Canada which began a year after Confederation and culminated in the passing of the Civil Service Act of 1918. Successive Royal Commissions deliberated on the problem of creating an effective and efficient working force and from their findings and recommendations emerged the concept of a quasi-judicial body, with a large measure of autonomy and with jurisdiction over nearly the whole of the public service.

Recruitment.—The recruitment of civil servants is conducted by means of open competitive examinations. In the past 29 years more than 1,000,000 applicants for Civil Service posts have been examined by the Commission. Examinations are held periodically as the staff requirements of the public service dictate. Positions located throughout the country are treated in this respect in the same manner as

* Revised by the Secretary of the Civil Service Commission, except where otherwise indicated.

positions at Ottawa, but applicants for local positions must be bona fide residents of the locality in each case, whereas any Canadian citizen is entitled to apply for positions open at Ottawa. Competitive examinations are announced through posters displayed on the public notice boards of post offices, offices of the National Employment Service, public libraries and elsewhere.

The relative capacities of applicants are measured by objective tests designed and administered by the Commission. The nature of the test varies with the class of position and it may be of the written or oral type, or a combination of the two. For certain classes of positions ratings are based entirely on the education and experience of applicants as given on their application forms.

The names of persons successful in Civil Service examinations, arranged in order of rank, are recorded on "eligible lists". Examination results are formally announced by publication in the *Canada Gazette* and each candidate—successful or unsuccessful—is advised of his standing. As required, appointments are made from eligible lists, which remain valid for one year.

The statutory veterans' preference which had existed for veterans of the First World War was extended to the new veterans and it has proved to be a major factor in occupational rehabilitation. During 1947, approximately 75 p.c. of all male appointees to Civil Service posts across the country were veterans.

Position-Classification and Compensation.—Provision was made in the Civil Service Act for the classifying of positions in the public service. A system of position-classification accordingly was instituted in 1919 and all positions with like duties and responsibilities were classified alike and remunerated equally. Through the years the original classification has been extensively revised, many new classes added and others discontinued as the administrative programs and practices of Government Departments have evolved. The determination of rates of compensation for each class is a continuing responsibility of the Commission and salary and wage surveys are conducted constantly. Position-classification is the mainspring in the Commission's primary function of recruitment, involving, as it does, the fixing of standards of qualification for each class of position.

Salaries and appointments were controlled during the Second World War by a special set of regulations authorized by various Orders in Council, chiefly P.C. 1/1569 and 32/1905 of Apr. 19 and May 10, 1940. Since the end of the Second World War, salary controls have been progressively relaxed and the Commission has recommended upward revisions in salary for certain general classes and for particular positions the duties of which had substantially increased during the preceding six years.

Organization and Methods.—Under the terms of the statute the Commission is made responsible for investigating and reporting to the Governor in Council on all matters affecting the organization of departments. In this respect the Commission acts as agent for the executive arm of Government which maintains a constant check on the growth of establishments. In addition to the annual scrutiny of estimates by Parliament, Departments are required to submit for approval all projected staff increases before engaging additional personnel and, under established financial practice, authority to release the funds required to meet such commitments is retained by the Governor in Council. Since the administrative machinery must frequently be adjusted, quantitatively and qualitatively, to meet changing conditions, the Commission is continuously engaged in the study of staffing problems throughout the public service.

In recent years there has been an increasing awareness of the extent to which economical administration depends on the adoption of modern management techniques and devices. The Commission has accordingly sought to give constructive guidance to Departments in respect to matters of organization, systems and methods. In 1948 steps were taken to develop an Organization and Methods Division exclusively for the study of problems of this kind in collaboration with officials directly responsible for major areas of administration. The range and complexity of the activities of present-day government are too generally recognized to require emphasis and, in these circumstances, the development of a specialized service directed at increasing the efficiency of the operating machinery of the public service is a significant event.

Staff Training.—Systematic in-service training of departmental staffs aimed at increasing the general efficiency of the Civil Service is a comparatively recent development in the field of personnel management. The first series of courses for supervisors was introduced in 1944 in collaboration with the Canadian Vocational Training Division of the Department of Labour. This joint arrangement was continued with most satisfactory results until early in 1947, when it was decided to create a Staff Training Division within the Civil Service Commission. Parallel Training Divisions are being established in the majority of Departments. A broadly based training program is envisioned and courses designed to meet specific training needs are being rapidly developed. The leader-conference method has been adopted as most effective for this purpose, and visual aids including sound films are used extensively. The key to efficiency in administration is the development of supervisory personnel in their relationships with staff in terms of instruction, direction and discipline. Supervisory training has, therefore, been the first aim of the program. During 1947 orientation or induction training was introduced to aid the new employee in making the adjustment to public service employment and quickly identifying himself with the objectives of the unit to which he is appointed. Wide publicity throughout the public service has been given to courses on the secondary school and university levels that are available through night school, or by correspondence, from local and national educational institutions, and civil servants are being encouraged to use these means to improve their academic standing and technical skills.

Promotions.—Promotions among the personnel of Departments are made through competitive examinations which are held as vacancies occur. It is a prime object of the Civil Service Act to create a career service and the system of position-classification is particularly suitable to the advancement of employees by promotion. Promotions, however, are limited by law to the ranks of the permanent Civil Service, which at present is a small proportion of the total. The preponderance of temporary staff is a legacy of the Second World War period when few permanent appointments were made. This condition is gradually being changed as wartime units are liquidated and the structure of post-war administration emerges.

Civil Service Statistics.*—Since April, 1924, a monthly return of personnel and salaries has been made by each Department of the Government to the Dominion Bureau of Statistics, according to a plan that ensures comparability between Departments and continuity in point of time. The institution of this system was preceded by an investigation covering all years following 1912.

* Revised in the Public Finance Division, Dominion Bureau of Statistics.

From 1914 to 1920, the number of employees increased very rapidly as a result of the extension of the functions of government and of the imposition of new taxes which necessitated additional officials as collectors. New services, such as the Department of Pensions and National Health and the Soldier Settlement Board, were also created during this period. In January, 1920, 47,133 persons were employed; this number was the highest reached prior to January, 1940, when employees numbered 49,739.

Between March, 1939, and March, 1947, there was an increase of 79,231 in the total number of permanent and temporary employees. The bulk of this wartime increase was accounted for as follows: Department of National Defence, 21·8 p.c.; new wartime Departments and Boards (Reconstruction and Supply, National Film Board, Canadian Information Service, Wartime Prices and Trade Board), 7·6 p.c.; Unemployment Insurance Commission, 10·7 p.c.; and 23·6 p.c. in Veterans Affairs and Soldier Settlement and Veterans' Land Act Departments combined.

Despite the large wartime increase in the total Civil Service employment, the number of permanent employees was less in March, 1947, than in March, 1939. The number of temporary employees, however, increased steadily during the war years. Consequently, in March, 1947, temporary employees represented 76·2 p.c. of the total as compared with 30·3 p.c. of the total in March, 1939, and 34·5 p.c. of the total in March, 1925, the first year for which these statistics were published.

The following sequence of tables is condensed from a recently published historical series covering the years 1937 to 1947. Table **9** gives the total numbers and percentages of permanent and temporary Civil Service employees in the month of March over the period. Table **10** gives comparable information regarding salaries and wages paid during each of the fiscal years of the period. Tables **11** and **12** give parallel data to those shown in Tables **9** and **10** but limited to the permanent and temporary employees employed at departmental headquarters. Tables **13** and **14** give index numbers of permanent and temporary employees and of wages paid to them for the same years of the series. Table **15** gives detailed information of employees and expenditures by Departments and Branches for the months of March, 1946 and 1947.

9.—Numbers and Percentages of Permanent and Temporary Civil Service Employees, Months of March, 1937-47

NOTE.—Figures for the years 1925-36 will be found at p. 1141 of the 1946 Year Book.

Month of March—	Permanent		Temporary		Total
	Total	P.C. of Total	Total	P.C. of Total	
	No.		No.		No.
1937	30,678	71·6	12,158	28·4	42,836
1938	32,308	73·2	11,835	26·8	44,143
1939	32,132	69·7	13,974	30·3	46,106
1940	30,948	62·2	18,791	37·8	49,739
1941	30,149	45·0	36,777	55·0	66,926
1942	29,524	35·2	54,257	64·8	83,781
1943	28,708	27·6	75,347	72·4	104,055
1944	29,343	26·0	83,315	74·0	112,658
1945	30,240	26·1	85,668	73·9	115,908
1946	31,088	25·8	89,469	74·2	120,557
1947	29,787	23·8	95,550	76·2	125,337

10.—Salaries and Wages and Percentages Paid to Permanent and Temporary Civil Service Employees, Years Ended Mar. 31, 1937-47

NOTE.—Figures for the years 1925-36 will be found at p. 1141 of the 1946 Year Book.

Year Ended Mar. 31—	Permanent		Temporary		Total
	Total	P.C. of Total	Total	P.C. of Total	
	$'000		$'000		$'000
1937	51,335	82·0	11,243	18·0	62,578
1938	55,292	82·7	11,588	17·3	66,880
1939	56,264	80·8	13,357	19·2	69,621
1940	57,154	78·1	16,044	21·9	73,198
1941	56,108	66·0	28,857	34·0	84,965
1942	57,609	53·1	50,815	46·9	108,424
1943	58,747	41·5	82,955	58·5	141,702
1944	60,358	35·9	107,614	64·1	167,972
1945	64,189	35·6	115,959	64·4	180,148
1946	66,440	34·8	124,388	65·2	190,828
1947	70,985	31·7	152,792	68·3	223,777

11.—Numbers and Percentages of Permanent and Temporary Civil Service Employees at Departmental Headquarters, Ottawa, Months of March, 1937-47

NOTE.—Figures for the years 1925-36 will be found at p. 1142 of the 1946 Year Book.

Month of March—	Permanent				Temporary				Total
	Total	P.C. of Total H.Q.	P.C. of Total Perm.	P.C. of Total Perm. and Temp.	Total	P.C. of Total H.Q.	P.C. of Total Temp.	P.C. of Total Perm. and Temp.	
	No.				No.				No.
1937	7,386	63·2	24·1	17·2	4,305	36·8	35·4	10·0	11,691
1938	7,731	66·2	23·9	17·5	3,941	33·8	33·3	8·9	11,672
1939	7,564	63·8	23·5	16·4	4,284	36·2	30·7	9·3	11,848
1940	7,507	53·5	24·3	15·1	6,513	46·5	34·7	13·1	14,020
1941	7,419	37·9	24·6	11·1	12,174	62·1	33·1	18·2	19,593
1942	7,221	26·9	24·5	8·6	19,614	73·1	36·2	23·4	26,835
1943	6,829	21·4	23·8	6·6	25,108	78·6	33·3	24·1	31,937
1944	6,765	20·3	23·1	6·0	26,564	79·7	31·9	23·6	33,329
1945	6,777	19·5	22·4	5·8	27,963	80·5	32·6	24·1	34,740
1946	6,772	20·2	21·8	5·6	26,835	79·8	30·0	22·3	33,607
1947	6,582	22·0	22·1	5·3	23,276	78·0	24·4	18·6	29,858

12.—Salaries and Wages and Percentages Paid to Permanent and Temporary Civil Service Employees at Departmental Headquarters, Ottawa, Years Ended Mar. 31, 1937-47.

NOTE.—Figures for the years 1925-36 will be found at p. 1142 of the 1946 Year Book.

Year Ended Mar. 31—	Permanent				Temporary				Total
	Total	P.C. of Total H.Q.	P.C. of Total Perm.	P.C. of Total Perm. and Temp.	Total	P.C. of Total H.Q.	P.C. of Total Temp.	P.C. of Total Perm. and Temp.	
	$'000				$'000				$'000
1937	13,932	77·0	27·1	22·3	4,151	23·0	36·9	6·6	18,083
1938	15,008	79·4	27·1	22·4	3,890	20·6	33·6	5·8	18,898
1939	15,175	77·7	27·0	21·8	4,347	22·3	32·5	6·2	19,522
1940	15,227	73·5	26·6	20·8	5,492	26·5	34·2	7·5	20,719
1941	15,318	58·6	27·3	18·0	10,843	41·4	37·6	12·8	26,161
1942	15,589	46·6	27·1	14·4	17,882	53·4	35·2	16·5	33,471
1943	15,724	34·9	26·8	11·1	29,292	65·1	35·3	20·7	45,016
1944	15,910	31·0	26·4	9·5	35,368	69·0	32·9	21·1	51,278
1945	16,036	29·5	25·0	8·9	38,320	70·5	33·0	21·3	54,356
1946	16,333	29·3	24·6	8·6	39,366	70·7	31·6	20·6	55,699
1947	17,180	30·2	24·2	7·7	39,703	69·8	26·0	17·8	56,883

13.—Index Numbers of Permanent and Temporary Civil Service Employees, Months of March, 1937-47

NOTE.—Figures for the years 1925-36 will be found at p. 1143 of the 1946 Year Book.

(March 1925=100)

Month of March—	Employed at Departmental Headquarters			Employed Other than at Departmental Headquarters			All Employed		
	Total	Perm.	Temp.	Total	Perm.	Temp.	Total	Perm.	Temp.
1937	116	114	119	108	122	80	110	120	91
1938	116	119	109	113	129	80	113	127	88
1939	117	117	119	119	129	99	118	126	104
1940	139	116	180	124	123	125	128	121	140
1941	194	115	337	164	119	251	172	118	274
1942	266	111	543	197	117	353	215	116	404
1943	316	105	695	250	115	512	267	112	561
1944	330	104	735	275	119	579	289	115	621
1945	344	105	774	281	123	588	298	118	638
1946	333	105	743	301	128	639	310	122	667
1947	296	102	644	331	122	737	322	117	712

14.—Index Numbers of Total Salaries and Wages Paid to Permanent and Temporary Civil Service Employees, Years Ended Mar. 31, 1937-47

NOTE.—Figures for the years 1925-36 will be found at p. 1143 of the 1946 Year Book.

(Year ended Mar. 31, 1925=100)

Year Ended Mar. 31—	Employed at Departmental Headquarters			Employed Other than at Departmental Headquarters			All Employed		
	Total	Perm.	Temp.	Total	Perm.	Temp.	Total	Perm.	Temp.
1937	114	117	107	109	129	59	110	126	70
1938	120	126	100	117	139	64	118	135	73
1939	123	127	112	122	142	75	123	138	84
1940	131	128	141	128	145	87	129	140	101
1941	165	128	279	143	141	149	150	137	181
1942	212	131	460	183	145	273	191	141	318
1943	285	132	754	236	149	444	249	144	520
1944	324	133	910	285	154	598	296	148	674
1945	343	134	986	307	166	643	317	157	726
1946	352	137	1,013	330	173	704	336	163	779
1947	360	144	1,022	407	186	936	394	174	957

15.—Civil Service Employees and Total Expenditures on Salaries and Wages, by Departments and Principal Branches, March, 1946 and March, 1947

NOTE.—Dashes in this table indicate that no information is available for the corresponding stub items. The number of persons in the "non-enumerated classes" is not included in this table, but their compensation is included under "Expenditure".

Department and Branch	March, 1946		March, 1947	
	Employees	Expenditure	Employees	Expenditure
	No.	$	No.	$
Agriculture—				
Departmental Administration	111	17,501	114	20,343
Marketing Service	726	120,925	777	169,045
Production Service	1,197	218,791	1,282	249,779
Experimental Farms	516	176,099	567	210,146
Science Service	585	110,700	744	159,601
Prairie Farm Rehabilitation	194	71,130	173	39,518
Prairie Farm Assistance Act	66	45,523	57	18,389
Special War Services	130	25,903	–	–
Agricultural Prices Support Act	10	3,300	7	1,760
Demobilization and Reconversion	–	–	112	22,057
Totals, Agriculture	3,535	789,872	3,833	890,638

15.—Civil Service Employees and Total Expenditures on Salaries and Wages, by Departments and Principal Branches, March, 1946, and March, 1947—continued

Department and Branch	March, 1946		March, 1947	
	Employees	Expenditure	Employees	Expenditure
	No.	$	No.	$
Atomic Energy Control Board	–	–	5	1,502
Auditor General	247	41,183	198	31,208
Chief Electoral Officer	12	2,506	12	2,606
Civil Service Commission	684	96,448	618	90,939
External Affairs—				
Prime Minister's Office	29	5,647[1]	31	6,820[1]
Administrative	231	38,453	298	57,821
Passport Offices	57	5,658	62	7,402
International Civil Aviation Organization, Montreal	2	1,133	3	1,284
High Commissioner's Office, London, England	76	16,605[1]	75	17,447[1]
High Commissioner's Office, Canberra, Australia	10	2,345[1]	8	1,239[1]
High Commissioner's Office, Wellington, N.Z.	5	2,042[1]	10	2,726[1]
High Commissioner's Office, Dublin, Ireland	8	2,448[1]	9	2,977[1]
High Commissioner's Office, Pretoria, South Africa	5	1,767[1]	6	1,912[1]
High Commissioner's Office, St. John's, Nfld.	6	2,307[1]	6	2,292[1]
High Commissioner's Office, Delhi, India	–	–	5	1,909
Canadian Embassy, Rio de Janeiro, Brazil	12	4,717[1]	14	5,108[1]
Canadian Embassy, Washington, U.S.A.	39	11,889[1]	46	16,102[1]
Canadian Embassy, Mexico City, Mexico	15	4,906[1]	14	4,068[1]
Canadian Embassy, Moscow, Russia	15	4,766[1]	16	4,829[1]
Canadian Embassy, Santiago, Chile	9	1,732[1]	9	3,550[1]
Canadian Embassy, Paris, France	33	10,363[1]	36	11,196[1]
Canadian Embassy, Chungking, China	16	5,681	14	4,564
Canadian Embassy, Lima, Peru	9	3,326[1]	8	2,389[1]
Canadian Embassy, Brussels, Belgium	16	5,010[1]	18	6,335[1]
Canadian Embassy, Buenos Aires, Argentina	10	4,473[1]	11	4,449[1]
Canadian Embassy, Athens, Greece	11	1,999	14	4,233[1]
Canadian Legation, Havana, Cuba	7	3,669[1]	7	3,248[1]
Canadian Legation, The Hague, The Netherlands	10	3,648[1]	13	4,020[1]
Canadian Legation, Oslo, Norway	6	3,384[1]	7	1,915[1]
Canadian Legation, Prague, Czechoslovakia	–	–	3	680
Canadian Legation, Stockholm, Sweden	–	–	–	268[1]
Canadian Representation at International Conferences	–	–	1	777
Consular Services, New York, U.S.A.	10	3,950[1]	12	4,616[1]
Consular Services, Godthaab, Greenland	1	292[1]	–	–
Consular Services, Lisbon, Portugal	1	257	1	201[1]
Consular Services, Portland, U.S.A.	1	252	–	557[1]
Canadian Military Mission, Germany	–	1,062[2]	3	2,742[1]
Canadian Liaison Mission, Japan	–	–	4	1,761[1]
Special Messengers	–	–	6	3,908[1]
Totals, External Affairs	650	153,781	770	195,345
Finance—				
Main Department	826	94,777	716	97,525
Comptroller of Treasury	8,243	1,064,666	5,546	824,214
Royal Canadian Mint	286	40,800	286	41,856
Tariff Board	13	3,412	12	3,301
Wartime Prices and Trade Board	5,492	781,220	4,279	661,821
Totals, Finance	14,860	1,984,875	10,839	1,628,717
Fisheries	361	97,191	350	121,877
Governor General's Secretary[3]	10	2,244	11	3,151
House of Commons	573	68,851	530	88,480
Insurance	53	11,806	54	12,380
International Joint Commission	5	2,013	3	1,020
Justice—				
Main Department	61	12,805	68	15,065
Clemency Branch	12	2,327	14	2,559
Purchasing Agent's Office	7	907	7	1,093
Penitentiaries	988	154,635	1,092	178,875
Supreme Court	23	4,478	24	4,876
Exchequer Court	11	2,060	14	2,527
Combines Investigation	11	2,705	20	5,182
Totals, Justice	1,113	179,917	1,239	210,177

[1] Includes living allowances. [2] Living allowances only; no number included as salary paid by another Department. [3] Salaries of A.D.C.'s are included, but not their number.

15.—Civil Service Employees and Total Expenditures on Salaries and Wages, by Departments and Principal Branches, March, 1946, and March, 1947—continued

Department and Branch	March, 1946		March, 1947	
	Employees	Expenditure	Employees	Expenditure
	No.	$	No.	$
Labour—				
Main Department	445	115,145	835	224,891
Special War	914	174,414	–	–
Unemployment Insurance	8,477	1,388,469	8,493	1,320,826
Totals, Labour	9,836	1,678,028	9,328	1,545,717
Library of Parliament	27	5,625	28	6,066
Mines and Resources—				
Departmental Administration	56	11,398	62	12,272
Immigration	760	130,411	922	169,734
Indian Affairs	1,016	108,777	715	100,675
Lands, Parks and Forests	737	100,942	782	118,966
Mines and Geology	608	115,922	640	134,423
Surveys and Engineering	1,184	102,504	721	120,179
Totals, Mines and Resources	4,361	569,954	3,842	656,249
National Defence—				
General Defence Administration	78	15,836	445	77,493
Militia Services	622	124,355	9,034	1,082,687
Naval Services	3,337	1,596,248	2,460	1,146,225
Air Services	6,003	678,590	4,968	641,988
Military Topographic Surveys	11	2,802	11	3,400
Royal Military College	52	6,687	118	15,254
Inspection Board of Canada	1	500	731	109,266
Public Relations	11	1,398	7	1,157
Army Internment Operations	28	3,646	2	359
Director of Chemical Warfare	51	9,249	158	12,257
Emergency Militia	8,770	926,187	–	–
Dependents' Board of Trustees	264	28,642	17	3,616
Defence Research Establishments	–	–	195	37,072
Northwest Highway System	–	–	428	94,791
Dependents' Allowance Board	–	–	91	17,239
Totals, National Defence	19,228	3,394,140	18,665	3,242,804
National Health and Welfare—				
Departmental Administration	144	20,690	192	29,091
Health	406	84,243	490	106,792
Welfare	508	68,315	717	102,721
Indian Health Services	–	–	457	65,748
War Appropriation	26	5,246	–	–
National Film Board	746	129,142	661	123,799
Totals, National Health and Welfare	1,830	307,636	2,517	428,151
National Research Council	1,379	266,209	2,241	369,895
National Revenue—				
Main Department	4,662	793,470	4,993	1,012,480
Income Tax Division	7,109	915,917	7,430	1,068,588
Totals, National Revenue	11,771	1,709,387	12,423	2,081,068
National War Services	45	8,071	5	1,317
Post Office—[1]				
Civil Government	1,143	150,036	1,145	169,515
Outside Service	14,109	7,243,992	15,354	7,941,332
War Appropriation	4	425	–	–
Totals, Post Office	15,256	7,394,453	16,499	8,110,847
Privy Council	43	8,584	43	8,952
Canadian Information Service	109	19,445	120	24,329
Public Archives	52	9,697	57	10,827
Public Printing and Stationery	771	126,507	783	137,837

[1] Statistics do not include the numbers of postmasters of revenue offices. It should also be noted that post-office expenditures are balanced by receipts from the public.

15.—Civil Service Employees and Total Expenditures on Salaries and Wages, by Departments and Principal Branches, March, 1946, and March, 1947—concluded

Department and Branch	March, 1946		March, 1947	
	Employees	Expenditure	Employees	Expenditure
	No.	$	No.	$
Public Works—				
Civil Government	312	64,553	325	65,313
Outside Service	5,872	552,397	6,016	649,138
Totals, Public Works	6,184	616,950	6,341	714,451
Reconstruction and Supply	1,925	311,693	986	184,261
Royal Canadian Mounted Police	459	422,531	422	437,207
Secretary of State	457	75,219	470	86,516
Senate	141	21,604	153	24,292
Soldier Settlement and Veterans' Land Act	1,411	215,609	1,831	308,296
Trade and Commerce—				
Headquarters and Miscellaneous Branches	926	176,270	914	195,999
Board of Grain Commissioners	797	140,761	801	152,278
Dominion Bureau of Statistics	1,041	137,772	1,464	224,121
Canadian Government Elevators	143	22,074	139	26,646
Totals, Trade and Commerce	2,907	476,877	3,318	599,044
Transport—				
Main Department	7,305	1,167,489	7,373	1,319,608
Transport Commissioners	85	19,563	122	27,412
Air Transport Board	42	13,470	41	9,304
Totals, Transport	7,432	1,200,522	7,536	1,356,324
Veterans Affairs	12,830	2,140,292	19,267	2,803,064
Grand Totals	**120,557**	**24,409,720**	**125,337**	**26,415,554**

Section 5.—Supervision of Race-Track Betting

The supervision of race-track betting, under the pari-mutuel system, has been under the jurisdiction of the Minister of Agriculture since it first operated during the racing season of 1921. The actual supervision is carried out by officers of the Royal Canadian Mounted Police. During the war years the statistics under this heading were dropped from the Year Book. Those last published were for the years 1930-39 and were given at p. 965 of the 1941 edition. The following table links in with the 1941 Year Book and brings the data on a comparable basis up to the year 1946.

16.—Race-Track Betting in Canada, Years Ended Mar. 31, 1939-46, and by Provinces, 1946

NOTE.—Figures for the years 1924-38 are given at p. 1076 of the 1940 Year Book.

Year	Associations	Days Racing	Amounts Wagered	Pari-Mutuel Receipts Retained	Prize Money
	No.	No.	$	$	$
Totals, 1939	**26**	**285**	**21,695,523**	**1,594,438**	**1,070,770**
Totals, 1940	**26**	**284**	**21,355,037**	**2,189,746**	**1,051,824**
Totals, 1941	**25**	**282**	**21,363,629**	**2,107,025**	**1,073,625**
Totals, 1942	**24**	**275**	**25,470,913**	**2,531,126**	**1,061,290**
Totals, 1943	**22**	**283**	**33,145,013**	**3,137,726**	**1,178,550**
Totals, 1944	**25**	**298**	**37,068,199**	**3,487,489**	**1,427,582**
Totals, 1945	**26**	**307**	**42,193,258**	**3,944,758**	**1,588,345**
1946					
Quebec	3	42	1,713,576	161,979	188,000
Ontario	9	116	30,713,904	2,813,354	912,300
Manitoba	2	28	4,505,347	435,662	170,500
Saskatchewan	3	15	816,978	89,269	41,300
Alberta	5	41	3,223,909	324,167	149,690
British Columbia	5	63	7,693,792	836,477	354,900
Totals, 1946	**27**	**305**	**48,667,506**	**4,660,908**	**1,816,690**

CHAPTER XXXI.—SOURCES OF OFFICIAL STATISTICAL AND OTHER INFORMATION RELATIVE TO CANADA

CONSPECTUS

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Section 1.—Sources of Dominion General Information

The chief source of statistical information on all phases of the economy of Canada is the Dominion Bureau of Statistics where the decennial and quinquennial censuses are planned and statistical information of all kinds—Dominion and Provincial—is centralized. In regard to information that is not mainly statistical the individual Departments concerned with the particular subject, as indicated in the Directory, Section 2 of this Chapter, should be approached. Certain Government bodies and national agencies, because of the nature of their work and the appeal it has to broad sections of the population, are organized primarily as information or publicity agencies. Among these are the Information Division, Department of External Affairs which deals with questions about External Affairs originating in Canada and with general requests, originating abroad, for information on Canada and Canadian affairs; the Trade Publicity Division, Department of Trade and Commerce; the Canadian Broadcasting Corporation; and the National Film Board. The Departments of Agriculture and Mines and Resources, while not thus classed, are interested in the dissemination of information to a greater extent than most other Government Departments, and several other Departments have Publicity Branches or Public Relations Divisions.

All Government Departments, with few exceptions, issue their own lists of reports and publications. They must, according to statute, publish Annual Reports which are tabled each year in the House of Commons by their respective Ministers. However, for the purpose of this Section, the descriptions given below are limited to the five special publicity services specified in the first paragraph above. Section 2, on the other hand, has been prepared with the purpose of presenting to the reader a Directory of all sources of information, Dominion and Provincial. The purpose is to direct the reader who is not in touch with governmental organization to the proper channels from which he can draw material relating to any particular subject.

The Dominion Bureau of Statistics.—The Dominion Bureau of Statistics was set up by statute in 1918 as a central statistical department for Canada (8-9 Geo. V, c. 43).* The Act was a consolidation of all previous statistical legislation and was based on the report of a Commission on Statistics, appointed in 1912, which recommended (1) a series of specific reforms and enlargements in Canadian

* This statute, consolidated as the Statistics Act (R.S.C., 1927, c. 190) was repealed and replaced by the Statistics Act, 11-12 Geo. VI, c. 45.

statistics, and (2) a policy of statistical co-ordination for the Dominion, under central direction. In 1915, following the recommendations in this Report, the office of Dominion Statistician was created but it was not until 1918 that the recommendations of the Commission were embodied in legislation.

The chief aims of the Bureau of Statistics are:—

(1) To furnish factual data for administration and government.
(2) To assist in developing Canada as a well-informed nation by standing ready to help business men and individuals to plan their enterprises and their lives.

It is in regard to the second of these aims that this review is concerned.

Inquiries.—Literally, hundreds of individual requests for specific information are received in the Bureau each day, routed through the main Divisions and answered as expeditiously as possible. Since the field of effort covers, from the statistical side, all phases of the national economy, there is scarcely a subject upon which the Bureau is not able to give some information. This will be emphasized from a glance at the Directory following. Nevertheless, it is only in regard to statistical questions that inquiries should be directed to this Bureau.

Publications.—The Dominion Bureau of Statistics is the largest publishing department of the Federal Government: the subjects of its reports cover all phases of the national economy. Items in the vote of the Bureau, passed by Parliament each year, provide limited funds for the printing and processing of reports and bulletins. Reports printed from type are set up by the King's Printer, but the Bureau itself operates its own offset printing presses and all processed reports and bulletins are completely printed as well as published by the Bureau of Statistics.

The present policy with regard to the distribution of publications is based on sales to the public at actual cost of paper and press-work only; compilation, editing and other overhead costs are not included. The object is to extend the service to the public as widely as possible and so spread the compilation and overhead, which are the big items in total costs. A special subscription rate of $30 per year entitles the subscriber to receive a copy of each publication as issued, with the exception of news bulletins. Other special rates are set for series of publications in related groups such as:—

1. Administration
2. Agricultural Production
3. Economic and Business Conditions
4. Education
5. Finance
6. Industrial Production
7. Labour and Prices, Unemployment and Earnings
8. Population
9. Trade, Domestic (including Merchandising) and Foreign
10. Transportation, Communications and Public Utilities
11. Vital Statistics, Criminal Statistics, and Welfare Institutions

Applications for reports should be sent to the Bureau of Statistics; they should indicate the individual publication or series of reports in which the applicant is interested and include the necessary remittance in the form of a cheque or money-order made payable to the Receiver General of Canada, Ottawa.

Information Division, Department of External Affairs.—The task of this agency is to make Canada better known abroad and to encourage interest in and understanding of international affairs within Canada.

The Division prepares for Canadian missions abroad—Embassies, Legations, Consulates and Trade Commissioners' Offices—a regular supply of information material on developments in Canada. Reference papers, booklets, features, photo-

graphs, posters and other graphic material dealing with Canada thus are distributed throughout the world. Information Officers are attached to the staff of Canadian missions at New York, London, Washington, Paris and Canberra.

The Division maintains an Enquiries Section at Ottawa to deal with questions about Canada received from abroad and questions on international affairs received from within Canada. The Division offers special facilities to journalists, writers and commentators visiting Canada, and for Canadian speakers abroad. It supervises the Department's library and takes a special interest in Canada's cultural relations abroad.

Domestically, the Division is responsible for departmental press conferences, press releases, handling of press inquiries and for the provision of information relating to external affairs and the work of the Department. It also co-ordinates the activities of all Canadian Government agencies engaged in and interested in disseminating Canadian information abroad. It is normally responsible for Canadian information arrangements at international conferences both in Canada and elsewhere.

Trade Publicity Division, Department of Trade and Commerce.—This Division works through the Trade Commissioner Service along parallel lines to the Information Division of the Department of External Affairs, except that its field is not so broad and it specializes on trade information, although it also features material of a general nature. Again, it distributes information outside Canada through Trade Commissioners and within the Dominion among business men, commercial agencies and the public generally. Its chief organ is *Foreign Trade* which is published weekly.

Canadian Broadcasting Corporation.—Since radio broadcasting was made possible by progress in the field of wireless telegraphy following the First World War, this medium has become a rival means of giving information to the public along with newspapers, films and other means of communication. This is true in all countries whether, as in the United States, the systems are privately owned or whether, as in Canada and the United Kingdom, they are organized on a national basis.

The Canadian Broadcasting Corporation, since its establishment in 1936, has indeed become one of the most effective channels through which information, official and unofficial, is broadcast to the Canadian people. Because of the widely distributed population, especially of the sparsely peopled areas of the northwest and the far north, radio is relatively more important to Canada than to any other people. Without it the country could not be so effectively linked as it is, for to-day the posts of the far north can receive their news and enjoy the entertainments that the radio provides equally with their fellow citizens living at Halifax, N.S., Montreal, Que., or Vancouver, B.C.

News broadcasts and information programs occupy a considerable proportion of national and regional network time. They include news, drama, informative talks, children's programs, religious programs, school broadcasts, public service broadcasts, sports, women's activities, etc.

An important development brought about by the War is the rebroadcasting to Canadian listeners of world news broadcast from international centres and picked up by the CBC short-wave receiving stations. Thus it is that CBC is taking its rightful place among the official sources of information available to Canadians.

Through the International Shortwave Service operated by the CBC, programs are broadcast daily in ten languages: English, French, Czech, Dutch, Danish, Norwegian, Swedish, German, Spanish and Portuguese. The transmitters are located at Sackville, N.B., and the programs are beamed to Europe, the West Indies, Central and South America. By this Service, information on life in Canada and on economic conditions is broadcast abroad as part of the general information plan for promoting a better understanding of Canada in other countries.

National Film Board.—The Canadian Government, through the National Film Board, produces films, filmstrips, photographs, photo displays, posters, wall-hangers, booklets and other graphic material for distribution in Canada and abroad.

The Board is made up of two Ministers of the Federal Government, three senior Civil Servants, and three members of the public chosen for their interest in film and knowledge of its importance as an instrument of public policy. The chief executive officer is the Film Commissioner, whose responsibility it is to direct, advise upon and co-ordinate Government film services in Canada. Besides its own considerable production program of informative films and graphic materials, the Board is also the production and distribution agency for films for all Departments of the Government.

The Board produces one or more monthly theatrical releases in English and French for distribution to theatres throughout Canada. An extensive non-theatrical distribution is maintained through the medium of rural circuits operating in every province, and through film libraries in over 200 urban centres. To service the field, regional offices are maintained in every province.

Newsreel stories dealing with many aspects of Canadian life are also produced by the Board and are distributed throughout the world by the principal newsreel companies at New York, U.S.A., and London, England. The National Film Board's technicians keep abreast of recent developments in colour production, stereoscopic films and television. Many Canadian films are featured on television programs in the United States and the United Kingdom.

The Board's films and other productions are widely distributed in the United States, the United Kingdom, Australia, Central and South America and other countries through the Board's offices at New York, Chicago and Washington in the United States; Mexico City, Mexico; Sydney, Australia; and London, England; and through Canadian trade and diplomatic offices. Other distribution channels are through commercial theatres and Government and other non-theatre film circuits. In all, distribution of the Board's productions was carried out in fifty countries during 1947.

The Board's films and photographs have helped to clarify Canada's position in the international scene at such world gatherings as the Food and Agriculture Organization Conference at Quebec, the San Francisco Conference, the International Labour Organization Conference at Philadelphia, the UNRRA Conference at Montreal, the Quebec Conferences, the UNESCO Conference at Paris and the United Nations gatherings at New York.

In addition to films and other graphic materials produced in the English and French languages, the Board has produced or secured the production of Canadian films in French for distribution in France and her colonies; in Spanish for Latin America; in Portuguese for Brazil, Portugal, Portuguese West Africa and Portuguese Guinea; in Danish and Swedish for Scandinavia, Greenland and Iceland; in Dutch for the Netherlands, Indonesia and the Netherlands Antilles; in German for Switzerland, Austria and the British and American occupied zones of Germany; in Russian and Ukrainian for the U.S.S.R.; in Turkish for Turkey; and in Arabic for Egypt, Tripolitania, Cyrenaica, Lebanon, Syria and Iraq.

The Distribution Division at Ottawa directs the flow of all N.F.B. films through National Film Board offices at London, England; New York and Chicago in the United States; Mexico City, Mexico; through Canadian Embassies, Legations, Trade Commissions, and Information Offices in other countries; and through professional theatrical and non-theatrical distributors within all these territories.

The Board maintains a photographic library of more than 85,000 negatives covering many aspects of Canada, its landscape, resources, industries, agriculture, and the national life and character of the Canadian people. Its photographs are distributed to Government Departments, tourist bureaus, newspapers, magazines and publishing houses within Canada and to Trade Commissioners and other representatives abroad who may request them.

Section 2.—Directory of Sources of Official Information for All Departments (Dominion and Provincial)

Prior to the publication of the 1947 edition of the Year Book, this Chapter on Sources of Official Information was taken up mainly by detailed lists of publications issued by the Federal Government Departments and the Provincial Government Departments. Such lists as these were of value to readers since the Year Book was the only place where publications of this kind were brought together. The rapid increase in the number of printed reports, bulletins and maps that has characterized all publicity efforts in recent years has made it difficult to spare the space in the Year Book to carry such detailed listings.

Moreover, since the Year Book lists were prepared and published on a departmental basis, they became less and less convenient to the reader as the lists increased in length. For instance, several Departments issued reports that could be classified under the broad heading of Agriculture—among these were the Department of Agriculture, the Dominion Bureau of Statistics and the National Research Council, not to mention the Northwest Territories and Yukon Administration.

Without a subject cross-index, it was very difficult for the reader, unless he worked carefully through the individual lists (which required much time and labour), to know just where to go for information he desired under a particular subject heading. Again, the space that could be spared for individual lists did not admit of setting out the material in easily readable form. The size of type as set up in earlier editions was much too small for convenient reading and revisions could be made only once a year at best although, as a rule, such lists were subject to very frequent change.

The King's Printer, Ottawa, now publishes an Official List of all Government publications printed from type. This list, which may be obtained free of charge, is revised at regular intervals and is classified on a subject basis, as well as being adequately cross-referenced. Moreover, most Federal and Provincial Departments that put out near-print publications (either in mimeographed or rotaprinted form) issue lists of these free to the public and very often such lists include the printed publications published by the same Departments, and available through the King's Printer. Such individual lists are far more up to date and are listed and classified for more convenient reference than space in the Year Book will allow.

Apart from the question of publications, however, there is a growing volume of inquiries received from the public relative to all manner of subjects. This also made it desirable to devise some means of guiding the public to the source of information on specific matters. Very few people are acquainted with internal government organization and it is not surprising that inquiries have very often to be routed and rerouted several times before they get to their intended destination.

For these reasons, this Chapter of the Year Book was reconstructed to serve as a Directory by means of which the reader would be led to the basic sources of information in a particular field. Since the organization of government departments is never static, the following subject analysis of federal and provincial sources of information has been brought up to date.

To make best use of this Directory, it is necessary that the reader understand broadly the differences in function between Federal and Provincial Departments and their separate fields of work. For instance, the inquirer who seeks information on forestry may direct his correspondence to either the Dominion Forest Service or the Dominion Bureau of Statistics on the one hand, or to one or all of the Provincial Departments administering the forest resources of the provinces on the other.

Certain fields of effort, such as Trade and Commerce, Customs and Excise, Currency and Banking, Navigation, Transportation, Radio, Census of Population, National Defence etc., are constitutionally federal matters and in such fields the respective Departments at Ottawa are the proper sources with which to communicate. While other fields of effort such as the administration of lands and natural resources, education, roads and highways, and health and hospitals are the responsibility of the provinces under the British North America Act, certain Federal Departments are also concerned with specific aspects of these subjects and, as is the case with the Dominion Bureau of Statistics, in co-ordinating and presenting the picture for Canada as a whole.

As a general guide to the public, it may be pointed out that questions relating to the actual development and administration of resources in the provinces should be forwarded to the particular provinces concerned. The Federal Government, while not administering provincial resources, co-operates closely with the provinces and is in a position to furnish over-all material for Canada, especially production data, on a national basis, marketing data on international, national and provincial bases, research work and experimental station data on a national basis, and also on a provincial basis from Federal Government stations located within particular provinces. In agriculture, for instance, data on the breeding of live stock and the improvement of strains, on agricultural marketing and crop yields are cases in point—in forestry, questions of forest research, forest fire protection and reforestation offer good examples. Where inquiries are directed to Federal sources, they should, as a general rule, be sent to the individual Departments listed in the Directory for information not of a statistical nature but, whatever the subject, where the information required is clearly statistical, they should be addressed to the Dominion Bureau of Statistics.

Bearing these points in mind, the reader will be able to apply the information given in the Directory to best advantage.

In the Directory, symbols are set against individual sources of information to give special information such as availability of detailed lists of publications, the costs of such lists (in cases where a charge is made), or information of other kinds. All Departments whether federal or provincial are prepared to furnish, by letter or otherwise, information in their respective fields, free of charge, although where special compilations are called for, a nominal charge is sometimes made.

The address for all Federal Departments is Ottawa, Ontario. Inquiries forwarded to Provincial Government Departments should be addressed to the provincial capitals concerned:—

Prince Edward Island	Charlottetown
Nova Scotia	Halifax
New Brunswick	Fredericton
Quebec	Quebec
Ontario	Toronto
Manitoba	Winnipeg
Saskatchewan	Regina
Alberta	Edmonton
British Columbia	Victoria

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION

▲ Most publications of Federal Departments printed from type are purchasable from the King's Printer who publishes a current list. Photographs, films and displays may be purchased from the National Film Board at prices obtainable on application. Most Provincial Government printed publications may be obtained from the King's Printers of the provinces. For addresses of Provincial Governments see text immediately preceding this Directory.

□ Near-printed and mimeographed reports free or purchasable from this Department or Branch; particulars on application.

○ Directory of Departmental Organizations and Activities available from the Federal or Provincial Department on request.

● List of Publications available free of charge on request from Federal or Provincial Departments concerned. (In the case of the Labour Department a list of publications is given in the *Labour Gazette*.)

BROAD GENERAL INFORMATION ON CANADA'S RESOURCES AND INSTITUTIONS

▲ SOURCES FOR FEDERAL DATA

(Unless otherwise indicated the location of the Department or Branch is Ottawa, Ont.)

Department of Trade and Commerce
Publicity Division
□●... Dominion Bureau of Statistics
●.....Department of Mines and Resources
Information Service
●.....Department of External Affairs
Information Division (deals with questions about the Department originating in Canada, and with general requests originating in all countries outside Canada)
□●...National Film Board (films, filmstrips, posters, photo-displays, photographs on all subjects)

SOURCES FOR PROVINCIAL DATA ▲●

(For seats of Provincial Governments, see list immediately preceding this Directory)

For broad general information in regard to particular provinces application should be made to: **P.E.I.**, Publicity and Travel Bureau; **N.S.**, Dept. of Trade and Industry; **N.B.**, Dept. of Industry and Reconstruction or Dept. of Provincial Secretary-Treasurer; **Que.**, Bureau of Statistics; **Ont.**, Bureau of Statistics and Research, or Publicity Branch; **Man.**, Travel and Publicity Bureau and Dept. of Provincial Secretary; **Sask.**, Bureau of Publications; **Alta.**, Publicity Office, Alberta Travel Bureau, or Bureau of Statistics; **B.C.**, Bureau of Economics and Statistics.

SUBJECT

AGRICULTURE GENERAL AND FARMING

□○●Department of Agriculture
Publicity and Extension Division
Experimental Farms Service (stations and farms throughout Canada)
□●...Department of Mines and Resources (for Northwest Territories and Yukon and farming on Indian Reservations)
Department of Veterans Affairs (veterans only)
Department of Finance (for farm improvement loans and long-term mortgage loans)
□●...National Film Board (films, photo-displays, photographs)
□●...Dominion Bureau of Statistics

All Provinces except Que., Ont., Man.:—Dept. of Agriculture
Que.:—Dept. of Agriculture, Information and Research Branch
Dept. of Industry and Commerce
Provincial Bureau of Statistics
Ont.:—Dept. of Agriculture, Publicity Branch
Bureau of Statistics and Research
Man.:—Dept. of Agriculture, Publications Branch and Extension
Additional;—**Alta.:**—Provincial Bureau of Statistics
Dominion Bureau of Statistics (summaries of provincial data)..... ●□

ART AND HANDICRAFTS

□●...Department of Mines and Resources
Mines, Forests, and Scientific Services
Indian Affairs Branch (Indian handicrafts)
National Gallery of Canada
□●...National Film Board (films and filmstrips)
Department of Veterans Affairs (veterans only)

N.S.:—Dept. of Trade and Industry, Handicrafts Division
Nova Scotia College of Art
N.B.:—Dept. of Industry and Reconstruction, Handicraft Division
The New Brunswick Museum (Saint John)
Que.:—Provincial Secretary (rural handicrafts)
Ont.:—Royal Ontario Museum
Dept. of Planning and Development, Trade and Industry Branch
Man.:—Dept. of Agriculture (handicrafts)
Sask.:—Dept. of Education, Adult Education Division
Alta.:—Dept. of Economic Affairs (cultural activities)
B.C.:—Provincial Museum (Indian handicrafts)

ATHLETICS

See Physical Fitness

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
□●...National Research Council Atomic Energy Control Board (policy, regulations) Atomic Energy Project (research studies)	ATOMIC ENERGY	
●.....Department of Transport Air Transport Board Bureau of Transport Economics Civil Aviation Division (all matters affecting controls, licences and facilities, such as radio aids and radio licences) Trans-Canada Air Lines Department of National Defence Directorate of Public Relations (Air Force) □●...Department of National Health and Welfare Civil Aviation Medical Division □●...National Film Board (films and photographs) □●...Dominion Bureau of Statistics	AVIATION	**Sask.**:—Saskatchewan Government Airways
Bank of Canada Industrial Development Bank Department of Finance Department of Insurance (for trust and loan business) Department of Reconstruction and Supply Central Mortgage and Housing Corporation Post Office Department, Savings Branch □●...Dominion Bureau of Statistics (for summary statistics)	BANKING Trust and Loan Companies	**Ont.**:—Province of Ontario Savings Office Bureau of Statistics and Research **Alta.**:—Government of Alberta Treasury Branches **B.C.**:—Dept. of Finance, Inspector of Trust Companies Dominion Bureau of Statistics (summaries of provincial data).....●□
	BIRTHS See Vital Statistics	
Department of Public Works Chief Architect's Branch Department of Reconstruction and Supply Central Mortgage and Housing Corporation □●...National Research Council (materials of construction) □●...Dominion Bureau of Statistics	BUILDING CONSTRUCTION	**Ont.**:—Dept. of Labour, Factory Inspection Branch Dept. of Planning and Development, Community Planning Branch **Man.**:—Department of Labour **B.C.**:—Dept. of Labour, Factory Inspection Branch Dominion Bureau of Statistics (summaries of provincial data).....●□
●.....Department of Transport Canal Services □●...Dominion Bureau of Statistics	CANALS	
	CITIZENSHIP See Population	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
	CIVIL AVIATION See Aviation	
	CLIMATE See Weather	
□●...Department of Mines and Resources Mines, Forests, and Scientific Services □●...National Film Board (films, filmstrips, photographs) Dominion Coal Board □●...Dominion Bureau of Statistics	**COAL**	**N.S., Que., Ont.:**—Dept. of Mines **N.B.:**—Dept. of Lands and Mines **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development **Alta.:**—Dept. of Mines **B.C.:**—Dept. of Lands and Forests Dept. of Mines Dominion Bureau of Statistics (summaries of provincial data).....●□
□●...Department of Mines and Resources Lands and Development Services (for wireless communications in Northwest Territories and Yukon, and telephones in National Parks) ●.....Department of Transport Board of Transport Commissioners (regulation of certain telegraph and telephone companies) Radio Division Department of Public Works Telegraph Branch (provides telegraph service in remote areas) □●...Dominion Bureau of Statistics	**COMMUNICATIONS** *For 'Post Office' and 'Mail'* See "Post Office"	**Ont.:**—Municipal Board and Bureau of Statistics and Research **Man.:**—Manitoba Telephone System **Sask.:**—Dept. of Telephones and Telegraphs **Alta.:**—Dept. of Railways and Telephones
Federal District Commission	**COMMUNITY PLANNING**	**Ont.:**—Dept. of Planning and Development, Community Planning Branch **Man.:**—Dept. of Municipal Commissioner **Sask.:**—Dept. of Education **Alta.:**—Dept. of Public Works, Town Planning Board **B.C.:**—Dept. of Trade and Industry Regional Development Division.
□●...Department of Mines and Resources Lands and Development Services Mines, Forests and Scientific Services Federal District Commission □○●Department of Agriculture Experimental Farms Service Economics Division Prairie Farm Rehabilitation Administration	**CONSERVATION**	**P.E.I.:**—Provincial Secretary **N.S.:**—Dept. of Lands and Forests **N.B.:**—Dept. of Lands and Mines **Que.:**—Dept. of Lands and Forests Dept. of Game and Fisheries Dept. of Hydraulic Resources **Ont.:**—Dept. of Lands and Forests Dept. of Planning and Development, Conservation Branch **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development **Alta.:**—Dept. of Lands and Forests **B.C.:**—Dept. of Lands and Forests
Secretary of State Department Privy Council □●...Public Archives □●...Dominion Bureau of Statistics	**CONSTITUTION**	**All Provinces** except **Man.:**—Depts. of Attorney General **Man.:**—Provincial Secretary

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
□○●Department of Agriculture Economics Division	CO-OPERATION	
□●...Dominion Bureau of Statistics	COST OF LIVING	
Department of Justice Clemency Branch The Penitentiary Commission □●...Dominion Bureau of Statistics	CRIME AND DELINQUENCY	**All Provinces:**—Depts. of Attorney General *Additional:*—**N.S.:**—Dept. of Public Welfare **Que.:**—Dept. of Social Welfare and Youth **Ont.:**—Dept. of Reform Institutions **Sask.:**—Dept. of Social Welfare **B.C.:**—Dept. of Health and Welfare Dominion Bureau of Statistics (summaries of provincial data).....●□
Department of Trade and Commerce	CROWN COMPANIES	**Man.:**—Treasury Dept. Manitoba Telephone System Manitoba Power Commission **Sask.:**—Office of Chief Industrial Executive
Bank of Canada Department of Finance Royal Canadian Mint □●...Dominion Bureau of Statistics	CURRENCY	
□○●Department of Agriculture Animal Husbandry Division Dairy Products Division Bacteriology and Dairy Research Division □●...Dominion Bureau of Statistics	DAIRYING	**P.E.I., N.S.:**—Depts. of Agriculture **N.B., Ont., Alta., B.C.:**—Depts. of Agriculture, Dairy Branches (also Milk Control Board for **Ont.** and **Man.**) **Que., Sask.:**—Depts. of Agriculture, Dairy Commissions Dominion Bureau of Statistics (summaries of provincial data).....●□
	DEATHS See Vital Statistics	
Department of National Defence Naval Information Division Directorate of Public Relations (Army) Directorate of Public Relations (Air Force) Defence Research Board □●...National Film Board (films and photographs) Department of Reconstruction and Supply Industrial Defence Board Publicity Branch (*re* Canadian Arsenals Limited)	DEFENCE	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
Bank of Canada Department of Reconstruction and Supply Economic Research Branch ●.....Department of Labour Research and Statistics Branch Legislation Branch □●...Department of Mines and Resources Mines, Forests and Scientific Services □○●Department of Agriculture Economics Division ●.....Department of Transport Bureau of Transport Economics Department of Trade and Commerce Economic Research Division Publicity Division □●...Dominion Bureau of Statistics	ECONOMIC RESEARCH	**N.S.:**—Nova Scotia Research Foundation **N.B.:**—Dept. of Industry and Reconstruction **Ont.:**—Bureau of Statistics and Research **Man.:**—Dept. of Mines and Natural Resources Bureau of Industry and Commerce Executive Council, Economic Advisor **Alta.:**—Dept. of Economic Affairs **Sask.:**—Economic Advisory and Planning Board **B.C.:**—Dept. of Trade and Industry Bureau of Economics and Statistics
Canadian Broadcasting Corporation (School Broadcasts) □●...Department of Mines and Resources Indian Affairs Branch Lands and Development Services □●...Department of National Health and Welfare Department of Veterans Affairs (veterans only) ●.....Department of Labour Canadian Vocational Training Branch □●...Dominion Bureau of Statistics	EDUCATION *For* 'Informational Films' *See* "Motion Pictures"	**All Provinces:**—Depts. of Education (technical, visual, audio and all other phases of education)
□●...Department of Mines and Resources Mines, Forests and Scientific Services □●...National Film Board (films, filmstrips and photographs) □●...Dominion Bureau of Statistics (for central electric stations)	ELECTRIC POWER	**P.E.I.:**—Public Utility Commission **N.B.:**—Electric Power Commission (Saint John) **N.S., Man., Sask., Alta., B.C.:**—Power Commissions **Ont.:**—Hydro-Electric Power Commission **Que.:**—Hydro-Electric Commission *Additional*:—**B.C.:**—Dept. of Lands and Forests
●.....Department of Labour National Employment Service Research and Statistics Branch □●...Dominion Bureau of Statistics	EMPLOYMENT	**Que.:**—Dept. of Labour, Provincial Employment Bureau **Man.:**—Department of Agriculture Farm Labour
Canadian Government Exhibition Commission □○●Department of Agriculture Publicity and Extension Division Department of Trade and Commerce Publicity Division	EXHIBITIONS	**Man.:**—Dept. of Agriculture, Extension Service
□●...Department of Mines and Resources Mines, Forests and Scientific Services	EXPLOSIVES	**B.C.:**—Dept. of Mines
●.....Department of External Affairs Information Division	EXTERNAL AFFAIRS	
□●...Department of National Health and Welfare Family Allowances Division	FAMILY ALLOWANCES	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
□○●Department of Agriculture Field Husbandry Division Plant Products Division □●...National Film Board (films and photographs) □●...Dominion Bureau of Statistics	FIELD CROPS	**P.E.I., N.S., N.B., Que., Man.:**—Depts. of Agriculture **Ont.:**—Dept. of Agriculture, Crops, Seeds and Weeds Branch **Sask., Alta., B.C.:**—Depts. of Agriculture Field Crop Branches Dominion Bureau of Statistics (summaries of provincial data).....●□
Department of Finance Bank of Canada □●...Dominion Bureau of Statistics	FINANCE See *also* Taxation	**P.E.I.:**—Provincial Treasurer **N.S.:**—Dept. of Provincial Secretary **N.B.:**—Dept. of Provincial Secretary-Treasurer **Que., Man., Sask., Alta.:**—Provincial Treasury Depts. **Ont.:**—Provincial Treasurer's Dept. **B.C.:**—Finance Dept.
Department of Insurance Fire Prevention Branch (for fire loss statistics) □●...Department of Mines and Resources Mines, Forests and Scientific Services Board of Transport Commissioners (for inquiries regarding forest-fire protection along railway lines)	FIRE PREVENTION	**All Provinces:**—Provincial Fire Marshals (for urban and rural fire losses) **N.S., Alta., B.C.:**—Depts. of Lands and Forests **N.B.:**—Dept. of Lands and Mines **Que.:**—Dept. of Lands and Forests Forest Protection Service **Ont.:**—Dept of Lands and Forests Forest Protection Division **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development
●.....Department of Fisheries Information Branch Fisheries Research Board of Canada □●...National Film Board (films, photo-displays, photographs) □●...Dominion Bureau of Statistics	FISHERIES	**P.E.I.:**—Dept. of Industry and Natural Resources **N.S.:**—Dept. of Trade and Industry Fisheries Division **N.B.:**—Dept. of Industry and Reconstruction Fisheries Branch **Que.:**—Dept. of Game and Fisheries **Ont.:**—Dept. of Lands and Forests Fish and Wildlife Division **Man.:**—Dept. of Mines and Natural Resources Game and Fisheries Branch **Sask.:**—Dept. of Natural Resources and Industrial Development Fisheries Branch **Alta.:**—Dept. of Lands and Forests Fish and Game Branch **B.C.:**—Dept. of Fisheries Provincial Game Commission
Foreign Exchange Control Board	FOREIGN EXCHANGE	
□●...Department of Mines and Resources Mines, Forests and Scientific Services □●...National Film Board (films, film-strips, photo-displays and photographs) □●...Dominion Bureau of Statistics	FOREST RESOURCES	**P.E.I.:**—Dept. of Reconstruction **N.S., Que., Ont., B.C.:**—Depts. of Lands and Forests **N.B.:**—Dept. of Lands and Mines **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development **Alta.:**—Dept. of Lands and Forests

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
	FRUIT See Horticulture	
	FUEL See Coal, Oil, Forest Resources	
□○●Department of Agriculture Marketing Service (fur grading) Experimental Farms Service (for fur farms) □●...National Film Board (photographs) □●...Dominion Bureau of Statistics (for general fur products statistics)	**FUR FARMING** See Trapping	**P.E.I., N.B., Que., Alta., B.C.:**—Depts. of Agriculture **N.S., Ont.:**—Depts. of Lands and Forests **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources
□●...Department of Mines and Resources Mines, Forests and Scientific Services □●...Public Archives	**GEOGRAPHY**	**Man.:**—Dept. of Mines and Natura Resources **Alta.:**—Geographic Board **B.C.:**—Dept. of Lands and Forests
□●...Department of Mines and Resources Mines, Forests and Scientific Services	**GEOLOGY**	**N.S., B.C.:**—Depts. of Mines **N.B.:**—Dept. of Lands and Mine **Que.:**—Dept. of Mines Geological Surveys Branch **Ont.:**—Dept. of Mines Geological Branch **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development **Alta.:**—Dept. of Mines
Secretary of State (Dominion-Provincial channel of communication) Chief Electoral Office (Electoral Act and Voters Lists) Office of the Privy Council (Cabinet and Ministerial Committees)	**GOVERNMENT** *For* 'Senate of Canada', 'House of Commons', *and* 'Library of Parliament' *See* "Parliament"	**P.E.I.:**—Provincial Secretary **N.S., Ont., Man., Sask., Alta., B.C.:**—Depts. of Provincial Secretary **N.B.:**—Dept. of Provincial Secretary-Treasurer **Que.:**—Office of Provincial Secretary *(For information re Government of Northwest Territories and Yukon refer to—Dept. of Mines and Resources, Lands and Development Services, Ottawa.)*
□●...Department of National Health and Welfare □●...National Film Board (films, film-strips, photo-displays and photographs) □●...Dominion Bureau of Statistics (hospital statistics)	**HEALTH** *For* 'Health of Veterans' *See* "Veterans Affairs"	**P.E.I.:**—Dept. of Health and Welfare **N.S., Sask., Alta.:**—Depts. of Public Health **N.B.:**—Dept. of Health and Social Services **Que., Ont.:**—Depts. of Health **Man.:**—Dept. of Health and Public Welfare **B.C.:**—General Dept. of Health, Mental Hospitals, Dept. of Provincial Secretary
	HIGHWAYS See Transportation	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
□●...Public Archives □●...Department of Mines and Resources Lands and Development Services (for historic sites and monuments) Department of National Defence Directorate of Public Relations (war histories, official war summaries, etc.) □●...Dominion Bureau of Statistics	HISTORY	**N.S.:**—Public Archives **Ont.:**—Legislative Library Bureau of Statistics and Research **Man.:**—Provincial Library and Archives **Sask.:**—Archives Board **B.C.:**—Provincial Archivist, Dept. of Education
□○●Department of Agriculture Marketing Service, Fruit and Vegetable Division Experimental Farms Service, Horticulture Division □●...Dominion Bureau of Statistics	HORTICULTURE	**P.E.I.:**—Dept. of Agriculture **N.S., N.B., Que., Alta., B.C.:**—Depts. of Agriculture, Horticultural Branches **Que.:**—Dept. of Agriculture, Fruit Branch **Ont.:**—Dept. of Agriculture, Agriculture and Horticulture Branches **Man.:**—Dept. of Agriculture
	HOUSING See Building Construction	
□●...Department of Mines and Resources Immigration Branch, Ottawa District Superintendent of Immigration, Winnipeg District Superintendent of Immigration, Vancouver ●.....Department of Labour Immigration-Labour Committee □●...Dominion Bureau of Statistics	IMMIGRATION	**Ont.:**—Dept. of Planning and Development Dept. of Provincial Secretary **Man.:**—Dept. of Agriculture and Immigration **Alta.:**—Dept. of Economic Affairs, Immigration and Economic Development Branch Dominion Bureau of Statistics (summaries of provincial data) ...●□
	INCOME TAX See Taxation	
	INDUSTRIAL DEVELOPMENT See Manufacturing	
Department of Insurance (for Dominion Companies) ●.....Department of Labour Annuities Branch Department of Veterans Affairs Veterans Insurance Branch Department of Trade and Commerce Export Credits Insurance Corporation □●...Dominion Bureau of Statistics (summary statistics of all types of insurance)	INSURANCE, LIFE, FIRE, ETC. For 'Unemployment Insurance' See "Labour"	**P.E.I., N.S., N.B., B.C.** (for Provincial Companies):—Superintendents of Insurance **Que.** (for Provincial Companies):—Provincial Treasury Dept., Insurance Branch **Ont.** (for Provincial Companies):—Dept. of Insurance **Man.** (for Provincial Companies):—Dept. of Public Works, Superintendent of Insurance **Sask.** (for Provincial Companies):—Dept. of Social Welfare Government Insurance Office **Alta.** (for Provincial Companies):—Dept. of Provincial Secretary, Superintendent of Insurance
Department of Reconstruction and Supply Publicity Branch (re Steel Control) □●...National Film Board (films and photographs) □●...Dominion Bureau of Statistics	IRON AND STEEL	**N.S.:**—Dept. of Mines Research Foundation **Ont.:**—Dept. of Planning and Development, Trade and Industry Branch Bureau of Statistics and Research **B.C.:**—Dept. of Mines

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
Department of Justice □●...Dominion Bureau of Statistics	JUSTICE	**All Provinces:**—Depts. of Attorney General
●.....Department of Labour Information and Publicity Branch Annuities Branch Legislation Branch Unemployment Insurance Commission Research and Statistics Branch Canadian Vocational Training Branch Industrial Relations Branch (fair wages) National Employment Service □●...National Film Board (films, filmstrips, photo-displays and photographs) □●...Dominion Bureau of Statistics	LABOUR	**N.S., N.B., Que., Ont., Man., Sask., B.C.:**—Depts.of Labour **Alta.:**—Dept. of Industries and Labour *Additional*:—**Que., Ont., Alta., B.C.:**—Provincial Bureaus of Statistics
□●...Department of Mines and Resources Department of Veterans Affairs	LANDS AND LAND SETTLEMENT	**P.E.I.:**—Commissioner of Public Lands **N.S.:**—Land Settlement Board **N.B., Alta.:**—Depts. of Lands and Mines **Que., Ont., B.C.:**—Depts. of Lands and Forests **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Agriculture
Royal Canadian Mounted Police General law enforcement duties in any part of Canada; also acts on behalf of Attorneys General as Provincial Police in all provinces except Que., Ont., B.C. Enforces the law regarding traffic in drugs and liquor; acts on behalf of welfare of Eskimos in Arctic Islands.	LAW ENFORCEMENT	**All Provinces:**—Depts. of Attorney General
Clerk of the Privy Council Clerk of the Senate of Canada Clerk of the House of Commons	LEGISLATION	**All Provinces:**—Depts. of Attorney General
□●...Department of Mines and Resources Lands and Development Services (Northwest Territories and Yukon) □●...Dominion Bureau of Statistics (Statistical report covering Canada)	LIQUOR CONTROL	**P.E.I.:**—Temperance Commission **N.S., Que., Sask.:**—Liquor Commissions **N.B., Ont., Alta., B.C.:**—Liquor Control Boards **Man.:**—Liquor Control Commission
□○●Department of Agriculture Live-stock and Live-stock Products Division (for marketing data) Live-stock and Poultry Division (for breeding programs and testing data) Health of Animals Division (for contagious diseases, meat inspection, etc.) Animal Husbandry Division, Experimental Farms Service (for general information) Animal Pathology Division (research in animal diseases) □●...National Film Board (photographs) □●...Dominion Bureau of Statistics	LIVE STOCK	**P.E.I., N.B., Ont., Man., Sask., Alta., B.C.:**—Depts. of Agriculture, Live-stock Branches **N.S., Que.:**—Depts. of Agriculture, Animal Husbandry Branches *Additional*: — **Que., Alta., B.C.:**—Provincial Bureaus of Statistics Dominion Bureau of Statistics (summaries of provincial data).....●□

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
□●...Department of Mines and Resources Mines, Forests and Scientific Services □●...Dominion Bureau of Statistics	LUMBERING	**N.S., Que., Ont., B.C.:**—Depts. of Lands and Forests **N.B.:**—Dept. of Lands and Mines **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development **Alta.:**—Dept. of Lands and Forests
	MAIL See Post Office	
Department of Secretary of State (for Incorporation of Companies and Companies Act) • Department of Trade and Commerce Industrial Development Division □●...National Research Council Canadian Patents and Development Limited (utilization of new scientific processes) □●...National Film Board (films and photographs) □●...Dominion Bureau of Statistics	MANUFACTURING	**P.E.I.:**—Dept. of Reconstruction **N.S.:**—Dept. of Trade and Industry **N.B.:**—Dept. of Industry and Reconstruction **Que.:**—Dept. of Trade and Commerce **Ont.:**—Dept. of Planning and Development Trade and Industry Branch **Man.:**—Dept. of Mines and Natural Resources Bureau of Industry and Commerce Dept. of Provincial Secretary, Registrar of Companies **Sask.:**—Economic Advisory and Planning Board **Alta.:**—Dept. of Economic Affairs **B.C.:**—Dept. of Trade and Industry *Additional:*—**Que., Ont., Alta., B.C.:**—Bureaus of Statistics Dominion Bureau of Statistics (summaries of provincial data).....●□
□●...Department of Mines and Resources Mines, Forests and Scientific Services (topographical, geological and general maps; hydrographic and navigation charts) □○●Department of Agriculture (soil survey and economic survey maps) □●...Public Archives □●...Dominion Bureau of Statistics (economic and census maps)	MAPS AND CHARTS	**N.S.:**—Dept. of Mines, Research Foundation **Man.:**—Dept. of Mines and Natural Resources **Alta., B.C.:**—Depts. of Lands and Forests
	MARRIAGES See Vital Statistics	
□●...Dominion Bureau of Statistics	MERCHANDISING	**Man.:**—Dept. of Mines and Natural Resources Bureau of Industry and Commerce **Alta.:**—Dept. of Industries and Labour **B.C.:**—Dept. of Trade and Industry
□●...Department of Mines and Resources Mines, Forests and Scientific Services □●...Dominion Bureau of Statistics (for production data)	METALS (*other than* iron and steel)	**N.S., Que., Ont., B.C.:**—Depts. of Mines **N.B.:**—Dept. of Lands and Mines **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development **Alta.:**—Dept. of Mines Dominion Bureau of Statistics (summaries of provincial data).....●□

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
	METEOROLOGY See Weather	
□●...Department of Mines and Resources □●...Dominion Bureau of Statistics (for production data)	MINING AND MINERALS	**N.S., Que., Ont., Alta., B.C.:**—Depts. of Mines **N.B.:**—Dept. of Lands and Mines **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development Dominion Bureau of Statistics (summaries of provincial data)...●□
□●...National Film Board *Produces and distributes films, still photos and other visual materials of national and cultural interest, newsreel films, theatrical films and short documentary films.*	MOTION PICTURES	**N.S., Que., Alta.** and **B.C.** produce educational or informational films. **P.E.I., N.B.** and **Man.** buy such films but do not produce them. **Sask.:**—Saskatchewan Film Board Most provinces have Motion Picture Censorship Boards for censoring films prior to public exhibition. *Details may be obtained by application to the province concerned.*
□●..Dominion Bureau of Statistics Public Finance Division	MUNICIPAL AFFAIRS	**N.S., Que., Ont., Sask., Alta., B.C.:**—Depts. of Municipal Affairs **N.B.:**—Dept. of Federal and Municipal Relations **Man.:**—Dept. of Municipal Commissioner
□●...Dominion Bureau of Statistics	NATIONAL INCOME	
	NATURALIZATION See Population	
Department of Public Works (for construction and operation of graving docks), Navigable Waters Protection Act, Chief Engineer's Branch (for marine works construction) ●.....Department of Transport Canadian Maritime Commission Marine and Canal Services (radio aids to marine navigation) □●...National Research Council Division of Radio and Electrical Engineering (applications of merchant marine radar)	NAVIGATION	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
□●...Department of National Health and Welfare □○●Department of Agriculture	NUTRITION	**Man.:**—Dept. of Health and Public Welfare **Sask.:**—Dept. of Health, Nutrition Division **Alta.:**—Dept. of Health
	OCCUPATIONAL INFORMATION See Employment	
□●...Department of Mines and Resources Mines, Forests and Scientific Services □●...National Film Board □●...Dominion Bureau of Statistics	OIL	**N.S., Ont., Alta.:**—Depts of Mines. **N.B.:**—Dept. of Lands and Mines **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources and Industrial Development **B.C.:**—Dept. of Lands and Forests Dominion Bureau of Statistics (summaries of provincial data).....●□
□●...Department of National Health and Welfare Old Age Pensions Division	OLD AGE PENSIONS (Including Pensions for the Blind)	**P.E.I.:**—Old Age Pension Commission, Charlottetown **N.S.:**—The Old Age Pensions Board, Halifax **N.B.:**—The Old Age Pensions Board, Fredericton **Que.:**—Quebec Old Age Pensions Commission, Quebec **Ont.:**—Ontario Old Age Pensions Commission, Toronto **Man.:**—The Old Age and Blind Persons' Pensions Board, Winnipeg **Sask.:**—Social Welfare Board, Regina **Alta.:**—Old Age Pensions Board, Edmonton **B.C.:**—Old Age Pension Board, Vancouver
□●...Department of Mines and Resources Lands and Development Services	PARKS	**Que.:**—Dept. of Game and Fisheries **Ont., B.C.:**—Depts. of Lands and Forests **Man.:**—Dept. of Mines and Natural Resources **Sask.:**—Dept. of Natural Resources, Parks Branch **Alta.:**—Dept. of Public Works.
Senate of Canada House of Commons Library of Parliament	PARLIAMENT	**P.E.I., N.B., Man., Sask., Alta., B.C.:**—Legislative Assembly **N.S., Ont.:**—House of Assembly **Que.:**—Legislative Council Legislative Assembly
Department of Secretary of State	PATENTS, COPYRIGHTS AND TRADE MARKS	
Post Office Department Philatelic Division of the Financial Branch	PHILATELY	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
□●...Department of National Health and Welfare Physical Fitness Division National Council of Physical Fitness □●...National Film Board (filmstrip and photo-display)	PHYSICAL FITNESS AND RECREATION See *also* Health	**P.E.I., N.B., Ont., Sask., B.C.:**—Depts. of Education **N.S.:**—Dept. of Public Health **Man.:**—Dept. of Health and Public Welfare
□●...Dominion Bureau of Statistics (for all census population statistics) Department of Mines and Resources Indian Affairs Branch (for Indians) Lands and Development Services (for Eskimos) Department of Secretary of State Canadian Citizenship Branch Citizenship Registration Branch □●...Public Archives	POPULATION	**Ont.:**—Bureau of Statistics and Research
Post Office Department Administration Branch (for general postal information, postage rates, both domestic and foreign, etc.) Communications Branch (for air and land mail services, and railway mail service) Operations Branch (for information regarding postal service to the public and hours of service)	POST OFFICE	
□○●Department of Agriculture Poultry Division, Experimental Farms Service (for general information) Livestock and Live-stock Products Division (for breeding programs, hatchery regulations, etc.) Animal Pathology Division (for poultry diseases) □●...National Film Board (films and photographs) □●...Dominion Bureau of Statistics	POULTRY	**P.E.I., N.S., Man.:**—Depts. of Agriculture **N.B., Que., Sask., Alta., B.C.:**-Depts. of Agriculture, Poultry Branches **Ont.:**—Ontario Agricultural College (Guelph), Poultry Division Dominion Bureau of Statistics (summaries of provincial data).....●□
	POWER See Electric Power	
□○●Department of Agriculture Marketing Service (prices of farm products) □●...Dominion Bureau of Statistics	PRICES	
	PUBLIC HEALTH See Health	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA▲●
□●...Dominion Bureau of Statistics	**PUBLIC UTILITIES** See also Electric Power	**P.E.I.:**—Public Utilities Board **N.S.:**—Board of Commissioners of Public Utilities **N.B.:**—Public Utilities Commission **Man.:**—Municipal and Public Utilities Board **Sask.:**—Office of Chief Industrial Executive **Alta.:**—The Board of Public Utilities Commissioners The Natural Gas Utilities Board **B.C.:**—Public Utilities Commission
	PUBLIC WELFARE See Welfare	
Department of Public Works Department of Reconstruction and Supply ●.....Department of Transport Marine and Canal Services	**PUBLIC WORKS**	**P.E.I., N.B., Que., Ont., Man., Sask., Alta., B.C.:**—Depts. of Public Works **N.S.:**—Dept. of Highways and Public Works
●.....Department of Transport Radio Division (all matters affecting licences and facilities) Canadian Broadcasting Corporation □●...National Film Board □●...National Research Council Division of Radio and Electrical Engineering (radio science and its application to industry) □●...Dominion Bureau of Statistics	**RADIO**	**Que.:**—Quebec Radio Bureau **Alta.:**—Alberta Government Radio Station
	RAILWAYS See Transportation	
Department of Reconstruction and Supply Publicity Branch (for general inquiries) Public Projects Branch Wartime Housing Limited Central Mortgage and Housing Corporation	**RECONSTRUCTION**	**P.E.I.:**—Dept. of Reconstruction **N.S.:**—Depts. of Agriculture and Marketing and Trade and Industry **N.B.:**—Dept. of Industry and Reconstruction **Que.:**—Depts. of Lands and Forests, Labour, Roads, Trade and Commerce, Social Welfare and Youth **Ont.:**—Dept. of Planning and Development **Sask.:**—Dept. of Reconstruction and Rehabilitation, Reconstruction Division **Alta.:**—Dept. of Economic Affairs **B.C.:**—Dept. of Trade and Industry Regional Development Division
	RECREATION See Physical Fitness	
	RESEARCH See Economic Research and Scientific Research	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
□●...National Research Council Laboratory investigations in applied biology, chemistry, mechanical engineering including aeronautics and hydraulics, physics, radio and electrical engineering, medical research, atomic energy etc. *Inquiries for general research information should be addressed to the Technical Information Service.* □●...Department of Mines and Resources Mines, Forests and Scientific Services (geology, metallurgy geodesy, astrophysics, astronomy, seismology, mapping) □○●Department of Agriculture Science Service (for research in animal and plant pathology, bacteriology, chemistry, entomology, etc.) Experimental Farms Service (for research in agricultural engineering, crop production, breeding and genetics, plant and animal nutrition, etc.) ●.....Department of Transport (aviation, radio, meteorology) Department of National Defence Defence Research Board	SCIENTIFIC RESEARCH	**N.S.:**—Nova Scotia Research Foundation **Que.:**—Dept. of Trade and Commerce Scientific Research Bureau **Ont.:**—Ontario Research Commission Ontario Research Foundation **Man.:**—Various Depts. such as Health and Welfare, Mines and Natural Resources, Agriculture **Sask.:**—Research Council **Alta.:**—Alberta Research Council **B.C.:**—Dept. of Trade and Industry Research Council
	SOCIAL WELFARE See Welfare	
	SPORTS See Tourist Trade	
Department of Trade and Commerce Standards Division (for inquiries on electricity and gas inspection, weights and measures, and precious metals marking. Inquiries relating to commodity standards and 'Trade Mark Canada' matters are now dealt with by this Division □●...Department of National Health and Welfare (for standards and method of control of quality or potency of food and drugs) □○●Department of Agriculture (for inquiries on standards for meat and canned food, fruit, honey, maple products, vegetables, dairy products, poultry, etc.) ●.....Department of Transport (standards in radio frequencies, standards in steamship inspection) □●...National Research Council (for Canadian Government purchasing standards)	STANDARDS	
	STEAMSHIPS See Transportation	

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
	SUCCESSION DUTIES See Taxation	
Department of National Revenue	**TAXATION**	**P.E.I.:**—Provincial Treasurer **N.S.:**—Dept. of Provincial Secretary **N.B.:**—Dept. of Provincial Secretary-Treasurer **Que., Man., Sask., Alta.:**—Provincial Treasury Depts. **Ont.:**—Provincial Treasurer's Dept. **B.C.:**—Finance Dept.
	TELEGRAPHS AND TELEPHONES See Communications	
☐● ..Department of Mines and Resources Mines, Forests and Scientific Services	**TOPOGRAPHY**	**Man.:**—Dept. of Mines and Natural Resources **B.C.:**—Dept. of Lands and Forests
☐●...Department of Mines and Resources Lands and Development Services ☐●...National Film Board (films and photographs) Department of Reconstruction and Supply Canadian Government Travel Bureau ☐●...Dominion Bureau of Statistics	**TOURIST TRADE**	**P.E.I.:**—Publicity and Travel Bureau **N.S.:**—Dept. of Trade and Industry **N.B.:**—Dept. of Lands and Mines, Bureau of Information and Tourist Travel **Que.:**—Provincial Tourist Bureau **Ont.:**—Dept. of Travel and Publicity **Man.:**—Dept. of Mines and Natural Resources Travel and Publicity Bureau **Sask.:**—Bureau of Publications, Tourist Branch **Alta.:**—Dept. of Economic Affairs Alberta Travel Bureau **B.C.:**—Dept. of Trade and Industry Government Travel Bureau
Department of Trade and Commerce Trade Commissioner Service Export Division Import Division Commercial Relations and Foreign Tariffs Division Industrial Development Division Transportation and Communications Division Publicity Division Canadian Government Exhibition Commission Wheat and Grain Division Standards Division Canadian Commercial Corporation Export Credits Insurance Corporation Department of Reconstruction and Supply Canadian Government Travel Bureau Department of Secretary of State (for Companies Act and Incorporation of Companies) ☐●...National Film Board (films) ☐●...Dominion Bureau of Statistics	**TRADE**	**All Provinces** except **B.C.:** Provincial Secretaries for Incorporation of Companies under Provincial Law. **B.C.:**—Attorney General's Department. **P.E.I.:** — Dept. of Industry and Natural Resources **N.S.:**—Dept. of Trade and Industry **N.B.:**—Dept. of Industry and Reconstruction **Que.:**—Dept. of Trade and Commerce **Ont.:**—Dept. of Planning and Development Trade and Industry Branch **Man.:**—Dept. of Mines and Natural Resources Bureau of Industry and Commerce **Sask.:**—Dept. of Co-operation Trade Services Division **Alta.:**—Dept. of Industries and Labour **B.C.:**—Dept. of Trade and Industry

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Continued

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
□●...Department of Mines and Resources Mines, Forests and Scientific Services (for highways on Dominion lands, and national highways) Lands and Development Services (for highways in National Parks) ●.....Department of Transport (railways, civil aviation, marine services, steamship inspection, canals etc.) Board of Transport Commissioners (regulations *re* construction and operation of railways; rates of railways, express companies and certain inland water carriers; issuing of licences to certain inland water carriers) Bureau of Transport Economics Canadian Maritime Commission National Harbours Board Trans-Canada Air Lines □●...National Film Board (films, filmstrips and photographs) □●...Dominion Bureau of Statistics (statistics of transportation including highways, motor vehicles)	TRANSPORTATION	**P.E.I.**:—Dept. of Public Works and Highways **N.S.**:—Dept. of Highways and Public Works **N.B.**:—Dept. of Public Works, Highway Branch **Que.**:—Dept. of Roads Transportation and Communications Board **Ont.**:—Dept. of Highways Ontario Northland Railway Commission **Man.**:—Dept. of Public Works, Highways Branch Dept. of Mines and Natural Resources Municipal and Public Utilities Board **Sask.**:—Dept. of Highways and Transportation **Alta.**:—Dept. of Public Works, Highway Traffic Board **B.C.**:—Dept. of Railways, Board of Transport Commissioners, Highway Traffic Board, Public Utility Commission, Dept. of Public Works Dominion Bureau of Statistics (summaries of provincial data).....●□
□●...Department of Mines and Resources Lands and Development Services Indian Affairs Branch □●...National Film Board (films and photographs) □●...Dominion Bureau of Statistics (for general trapping statistics)	TRAPPING See also Fur Farming	**P.E.I.**:—Dept. of Agriculture **N.S., Ont.**:—Depts. of Lands and Forests **N.B.**:—Dept. of Lands and Mines **Que.**:—Dept. of Game and Fisheries **Man.**:—Dept. of Mines and Natural Resources **Sask.**:—Dept. of Natural Resources and Industrial Development **Alta.**:—Dept. of Lands and Forests **B.C.**:—Attorney General's Dept., Provincial Game Commission Dominion Bureau of Statistics (summaries of provincial data).....●□
	TRUST AND LOAN COMPANIES See Banking	
●.....Department of Labour Unemployment Insurance Commission □●...Dominion Bureau of Statistics	UNEMPLOYMENT	
Department of Veterans Affairs Public Relations Branch (general information, rehabilitation, treatment services, pensions, land settlement, gratuities, business and professional loans, war veterans allowances) Department of Reconstruction and Supply Veterans Housing Ltd. ●.....Department of Labour (unemployment insurance and out-of-work allowances, vocational training) □●...National Film Board (films and photographs) ●.....Department of Mines and Resources Indian Affairs Branch (for Indians)	VETERANS AFFAIRS	**P.E.I.**:—Provincial Secretary **N.S.**:—Dept. of Public Welfare **N.B.**:—Dept. of Health and Social Services **Que.**:—Dept. of Social Welfare and Youth **Ont.**:—Dept. of Public Welfare, Soldiers Aid Commission **Sask.**:—Dept. of Reconstruction and Rehabilitation **Alta.**:—Veterans Welfare Advisory Commission **B.C.**:—Dept. of Provincial Secretary

DIRECTORY OF SOURCES OF OFFICIAL INFORMATION—Concluded

For interpretation of symbols see head of p. 1201

▲ SOURCES FOR FEDERAL DATA	SUBJECT	SOURCES FOR PROVINCIAL DATA ▲●
□●...Dominion Bureau of Statistics □●...Department of Mines and Resources Lands and Development Services (for Northwest Territories and Yukon)	VITAL STATISTICS	**P.E.I.**:—Registrar of Births, Deaths and Marriages **N.S., Sask., Alta.**:—Depts. of Public Health Registrars General **N.B.**:—Dept. of Health and Social Service **Que., B.C.**:—Depts. of Health **Ont.**:—Dept. of Municipal Affairs, Registrar General's Branch **Man.**:—Dept. of Health and Public Welfare Dominion Bureau of Statistics (summaries of provincial data).....●□
●.....Department of Labour ■ Industrial Relations Branch (fair wages) Research and Statistics Branch Legislation Branch □●...Dominion Bureau of Statistics	WAGES	**All Provinces** except **Alta.**:—Dept. of Labour **Alta.**:—Dept. of Industries and Labour
□●...Department of Mines and Resources Mines, Forests and Scientific Services	WATER RESOURCES	**Man.**:—Dept. of Mines and Natural Resources **B.C.**:—Dept. of Lands and Forests
●.....Department of Transport Meteorological Division (Toronto)	WEATHER	
□●...Department of National Health and Welfare ●.....Department of Labour Unemployment Insurance Commission Annuities Branch □●...Department of Mines and Resources Indian Affairs Branch (for Indians) Lands and Development Services (for Eskimos) □●...National Film Board (films and photographs)	WELFARE For 'Welfare of Veterans' See "Veterans Affairs"	**P.E.I., B.C.**:—Depts .of Health and Welfare **N.S., Ont., Alta.**:—Depts. of Public Welfare **N.B.**:—Dept. of Health and Social Services **Que.**:—Dept. of Social Welfare and Youth **Man.**:—Dept. of Health and Public Welfare **Sask.**:—Dept. of Social Welfare Dominion Bureau of Statistics (summaries of provincial data).....●□
●.....Department of Labour ●.....Department of Transport Government Employees' Compensation	WORKMEN'S COMPENSATION	Workmen's Compensation Board: **N.S.**—Halifax; **N.B.**—Saint John; **Ont.**—Toronto; **Man.**—Winnipeg; **Sask.**—Regina; **Alta.**—Edmonton; **B.C.**—Vancouver Workmen's Compensation Commission: **Que.**—Quebec

Section 3.—Acts Administered by Dominion Departments

List of the Principal Acts of Parliament Administered by Departments of the Government of the Dominion of Canada, as Compiled from Information Supplied by the Respective Departments.

(Numbers within parentheses denote chapters of the Revised Statutes of Canada, 1927—R.S.C., 1927.)

NOTE.—*Copies of individual Acts of Parliament may be obtained from the King's Printer at prices of from 10 cents to $1.50 per copy according to number of pages.*

Agriculture.—Department of Agriculture (4). Experimental Farm Stations (61). Dairy Industry (45). Cold Storage (25). Animal Contagious Diseases (6). Meat and Canned Foods (77). Fertilizers (69). Section 235, Criminal Code (Race-Track Betting) (36). Live Stock Pedigree, 1932, c. 49. Hay and Straw Inspection, 1933, c. 26. Destructive Insect and Pest, (47) and amendment. Prairie Farm Rehabilitation, 1935, c. 23 and amendments. Fruit, Vegetables, and Honey, 1935, c. 62. Feeding Stuffs, 1937, c. 30. Seeds, 1937, c. 40. Inspection and Sale, 1938, c. 32. Live Stock and Live Stock Products, 1939, c. 47. Pest Control Products, 1939, c. 21. Agricultural Products Co-operative Marketing, 1939, c. 28. Wheat Co-operative Marketing, 1939, c. 28. Cheese and Cheese Factory Improvement, 1939, c. 13. Prairie Farm Assistance, 1939, c. 50 and amendments. Wheat Acreage Reduction, 1942, c. 10 and amendments. Agricultural Prices Support, 1944, c. 29. Maple Products Industry, 1945, c. 24. Agricultural Products, 1947, c. 10 and amendment. Maritime Marshland Rehabilitation, 1948, c. 61.

Auditor General.—Consolidated Revenue and Audit, 1931, c. 27.

Civil Service Commission.—Civil Service (22); 1929, c. 38; 1932, c. 40; 1938, c. 7; 1947, c. 53.

External Affairs.—Department of External Affairs (65) and amendments.

Finance.—Appropriation. Board of Audit (10). Bills of Exchange (16); 1934, c. 17. Canadian Farm Loan (66); 1934, c. 46; 1935, c. 16. Civil Service Superannuation (24); 1940, c. 27; 1944-45, c. 34; 1947, c. 54. Currency (40). Department of Finance and Treasury Board (71); 1931, c. 48. Interest (102). Provincial Subsidies (192). Quebec Savings Banks (14); 1934, c. 39; 1944, c. 47; 1947-48, c. 65. Special War Revenue (in part) (179); 1928, c. 50; 1934, c. 42. Winding-Up (213). Consolidated Revenue and Audit, 1931, c. 27. Tariff Board, 1931, c. 55; 1932-33, c. 51; 1940, c. 42; 1947-48, c. 70. Gold Export, 1932, c. 33; 1935, c. 21. Bank of Canada, 1934, c. 43; 1936, c. 22; 1938, c. 42. Canadian Fisherman's Loan, 1935, c. 52. Saskatchewan Seed Grain Loans Guarantee, 1936, c. 9. Seed Grain Loans Guarantee, 1937, c. 39; 1938, c. 13. Municipal Improvements Assistance, 1938, c. 33. Farmers' Creditors Arrangement, 1943, c. 26. Farm Improvement Loans, 1944, c. 41; 1947-48, c. 9. Industrial Development Bank, 1944, c. 44. Bretton Woods Agreement, 1945, 2 Sess., c. 11. Foreign Exchange Control Board, 1946, c. 53; 1947-48, c. 51. Veterans Business and Professional Loans, 1946, c. 69; 1947, c. 76. Canadian National Railways Refunding, 1947, c. 30. Dominion-Provincial Tax Rental Agreements, 1947, c. 58. Canadian National Railways Financing and Guarantee, 1948, c. 37. Emergency Exchange Conservation, (in part) 1947-48, c. 7; 1948, c. 48. *Not regularly administered by the Department but under the jurisdiction of the Minister of Finance:* Escheats (58). Money Lenders (135). Pawnbrokers (152). Satisfied Securities (184).

Fisheries.—Fish Inspection (72); 1945, c. 21. Meat and Canned Foods (77) so far as it relates to fish and shellfish; 1934, c. 38; 1935, c. 31; 1939, c. 19; 1941, c. 6. Deep-Sea Fisheries (74). Customs and Fisheries Protection (43) so far as it relates to fisheries. Navigable Waters Protection (140, in part). Act respecting Sockeye Salmon Fisheries Convention, 1930, c. 10. Fisheries, 1932, c. 42; 1934, c. 6; 1935, c. 5; 1939, c. 44. Northern Pacific Halibut Fishery (Convention), 1937, c. 36. The Fisheries Research Board, 1937, c. 31, is also administered by the Minister of Fisheries. Salt Fish Board, 1939, c. 51. The Fisheries Prices Support Board provided for by the Fisheries Prices Support Act, 1944, c. 42, is under the direction of the Minister of Fisheries. Pelagic Sealing (Provisional Agreement), 1948, c. 21.

Insurance.—Loan Companies (28); 1934, c. 56; 1939, c. 4; 1948, c. 57. Trust Companies (29); 1931, c. 57; 1939, c. 9; 1945, c. 33; 1947, c. 75. Civil Service Insurance (23). Excise Tax, relating to taxes on insurance premiums (179, Part III); 1932, c. 54; 1942, c. 32; 1945, c. 30; 1946, c. 65. Department of Insurance, 1932, c. 45. Canadian and British Insurance Companies, 1932, c. 46; 1932-33, c. 32; 1934, cc. 27, 45; 1936, c. 18; 1937, c. 5; 1938, c. 21; 1939, c. 10; 1944, c. 32; 1945, c. 13; 1947, c. 27; 1948, c. 36. Foreign Insurance Companies, 1932, c. 47; 1934, c. 36; 1939, c. 18; 1945, c. 22; 1947, c. 27; 1948, c. 36. Small Loans, 1939, c. 23.

Justice.—Interpretation (1). Bankruptcy (11). Combines Investigation (26). Exchequer Court (34). Supreme Court (35). Criminal Code (36). Extradition (37). Identification of Criminals (38). Escheats (58). Canada Evidence (59). Expropriation (64). Fugitive Offenders (81). Inquiries (99). Department of Justice (106). Solicitor General's (107). Lord's Day (123). Marriage and Divorce (127). Petition of Right (158). Royal Canadian Mounted Police (160). Prisons and Reformatories (163). Ticket of Leave (197). Tobacco Restraint (199). War Measures (206). Juvenile Delinquents, 1929, c. 46. Administration of Justice in the Yukon, 1929, c. 62. Divorce (Ontario), 1930, c. 14. Divorce Jurisdiction, 1930, c. 15. Debts Due to the Crown, 1932, c. 18. Admiralty, 1934, c. 31. The British Columbia Divorce Appeals, 1937, c. 4. Penitentiary, 1939, c. 6. Official Secrets, 1939, c. 49. Compensation (Defence), 1940, c. 28. Treachery, 1940, c. 43. Canada Prize, 1945, c. 12. Judges, 1946, c. 56. Continuation of Transitional Measures, 1947, c. 16, 1948, c. 5.

King's Printer and Controller of Stationery.—Public Printing and Stationery (162); 1946, c. 28. Publication of Statutes (2) and amendment.

Labour.—Fair Wages Order in Council, 1922, P.C. 1206; 1924, P.C. 605; 1934, P.C. 3271. Labour Department (111); 1940-41, c. 21. Conciliation and Labour (110). Government Annuities (7); 1931, c. 33. Fair Wages and Hours of Labour, 1935, c. 39. Youth Training, 1939, c. 35. Unemployment Insurance, 1940, c. 44; 1943-44, c. 31; 1946, c. 68; 1947-48, c. 29. Vocational Training Co-ordination, 1942-43, c. 34; 1947-48, c. 30. Reinstatement in Civil Employment, 1946, c. 63. Industrial Relations and Disputes Investigation, 1947-48, c. 54.

Mines and Resources.—Songhees Indian Reserve, 1911, c. 24. Manitoba Boundaries, 1912, c. 32. Seed Grain, Fodder and Other Relief, 1915, c. 20. St. Peters' Indian Reserve, 1916, c. 24. Indian Lands, Settlement of Differences, 1920, c. 51. Lake of the Woods Control Board, 1921, c. 10. Indian Lands, Settlement of Differences (Ontario), 1924, c. 48. Debts Due the Crown (51). Dominion Forest Reserves and Parks (78). Dominion Lands Surveys (117). Dominion Lands (113). Dominion Water Power (210). Geology and Mines (83). Immigration (93). Immigration Aid Societies (94). Indian (98). Irrigation (104). Land Titles (118). Manitoba Supplementary Provisions (124). Migratory Birds Convention (130). Northwest Game (141). Northwest Territories (142). Ordnance and Admiralty Lands (115). Public Lands Grants (114). Railway Belt (116). Railway Belt Water (211). Reclamation (175). Saskatchewan and Alberta Roads (180). Seed Grain (87). Seed Grain Sureties (88). St. Regis Indian Reservation (37). Yukon (215). Yukon Placer Mining (216). Yukon Quartz Mining (217). Lac Seul Conservation, 1928, c. 32. Water Power in Alberta, Saskatchewan and Manitoba, 1929, c. 61. Alberta Natural Resources, 1930, c. 3. Manitoba Natural Resources, 1930, c. 29. National Parks, 1930, c. 33. Railway Belt and Peace River Block, 1930, c. 37. Saskatchewan Natural Resources, 1930, c. 41. Refunds (Natural Resources), 1932, c. 35. Waterton Glacier International Peace Park, 1932, c. 55. Caughnawaga Indian Reserve, 1934, c. 29. Mines and Resources, 1936, c. 33. Nova Scotia and Prince Edward Island National Parks, 1936, c. 43. Rainy Lake Watershed Emergency Control, 1939, c. 33. Game Export, 1940-41, c. 17. Natural Resources Transfer, 1940-41, c. 22. British Columbia Indian Reserves Mineral Resources, 1943-44, c. 19. Explosives, 1946, c. 7. Eastern Rocky Mountains Forest Conservation, 1947, c. 59. Emergency Gold Mining Assistance, 1948, c. 15. Northwest Territories Power Commission, 1948, c. 64.

National Defence.—Department of National Defence (136). Aeronautics (3); 1944-45, c. 28; 1945, c. 9. Militia (132). Militia Pension (133). Royal Military College, 1928, c. 7. Visiting Forces (British Commonwealth), 1933, 1932-33, c. 21. Air Force. Royal Canadian Air Force, 1940, c. 15. Naval Service, 1944, c. 23. Visiting Forces (United States of America), 1947, c. 47.

National Health and Welfare.—*National Health*: Food and Drugs (76) and amendments. Proprietary or Patent Medicine (151). Quarantine (168). Public Works Health (91). Leprosy (119). Opium and Narcotic Drug, 1929, c. 49 and amendments. Canada Shipping (Part V) (Sick Mariners and Marine Hospitals), 1934, c. 44 and amendments. Department of National Health and Welfare, 1944, c. 22 and amendment. *The following Acts are administered in part:*—Immigration (93) and amendments. Indian (98) and amendments. Navigable Waters Protection (140). Meat and Canned Foods (77). *Welfare:* Old Age Pensions (156) and amendments. War Charities, 1939, c. 10 and amendments. National Physical Fitness, 1943, c. 29. Department of National Health and Welfare, 1944, c. 22 and amendment. Family Allowances, 1944, c. 40 and amendment.

National Revenue.—Customs (42). Customs Tariff (44). Excise (60). Export (63). Income War Tax, (97), and amendments. Dominion Succession Duty, 1940, c. 14. Excess Profits Tax, 1940, c. 52 and amendments. Income Tax, 1948, c. 52. *The following Acts are administered in part:*—Aeronautics (3) and amendments. Animal Contagious Diseases (6). Copyright (32). Customs and Fisheries Protection (43). Dairy Industry (45). Destructive Insect and Pest (47). Explosives (62). Fertilizers (69). Food and Drugs (76). Inspection

and Sale (100). Meat and Canned Foods (77). Opium and Narcotic Drug (144). Patent and Proprietary Medicine (151). Pest Control Products (5). Post Office (161). Precious Metals Marking (84). Quarantine (168). Seeds (185). Weights and Measures (212). Importation of Intoxicating Liquors, 1928, c. 31. Maple Sugar Industry, 1930, c. 30. Export of Gold, 1932, c. 33. Canada Shipping, 1934, c. 44. Canadian Wheat Board, 1935, c. 53, and amendments. Fruit, Vegetables and Honey, 1935, c. 62. Transport, 1938, c. 53. Live Stock and Live Stock Products, 1939, c. 47. Foreign Exchange Control, 1946, c. 53 and amendment. National Emergency Transitional Powers, 1947, c. 16. Export and Import Permits, 1947, c. 17 and amendment. Emergency Exchange Conservation, 1948, c. 7.

Post Office.—Post Office Savings Bank (15). Post Office (161). Special War Revenue (in part), (179).

Public Archives.—Public Archives (8).

Public Works.—Expropriation (64). Ferries (68). Government Harbours, Piers and Breakwaters (Section 5), (89). Navigable Waters Protection (Part I), (140). Public Works (166). Government Works Toll (167). Railway (Section 248), (170). Dry Docks Subsidies (191). Telegraphs (194). National Art Gallery, 1913, c. 33. Act Regulating Vehicular Traffic on Dominion Property, 1930, c. 47.

Reconstruction and Supply.—National Film, 1939, c. 20. Department of Reconstruction and Supply, 1944-45, c. 18 and amendment. Central Mortgage and Housing, 1945, c. 15. National Housing, 1944, c. 46 and amendments.

Secretary of State.—Companies (27) as amended. Patents (150) as amended. Copyright (32) as amended. Canada Temperance (196). Boards of Trade (19) as amended. Ticket of Leave (197) as amended. Trade Unions (202). Department of State (189). Timber Marking (198) as amended. Trade Mark and Design (201) as amended. Public Officers (164). Oaths of Allegiance (143) as amended. Treaties of Peace Acts and Orders in Council. Reparation Payment, 1929, c. 55. Unfair Competition, 1932, c. 38. Companies' Creditors Arrangement, 1932-33, c. 36. Translation Bureau, 1934, c. 25. Shop Cards Registration, 1938, c. 41. Seals, 1939, c. 22. Canadian Citizenship, 1946, c. 15. Trading With the Enemy (Transitional Powers), 1947, c. 24.

Trade and Commerce.—Department of Trade and Commerce (200). Electricity and Fluid Exportation (54). Electricity Inspection (55). Electric Units (56). Gas Inspection (82). Inland Water Freight Rates (208). Precious Metals Marking (84); 1928, c. 40; 1929, c. 53; 1934, c. 14; 1935, c. 9; 1937, c. 15; 1940-41, c. 8; 1942, c. 6. Weights and Measures Inspection (212); 1935, c. 48; 1937, c. 18. Scientific and Industrial Research (177). Canada Grain, 1930, c. 5; 1932-33, cc. 9, 24; 1934, c. 26; 1938, c. 5; 1939, c. 36; 1940, c. 6, 1947, c. 3. Canadian Wheat Board, 1935, c. 53; 1939, c. 39; 1940, c. 25; 1942, c. 4; 1947, c. 15; 1948, c. 4. Dominion Trade and Industry Commission, 1935, c. 59; 1939, c. 17. Grain Futures, 1939, c. 31. War Appropriation, United Nations Mutual Aid, 1943, c. 17. Export Credits Insurance, 1944, c. 39; 1946, c. 49; 1948, c. 17. Surplus Crown Assets, 1944-45, c. 21. Trans-Canada Air Lines, 1945, c. 31. Atomic Energy Control, 1946, c. 37. Canadian Commercial Corporation, 1946, c. 40; 1947, c. 51. Government Companies, 1946, c. 24. Dominion Coal Board, 1947, c. 57. Export and Import Permits, 1947, c. 17; 1948, c. 16. Emergency Exchange Conservation (in part), 1947-48, c. 7; 1948, c. 48. Statistics, 1948, c. 45.

Transport.—Belleville Harbour Commissioners, 1889, c. 35. National Transcontinental Railway, 1903, c. 71. Toronto Terminals Railway Company, 1906, c. 170. Intercolonial Railway and Prince Edward Island Railway Employees' Provident Fund, 1907, c. 22. Winnipeg Terminals, 1907, c. 52. Steamship Subsidies, 1908, c. 68. Ocean Telegraph, 1910, c. 57. Toronto Harbour Commissioners, 1911, c. 26. Hamilton Harbour Commissioners, 1912, c. 98. Winnipeg and St. Boniface Harbour Commissioners, 1912, c. 55. New Westminster Harbour Commissioners, 1913, c. 158. North Fraser Harbour Commissioners, 1913, c. 162. Toronto Viaduct, 1913, c. 11. North Sydney Harbour Commissioners, 1914, c. 16 and amendments. Van Buren Bridge Company Agreement with His Majesty the King, 1918, c. 48. Crows Nest Pass Agreement, 1922, c. 41. Trenton Harbour, 1922, c. 50. Aeronautics (as regards Civil Aviation) (3). Bills of Lading (17). Bridges (20). Canadian National Railways (172). Government Harbours and Piers (89). Government Railways (173). Government Vessels Discipline (203). Inland Water Freight Rates (208). Live Stock Shipping (122). Maritime Freight Rates (79). Navigable Waters' Protection (140). Passenger Ticket (174). Railway (170). Railway Belt Water (211). Telegraphs (Part III) (194). Three Rivers Harbour Commissioners (70). United States Wreckers (214). Canadian National Montreal Terminals, 1929, c. 12. Canadian National Railways Pensions, 1929, c. 4. Canadian National (West Indies) Steamship Company, 1929, c. 29. Beauharnois Light, Heat and Power Company, 1931, cc. 19-20; 1940, c. 20; 1947, c. 26. New Westminster Harbour Commissioners Loan, 1931, c. 40. Canada Shipping, 1934, c. 44 and amendments. Canadian National-Canadian Pacific, 1933, c. 33; 1936, c. 25; 1939, c. 37; 1947, c. 28. Depart-

ment of Transport [formerly Dept. of Railways and Canals Act (171)], 1936, c. 34. National Harbours Board, 1936, c. 42. Radio Broadcasting (Canadian Broadcasting Act), 1936, c. 24 and amendments. Water Carriage of Goods, 1936, c. 49. Canadian National Capital Revision, 1937, c. 22. Department of Transport Stores, 1937, c. 28. Trans-Canada Air Lines, 1937, c. 43. Radio, 1938, c. 50. Transport (Board of Transport Commissioners), 1938, c. 53. Carriage of Goods by Air, 1939, c. 12. National Emergency Transitional Powers (only as it concerns Department of Transport), 1945, c. 25. Merchant Seamen Compensation, 1946, c. 58 and amendment. Canadian Maritime Commission, 1947, c. 52. Canadian National Refunding, 1947, c. 30. Government Employees Compensation, 1947, c. 18. Port Alberni Harbour Commissioners, 1947, c. 42. Auditors for National Railways (Annual), 1948, c. 13. Canadian National Financing and Guarantee (Annual), 1948, c. 37. New Westminster Harbour Commissioners Refunding, 1948, c. 10.

Veterans Affairs.—Returned Soldiers' Insurance, 1920, c. 54. Pension (157) and amendments. Soldier Settlement (188) and amendments. Veterans' Land, 1942, c. 33 and amendments. Department of Veterans Affairs, 1944, c. 19. Veterans Insurance, 1944, c. 49 and amendment. War Service Grants, 1944-45, c. 51 and amendments. Veterans Rehabilitation, 1945, c. 35 and amendments. Allied Veterans Benefits, 1946, c. 36. Civilian War Pensions and Allowances, 1946, c. 43 and amendment. Fire Fighters War Service Benefits, 1946, c. 52. Special Operators War Service Benefits, 1946, c. 64. Supervisors War Service Benefits, 1946, c. 66. War Veterans' Allowance, 1946, c. 75 and amendment. Women's Royal Naval Services and the South African Military Nursing Service (Benefits), 1946, c. 34. Army Benevolent Fund, 1947, c. 49.

Section 4.—Dominion and Provincial Royal Commissions

DOMINION ROYAL COMMISSIONS

NOTE.—*This list is in continuance of those at pp. 1108-1110 of the 1940 Year Book; p. 973 of the 1942 Year Book; p. 1043 of the 1943-44 Year Book; p. 1148 of the 1945 Year Book; p. 1185 of the 1946 Year Book; and p. 1202 of the 1947 Year Book.*

Royal Commission appointed to inquire into the claims of persons of Japanese race resident in Canada on July 18, 1947, in regard to property losses under custody of the Crown; constituted by Order in Council of July 18, 1947; Commissioner: Hon. Mr. Justice Henry Irvine Bird.

Royal Commission appointed to inquire into and report upon the revocation of naturalization or Canadian citizenship certificates; constituted by Order in Council of Sept. 11, 1947; Chairman: His Honour Judge René A. Danis; Commissioners: Aldous Aylen, K.C., Lee A. Kelley, K.C., John Forbes MacNeil, K.C., and Charles Arthur Krug.

Royal Commission appointed to inquire into the situation created by the floods in the Lower Fraser Valley, the extent of damage and the measures for relief and rehabilitation; constituted by Order in Council of June 10, 1948; Commissioners: Major-General B. M. Hoffmeister and Hon. Eric W. Hamber.

Royal Commission appointed to examine and report on the increases in the cost of living, specific price levels and the causes that have brought these about; constituted by Order in Council of July 8, 1948; Commissioners: Professor C. A. Curtis, H. C. Bois and Mrs. T. W. Sutherland.

Royal Commission appointed for the purpose of holding inquiries under Section 21 of the Canadian Citizenship Act; constituted by Order in Council of Dec. 17, 1948; Presiding Officer: His Honour Judge René A. Danis; Commissioners: Aldous Aylen, K.C., Lee A. Kelley, K.C., John Forbes MacNeil, K.C., and Robert Alexander Hoey.

Royal Commission appointed to inquire into and report upon the railway freight rates in Canada; constituted by Order in Council of Dec. 29, 1948; Chairman: Hon. W. F. A. Turgeon; Commissioners: Professor Henry Forbes Angus and Professor Harold Adams Innis.

PROVINCIAL ROYAL COMMISSIONS

NOTE.—*No reference is given for provinces where Royal Commissions have not been established since the 1947 Year Book was published. This list is in continuance of those at pp. 1111-1115 of the 1940 Year Book; p. 996 of the 1941 Year Book; p. 973 of the 1942 Year Book; p. 1043 of the 1943-44 Year Book; p. 1148 of the 1945 Year Book; p. 1186 of the 1946 Year Book; and p. 1202 of the 1947 Year Book.*

Manitoba.—Royal Commission on Manitoba Water Power constituted June 28, 1947. Dr. Thos. H. Hogg, first member of the Commission. Report published Mar. 24, 1948.

Royal Commission on Hospital Operating Costs constituted Oct. 28, 1947. Chairman: Hon. Ewan A. McPherson. Report not yet published.

Saskatchewan.—Royal Commission on Public Service Vehicles Rates and Tolls, May 11, 1948; Commissioners: George Dickson, D. Drummond, H. R. MacKenzie, W. W. Perrie.

Alberta.—Royal Commission to investigate certain charges, allegations and reports, relating to the Child Welfare Branch of the Department of Public Welfare and officials thereof as contained in specified articles, editorials and newspaper reports; Commissioners: Hon. Chief Justice W. R. Howson (Chairman), His Honour Chief Judge J. W. McDonald, and His Honour Chief Justice E. B. Feir.

Royal Commission to inquire into the taxation imposed by the Province and by municipalities, urban and rural, pursuant to any power of taxation under any statute of the Province; Commissioner: J. W. Judge, Deputy Minister of Municipal Affairs; report dated Feb. 12, 1948.

British Columbia.—Royal Commission to inquire into the assessment of real property and improvements for school taxation; and into the incidence of school taxation; Commissioners: H. Alan Maclean, Chairman; B. C. Bracewell; J. T. Clark; R. R. F. Sewell; R. C. Grant and J. A. Stewart; Aug. 9, 1947; report dated Jan. 29, 1948 (pp. 42-6) (not printed).

Royal Commission to inquire into and concerning disturbances in the Doukhobor settlements in British Columbia; Commissioner: Harry J. Sullivan; Sept. 12, 1947; report dated Jan. 10, 1948 (87 pp.) (not printed).

CHAPTER XXXII.—THE ANNUAL REGISTER

CONSPECTUS

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Section 1.—Official Appointments*

Legislative Appointments

Senate.—A list of the Members of the Senate as at Nov. 15, 1948, appears at pp. 84-85 of this volume. From that date to Dec. 31, 1948, the following were called as Members of the Senate as Senators for provinces indicated: Dec. 1, George Henry Ross, K.C., Calgary, Alta., for Alberta. Dec. 1, the Hon. Joseph Willie Comeau, Digby, N.S., for Nova Scotia.

House of Commons.—By-elections held between the general election of June 11, 1945, and Nov. 15, 1948, are given at pp. 92-93 of this volume. Between that date and the end of 1948 (Dec. 20) a by-election was held for Carleton and George A. Drew, K.C., was elected. On Jan. 10, 1949, Mr. Drew assumed office as Leader of His Majesty's Official Opposition.

Cabinet Appointments

There were no changes in the membership of the Cabinet from Nov. 15, 1948, the date of the table at pp. 81-82 of this volume, to Dec. 31, 1948.

Diplomatic Appointments

The personnel of Canadian diplomatic representatives abroad and of British and foreign envoys to Canada, as at June 30, 1948, is given at pp. 125-133 of this volume. From that date to Feb. 8, 1949, the following representatives of other countries have presented their credentials to His Excellency the Governor General: Laurence A. Steinhardt, United States Ambassador to Canada, Nov. 1, 1948; Mario di Stephano, Italian Ambassador to Canada, Nov. 8, 1948; Vicomte Alain du Parc, Belgian Ambassador to Canada, Feb. 8, 1949. Charles J. Burchell, K.C., was appointed Canadian High Commissioner to Newfoundland on Sept. 7, 1948.

Judicial Appointments

Higher Courts.—**1947.** Sept. 11, Hon. Josiah H. MacQuarrie, K.C., Halifax, N.S., Attorney General for Nova Scotia: to be a Judge of the Supreme Court of Nova Scotia. Hon. Andrew Knox Dysart, a Judge of the Court of King's Bench for Manitoba: to be a Judge of the Court of Appeal for Manitoba and ex officio a Judge of the Court of King's Bench for Manitoba. Arnold M. Campbell, K.C., Winnipeg, Man.: to be a Judge of the Court of King's Bench for Manitoba. Hon. Norman William Whittiker, K.C., Victoria, B.C.: to be a Judge of the Supreme Court of British Columbia. Herbert S. Wood, K.C., Vancouver, B.C.: to be a Judge of the Supreme Court of British Columbia. Hector Perrier, K.C., Montreal, Que.: to be a Puisne Judge of the Superior Court for the District of Montreal, Que. Nov. 19, Cesaire Gervais, K.C., Sherbrooke, Que.: to be a Puisne Judge of the Superior Court for the District of

* Extracts from the *Canada Gazette* except for Diplomatic Appointments.

St. Francis, in the Province of Quebec. **1948.** Jan. 16, Arthur Ives Smith, K.C., Montreal, Que.: to be Puisne Judge of the Superior Court for the District of Montreal, in the Province of Quebec. Jan. 30, Hon. Mr. Justice John Evans Adamson, a Judge of the Court of King's Bench for Manitoba: to be a Judge of the Court of Appeal for Manitoba and ex officio a Judge of the Court of King's Bench for Manitoba. J. T. Beaubien, K.C., Winnipeg, Man.: to be a Judge of the Court of King's Bench for Manitoba. Feb. 2, Harold Francis Thomson, K.C., Regina, Sask.: to be a Judge of His Majesty's Court of King's Bench for Saskatchewan. Stewart McKercher, K.C., Saskatoon, Sask.: to be a Judge of His Majesty's Court of King's Bench for Saskatchewan. Apr. 30, François Caron, K.C., Hull, Que.: to be a Puisne Judge of the Superior Court for the District of Montreal in the Province of Quebec. May 28, Arthur Thomas Procter, K.C., Moosomin, Sask.: to be a Judge of the Court of Appeal for Saskatchewan and ex officio a Judge of His Majesty's Court of King's Bench for Saskatchewan. June 3, Hon. Charles Dow Richards, a Judge of the King's Bench Division of the Supreme Court of New Brunswick: to be Chief Justice of the Appeal Division of the Supreme Court of New Brunswick with style and title of Chief Justice of New Brunswick. June 21, William Arthur Ives Anglin, District Judge in Admiralty of the Exchequer Court of Canada in and for the Admiralty District of the Province of New Brunswick: to be a Judge of the King's Bench Division of the Supreme Court of New Brunswick. G. F. G. Bridges, Moncton, N.B.: to be a Judge of the King's Bench Division of the Supreme Court of New Brunswick. July 1, Hon. Maynard B. Archibald, a Puisne Judge of the Supreme Court of Nova Scotia: to be a Puisne Judge of the Exchequer Court of Canada. Aug. 3, Harold L. Palmer, Charlottetown, P.E.I.: to be District Judge in Admiralty of the Exchequer Court of Canada, in and for the Admiralty District of the Province of Prince Edward Island. Sept. 9, Leon Casgrain, K.C., Rivière du Loup, Que.: to be a Puisne Judge of the Superior Court for the District of Quebec. André Demers, K.C., Montreal, Que.: to be a Puisne Judge of the Superior Court for the District of Montreal, Que. Oct. 20, Eugene Troop Parker, K.C., Halifax, N.S.: to be a Judge of the Supreme Court of Nova Scotia. Dec. 23: Roy T. Graham, K.C., a member of the Bar for the Province of Saskatchewan, to be a Judge of His Majesty's Court of King's Bench for Saskatchewan, effective Jan. 1, 1949.

County and District Courts. — **1947.** Sept. 11, Vincent J. Pottier, K.C., Yarmouth, N.S.: to be Judge of the County Court of District No. I in the said Province. Oct. 28, Hon. Moore Armstrong Miller, Judge of the County Court for the County of Lambton, in the Province of Ontario: to be Judge of the County Court for the Counties of Northumberland and Durham, in the said Province, and a Local Judge of the High Court of Justice for Ontario. Hon. Edwin Arnold Shaunessy, Judge of the County Court for the County of Essex, in the Province of Ontario: to be Judge of the County Court for the County of Lambton, in the said Province, and a Local Judge of the High Court of Justice for Ontario. Joseph A. Legus, K.C., of the Town of Haileybury, in the Province of Ontario, to be Junior Judge of the County Court for the County of Essex, in the said Province, and a Local Judge of the High Court of Justice for Ontario. Duncan F. McCuaig, K.C., of the Town of Barrie, in the Province of Ontario: to be Judge of the County Court for the County of Elgin, in the said Province, and a Local Judge of the High Court of Justice for Ontario. R. Stewart Clark, K.C., of the City of Guelph, in the Province of Ontario, to be Judge of the County Court for the County of Wellington, in the said Province, and a Local Judge of the High Court of Justice for Ontario. Dec. 30,

J. W. Arsenych, K.C., Winnipeg, Man.: to be Judge of the County Courts of the Dauphin Judicial District in the said Province and a Local Judge of the Court of King's Bench for Manitoba. **1948.** Feb. 24, Thomas L. Cross, Edmonton, Alta.: to be a Judge of the District Court of the District of Northern Alberta in the said Province and a Local Judge of the Supreme Court of Alberta. Apr. 27, Donald E. Lewis, K.C., Brockville, Ont.: to be Judge of the County Court for the Counties of Leeds and Grenville in the said Province and also a Local Judge of the High Court of Justice for Ontario. Oct. 12, Peter J. Hodge, Rosthern, Sask.: to be Judge of the District Court of the Judicial District of Moosomin, in the said Province. Oct. 20, Henry Joseph Michael Donley, K.C., Kenora, Ont.: to be Judge of the District Court for the Provincial Judicial District of Rainy River in the said Province, and a Local Judge of the High Court of Justice for Ontario. Nov. 17, Lawrence Hudson Phinney: to be Judge for the Juvenile Court for that portion of the Mining Districts of Dawson and Mayo, in the Yukon Territory, lying south of latitude 69°N. James Aubrey Simmons, J.P.: to be Judge of the Juvenile Court for the Mining District of White Horse.

Divorce Courts.—**1948.** May 26, Hon. Sir Jospeh A. Chisholm, Chief Justice, Hon. Robert H. Graham, Hon. Mr. Justice William F. Carroll, Hon. Mr. Justice William L. Hall, Hon. Mr. Justice John Doull, Hon. Mr. Justice Maynard B. Archibald and Hon. Mr. Justice Josiah H. MacQuarrie: to be Judges of the Court for Divorce and Matrimonial Causes of the Province of Nova Scotia, effective June 1, 1948. Nov. 10, Hon. Mr. Justice Eugene Troop Parker, a Judge of the Supreme Court of Nova Scotia: to be a Judge of the Court for Divorce and Matrimonial Causes of the Province of Nova Scotia.

Government Appointments to Boards, Commissions, etc.

Advisory Board on Wildlife Protection.—**1948.** Jan. 8, to be Members: Deputy Minister of Mines and Resources; Director, Lands and Development Services Branch, Department of Mines and Resources; Director, Indian Affairs Branch, Department of Mines and Resources; Commissioner, Royal Canadian Mounted Police; Alexander William Francis Banfield, Dominion Wildlife Service, Lands and Development Services Branch, Department of Mines and Resources; Dr. Marius Barbeau, National Museum of Canada, Mines, Forests and Scientific Services Branch, Department of Mines and Resources; Herbert Wilson Beall, Dominion Forest Service, Mines, Forests and Scientific Services Branch, Department of Mines and Resources; Thomas Clifford, Mackenzie Division, Lands and Development Services Branch, Department of Mines and Resources; Hugh Conn, Indian Affairs Branch, Department of Mines and Resources; Thomas Lewis Cory, Acting Registrar, Land Registry, Lands and Development Services Branch, Department of Mines and Resources; Henry Gordon Crawford, Dominion Entomologist, Science Service, Department of Agriculture; Kenneth Robinson Daly, Senior Departmental Solicitor, Department of Mines and Resources; Harold Dean Fisher, Dominion Wildlife Service, Lands and Development Services Branch, Department of Mines and Resources; William Earl Godfrey, National Museum of Canada, Mines, Forests and Scientific Services Branch, Department of Mines and Resources; Dr. Oliver Harold Hewitt, Dominion Wildlife Service, Lands and Development Services Branch, Department of Mines and Resources; Charles King Le Capelain, Chief, Yukon Division, Lands and Development Services Branch, Department of Mines and Resources; Dr. Harrison Flint Lewis, Dominion Wildlife

Service, Lands and Development Services Branch, Department of Mines and Resources; Superintendent Douglas James Martin, Officer Commanding "G" Division, Royal Canadian Mounted Police.

Air Transport Board.—**1948.** Sept. 2, Romeo Vachon, Montreal, Que.: to be again a Member for a further term of ten years, effective Sept. 11, 1948.

Appeal Committee for Province of Quebec.—**1948.** Jan. 15, Hon. Mr. Justice J. N. Francoeur, W. Q. Stobo and Gaston Pratte: to be Members of an Appeal Committee for the Province of Quebec, under Part VIII of the regulations under the Family Allowances Act, 1944, for a period of two years from Jan. 1, 1948; Hon. Mr. Justice J. N. Francoeur to be Chairman.

Arctic and Hudson Bay Mining District of the Northwest Territories.—**1948.** Paul Emile Trudel, Member of the Staff of the Lands and Development Services Branch, Department of Mines and Resources: to be Mining Recorder.

Army Benevolent Fund Board.—**1947.** Dec. 3, Maj.-Gen. B. W. Browne, C.B., D.S.O., M.C., Ottawa, Ont.: to be Member and Chairman for a term of six years; Brig. J. G. Gauvreau, D.S.O., Montreal, Que., and Capt. Aubrey Peck, M.C., Vancouver, B.C.: to be Members for a term of four years; Lieut.-Gen. E. W. Sansom, C.B., D.S.O., Barkers Point, Fredericton, N.B.; and Maj. A. H. Wickens, K.C., Moose Jaw, Sask.: to be Members for a term of two years. **1948.** May 4, Lieut.-Gen. John Carl Murchie, C.B., C.B.E., Ottawa, Ont.: to be a Member and Chairman for a term of six years, *vice* Maj.-Gen. B. W. Browne, C.B., D.S.O., M.C., deceased.

Atomic Energy Control Board.—**1948.** Mar. 16, C. J. Mackenzie, C.M.G., D.Sc., F.R.C.S., President, Honorary Advisory Council for Scientific and Industrial Research: to be President, *vice* Gen. A. G. L. McNaughton, resigned. William J. Bennett, President and Managing Director of Eldorado Mining and Refining (1944) Limited: to be a Member for the remaining part of General McNaughton's term of three years from Sept. 26, 1946. Sept. 9, Paul E. Gagnon, Ph.D., Director of the Graduate School, Laval University, Quebec, Que., and V. W. T. Scully, Deputy Minister (Taxation), Department of National Revenue: to be again Members for a further term expiring Mar. 31, 1952.

Bank of Canada.—**1948.** Oct. 7, Graham Ford Towers: to be again a Governor of the Bank of Canada for a further period of seven years from Oct. 23, 1948. Oct. 27, Clarence Joseph Morrow, Lunenburg, N.S.: to be a Director, *vice* W. K. McKean, deceased, for a term expiring Feb. 28, 1949.

Belleville Harbour Commission.—**1948.** Apr. 27, Frank Follwell: to be a Member, under the authority of Chapter 35 of the Statutes of Canada, 1889, *vice* John McIntosh, resigned.

Board of Examiners under the Dominion Lands Surveys Act.—**1947.** Nov. 19, John Leslie Rannie: to be a Member.

Board of Grain Commissioners.—**1948.** Jan. 22, John Vallance: to be Commissioner, *vice* Charles McGill Hamilton, retired, effective Jan. 17, 1948.

Board of Review under the War Service Grants Act, 1944—**1947.** Oct. 10, Duncan E. MacIntyre, D.S.O., M.C., Ottawa, Ont.: to be a Member, *vice* A. E. Richard, retired.

Board of Transport Commissioners for Canada.—**1948.** July 1, Hon. Maynard B. Archibald, a Puisne Judge of the Exchequer Court of Canada: to be a Member and Chief Commissioner. July 28, Howard B. Chase, Montreal, Que., Assistant Grand Chief Engineer of the Brotherhood of Locomotive Engineers: to be a Member. Oct. 27, William Hugh Masson Wardrope: to be a member and Assistant Chief Commissioner for a further term from Nov. 8, 1948.

Boundary Waters Commission.—**1947.** Oct. 1, George Spence, Regina, Sask.: to be a Commissioner pursuant to Article VII of the Treaty between His Majesty and the United States of America relating to Boundary Waters and questions arising along the Boundary between Canada and the United States.

Canadian Broadcasting Corporation.—**1947.** Oct. 23, Dr. G. Douglas Steel, Charlottetown, P.E.I.: to be again a Governor for a term of three years from Nov. 1, 1947. **1948.** Jan. 19, Adrien Pouliot, Quebec, Que., Dean of the Faculty of Sciences of Laval University: to be again a Governor for a further term of three years from Jan. 25, 1948. Nov. 10, Arnold Davidson Dunton: to be again a Governor and Chairman, effective Nov. 15, 1948. René Morin, Montreal, Que.: to be again a Governor for a further term of one year from Nov. 1, 1948. Mrs. Mary Sutherland, Parksville, B.C.: to be again a Governor for a further term of three years from Nov. 1, 1948. Dec. 23, W. H. Phillips, Ottawa, Ont., Vice-President Order of Railway Telegraphers: to be a Governor for a period of three years, *vice* Howard B. Chase, resigned.

Canadian Commercial Corporation.—**1948.** Jan. 22, Herbert Owen Moran, Chief of the Economic Division, Department of External Affairs: to be Director, pursuant to the provisions of the Canadian Commercial Corporation Act, c. 40, 1946, *vice* S. D. Pierce, resigned, effective Oct. 28, 1947.

Canadian Farm Loan Board.—**1948.** Jan. 15, Thomas F. Donnelly, M.D., C.M.: to be Commissioner and Chairman, effective Jan. 1, 1948, *vice* Dr. J. D. MacLean, resigned. John C. Murray: to be a Member for a period of one year and Adrien Beaulieu, Ormstown, Que.: to be a Member for a period of five years, effective Jan. 1, 1948, *vice* Aimé Boucher, deceased. Aug. 9, Duncan Ross, Martintown, Ont.: to be a Member for a further term of one year from Aug. 11, 1948. John C. Murray: to be again a Member for a further period of one year from Jan 1, 1949.

Canada Labour Relations Board.—**1948.** Aug. 3, Mr. Justice G. B. O'Connor, Edmonton, Alta.: to be Chairman. W. L. Best, Ottawa, Ont.; J. A. D'Aoust, Wrightville, Que.; A. R. Mosher, Ottawa, Ont.; G. Picard, Montreal, Que.; E. R. Complin, Montreal, Que.; A. Deschamps, Montreal, Que.; A. J. Hills, Ottawa, Ont.; and H. Taylor, Toronto, Ont.: to be Employers' Representatives. A. H. Brown, Ottawa, Ont.: to be Vice-Chairman to act in place of the Chairman during his absence for any reason and to be a Member while so acting.

Canadian Maritime Commission.—**1947.** Oct. 21, John V. Clyne, Vancouver, B.C.: to be a Member and Chairman for a term of five years from Nov. 1, 1947. Louis de la Chesnays Audette, Ottawa, Ont.: to be a Member for a term of four years from Nov. 1, 1947. Henry J. Rahlves, Montreal, Que.: to be a Member for a term of three years from Nov. 1, 1947. **1948.** Angus McGugan, Montreal, Que.: to be a Member for a period ending on Oct. 31, 1950, being the duration of the unexpired term of office of H. J. Rahlves, resigned pursuant to the provisions of the Canadian Maritime Commission Act.

Canadian National Railways.—**1947.** Oct. 1, Herbert James Symington, K.C., and Brenton Leo Daly: to be again Directors for a further term of three years from Oct. 1, 1947. **1948.** Sept. 9, James Alexander Northey, Toronto, Ont., and Wilfrid Joseph Theophile Gagnon, Montreal, Que.: to be again Directors for a further term of three years from Oct. 1, 1948.

Canadian Pension Commission.—**1947.** Sept. 9, Roderick John Gordon, M.D., F.A.C.P.: to be again an *ad hoc* Member for one year from Sept. 1, 1947. Nov. 7, Globensky Edouard Leprohon, Ste. Rose, Que.: to be a Commissioner for a period of five years from Dec. 1, 1947. Dec. 18, John Kennedy Matheson, M.C.: to be again a Member for a further period of seven years from July 1, 1948. **1948.** Jan. 13, Wing Cmdr. John Murray Forman, D.F.C.: to be again an *ad hoc* Member for a further period of one year from Feb. 1, 1948. Cmdr. Norman Loris Pickersgill, V.D.: to be again an *ad hoc* Member for a further period of six months from Feb. 1, 1948. Mar. 16, Harry Mackenzie Barnes: to be a Member for a further period of seven years from Sept. 1, 1948. Henry Atwood Bridges: to be a Member for a further period of seven years from Sept. 1, 1948. June 17, Cmdr. Norman Loris Pickersgill, V.D.: to be an *ad hoc* Member for a further period of six months from Aug. 1, 1948. Roderick John Gordon, M.D., D.P.H., F.A.C.P.: to be an *ad hoc* Member for a further period of one year from Sept. 1, 1948. John René Painchaud: to be a Member for five years, pursuant to the provisions of Section 3 of the Pensions Act.

Canadian Wheat Board.—**1947.** Dec. 31, Charles E. Hayles, Winnipeg, Man.: to be a Member of the Advisory Committee, *vice* A. Cumberland Reid, resigned. **1948.** June 26, T. W. Grindley, Ph.D., Secretary, Canadian Wheat Board: to be a Member, effective July 1, 1948, *vice* Florent L. M. Arnold, resigned.

Civil Service Commission.—**1948.** Dec. 23, Alexandre Boudreau, Ste. Anne de la Pocatière, Que.: to be a Member, *vice* Arthur Thivierge, deceased.

Commissioner of the Yukon.—**1948.** July 13, John Edward Gibben, K.C.: to be Commissioner.

Dairy Products Board.—**1948.** Sept. 9, Frank Leslie, Woodstock, Ont.: to be a Member, *vice* John Freeman, resigned.

Deputy of His Excellency the Governor General.—**1947.** Dec. 5, Joseph François Delaute, Ottawa, Ont.: to be Deputy. **1948.** June 5, Hon. Ivan Cleveland Rand, Hon. Roy Lindsay Kellock and Hon. James Wilfred Estey, Puisne Judges of the Supreme Court of Canada: to be Deputies.

Dominion Coal Board.—**1947.** Oct. 21, Wilbur Edward Uren, Ottawa, Ont.: to be a Member and Chairman. W. C. Whittaker, Calgary, Alta.; Ian MacLaren, Toronto, Ont.; D. W. Morrison, Glace Bay, N.S.; Maj.-Gen. E. J. Renaud, Quebec, Que.; and P. Streeter, Saint John, N.B.: to be Members.

Dominion Council of Health.—**1947.** Sept. 12, John W. Bruce, O.B.E., R.R. 1, Richmond Hill, Ont.: to be again a Member for a further period of three years, effective June 20, 1947. **1948.** Sept. 22, Miss Elizabeth Smellie, Toronto, Ont.: to be a Member, effective from June 1, 1948, *vice* Mrs. H. D. Smith, New Westminster, B.C., whose appointment terminated on May 31, 1948.

Federal District Commission.—**1947.** July 31, F. E. Bronson, J. W. Ste. Marie and Dr. R. Chevrier: to be again Members from Aug. 31, 1947. Dr. Charles Camsell, C.M.G., Ottawa, Ont.: to be a Member. **1948.** Nov. 12, J. Henri Blanchard,

Charlottetown, P.E.I.: Harvey W. L. Doane, Halifax, N.S.; A. Foster Baird, Fredericton, N.B.; Gaston Amyot, Quebec, Que.; Bernard Keble Sandwell, Toronto, Ont.; Cecil Earle Joslyn, Winnipeg, Man.; John W. Sanderson, Prince Albert, Sask.; Mrs. Cora T. Casselman, Edmonton, Alta.; William Herbert Warren, Victoria, B.C.: to be Members.

Foreign Exchange Control Board.—**1948.** Sept. 9, John Deutsch: to be alternate Member, *vice* the Deputy Minister of Finance when absent or unable to act.

Forest Insects Control Board.—**1947.** Sept. 23, Maj.-Gen. Howard Kennedy: to be Chairman, *vice* Ernest Menard, effective Sept. 25, 1947.

Grain Commission.—**1947.** Aug. 14, Murdock MacPherson MacKinnon: to be Assistant Grain Commissioner for the Province of Alberta, effective Aug. 1, 1947.

Harbour Commissioners.—**1947.** Aug. 6, T. W. Christie and Denis O'Brien: to be Port Alberni Commissioners, each for a term of three years.

Income Tax Appeal Board.—**1948.** Dec. 23, Hon. Roy T. Graham, a Judge of the Court of King's Bench, Province of Saskatchewan: to be Chairman for a period of one year. Fabio Monet, Montreal, Que.; and William Stanley Fisher, K.C., Ottawa, Ont.: to be Members for a period of ten years, effective Jan. 1, 1949.

International Bank for Reconstruction and Development.—**1947.** Sept. 5, Robert Broughton Bryce: to be alternate Governor, *vice* Graham Ford Towers.

International Boundary Commission.—**1947.** Nov. 19, James Morey Wardle, O.B.E., Director of Special Projects, Department of Mines and Resources: to be Commissioner, *vice* Noel John Ogilvie, resigned, effective Nov. 15, 1947.

International Fisheries Convention.—**1948.** Apr. 8, Stewart Bates, Deputy Minister of Fisheries, Ottawa, Ont.: to be one of the Canadian Members in accordance with the terms of Article III of the Northern Pacific Halibut Fisheries Convention between Canada and the United States, *vice* A. J. Whitmore, resigned.

Interprovincial Board under the Old Age Pensions Act.—**1948.** Sept. 15, to be Members: Hon. John H. Sturdy, Minister of Social Welfare for the Province of Saskatchewan, *vice* Hon. O. W. Valleau and Hon. A. W. Matheson, Minister of Health and Welfare for the Province of Prince Edward Island, *vice* P. S. Fielding. Nov. 17, Hon. Lauchlin D. Currie, Minister of Public Health and Welfare for the Province of Nova Scotia, to be a Member, *vice* Hon. F. R. Davis, deceased.

International Joint Commission.—**1948.** Dec. 23, Hon. James Allison Glen, K.C.: to be a Member.

Lake of the Woods Control Board.—**1947.** Dec. 26, Robert Blais: to be a Member, *vice* K. M. Cameron, retired.

Manitoba-Saskatchewan Boundary Commission.—**1948.** Dec. 23, Bruce W. Waugh, Surveyor General of Dominion Lands: to be a Member and also Chairman, *vice* Frederic H. Peters.

Medical Council of Canada.—**1948.** Nov. 17, Dr. D. A. Carmichael, Ottawa, Ont., Dr. E. A. McCusher, Regina, Sask. and Dr. P. A. McLennan, Vancouver, B.C.: to be representatives of the Governor in Council, for a four-year term from Nov. 7, 1948, to Nov. 6, 1952.

National Council on Physical Fitness.—**1948.** Mar. 11, Dr. J. B. Kirkpatrick, Director of Physical Fitness for the Province of Saskatchewan: to be again a Member for a further period of three years, effective from Jan. 1, 1948, to Dec. 31, 1950. Sept. 9, E. W. Stinson, Acting Director of Physical Fitness for the Province of Saskatchewan: to be a Member for a period of three years from Sept. 1, 1948, to Aug. 31, 1951. Dec. 21, J. H. Ross, Calgary, Alta.; E. Lee, Vancouver, B.C.; Dr. W. C. Ross, Halifax, N.S.: to be again Members for a further term of three years from Jan. 1, 1949 to Dec. 31, 1951.

National Film Board.—**1948.** Feb. 26, Jean-Charles Falardeau, Quebec, Que.: to be a Member for the remainder of the three-year term of office of Edmond Turcotte, resigned. Nov. 18, J. F. MacNeill, Ottawa, Ont.: to be a Member for a further period of three years from Nov. 11, 1948.

National Gallery of Canada.—**1947.** Aug. 14, Dr. Robert Newton, President of the University of Alberta: to be a Member of the Board of Trustees. **1948.** Jan. 27, Rt. Hon. Vincent Massey, C.H., a Member of the Board of Trustees: to be Chairman, *vice* Harry S. Southam, resigned.

National Research Council.—**1947.** Oct. 23, Dr. H. P. Armes, B.Sc., Ph.D., Dean of the University, University of Manitoba: to be a Member for a term of two years expiring Mar. 31, 1949, *vice* Dean H. H. Saunderson, resigned. Dr. O. Maass, M.Sc., Ph.D., F.S.C., Macdonald Professor of Physical Chemistry and Chairman of the Department of Chemistry, McGill University: to be a Member for a term of three years expiring Mar. 31, 1950. **1948.** Apr. 16, Dr. Albert Bertrand, University of Montreal; Dean Ignace Brouillet, Montreal, Que.; Percy Bengough, President, Trades and Labour Congress of Canada, Ottawa, Ont.; Dr. Paul E. Gagnon, Laval University; and Dr. R. C. Wallace, Queen's University: to be Members for a term of three years expiring Mar. 31, 1951.

Northwest Territories Council.—**1948.** Oct. 5, Donald Morrison MacKay, Acting Director, Indian Affairs Branch, Department of Mines and Resources: to be a Member, *vice* Robert Alexander Hoey, retired.

Northwest Territories Power Commission.—**1948.** Aug. 12, James Morey Wardle, C.B.E., Director of Special Projects, Department of Mines and Resources: to be a Member and Chairman, effective Sept. 1, 1948.

Security Council of the United Nations.—**1948.** Jan. 8, General the Honourable A. G. L. McNaughton: to be the Representative of Canada.

Soldier Settlement and Veterans' Land Act.—**1947.** Oct. 17, Thomas John Rutherford: to be Director.

Toronto Harbour Commission.—**1947.** Dec. 18, Luther F. Winchell: to be a Commissioner for a term of three years from Dec. 15, 1947, *vice* Frank T. Matthews, deceased.

Trans-Canada Air Lines.—**1948.** Feb. 3, G. R. McGregor, Winnipeg, Man.: to be a Director, effective Jan. 3, 1948, *vice* J. A. Wilson, resigned.

Trans-Canada Air Lines (Atlantic) Limited.—**1948.** Mar. 25, C. P. Edwards, Ottawa, Ont., G. R. McGregor, Montreal, Que.; and Geo. Herring, Ottawa, Ont.: to be Directors.

Trenton Harbour Commissioners.—**1948.** July 27, W. A. Fraser, Trenton, Ont., and J. S. Coleman, Trenton, Ont.: to be Members, *vice* C. R. Perry and H. E. Mayhew, deceased.

Unemployment Insurance Advisory Committee.—**1948.** Apr. 20, G. H. Leverman, Halifax, N.S.: to be a Member of the Unemployment Insurance Advisory Committee, under the authority of the Unemployment Insurance Act, 1940, *vice* W. S. Lavers, deceased.

United Nations. — **1948.** Jan. 8, General the Honourable A. G. L. McNaughton: to be the Permanent Delegate of Canada to the United Nations.

War Veterans' Allowance Board.—**1948.** Sept. 22, Marc-A. LaVoie, E.D., Secretary of the War Veterans' Allowance Board: to be a temporary Member, effective Aug. 1, 1948.

Yukon.—**1948.** Oct. 20, Charles Becker: to be Public Administrator, *vice* John E. Gibben, effective Nov. 1, 1948.

Departmental Appointments

Air Staff.—**1947.** Aug. 14, Air Vice-Marshal Wilfred Austin Curtis, C.B., C.B.E., D.S.C.: to be Chief with the rank of Air Marshal.

Deputy Ministers.—**1947.** Dec. 30, Department of Insurance, Robert Webster Warwick: to be Superintendent of Insurance, *vice* George D. Finlayson, retired, effective Jan. 1, 1948. **1948.** Jan. 22, Vincent William Thomas Scully, Ottawa, Ont.: to be Deputy Minister of National Revenue for Taxation, effective Feb. 1, 1948. C. P. Edwards: to be Deputy Minister of Reconstruction and Supply, effective Feb. 1, 1948. Jean Claude Lessard: to be Deputy Minister of Transport, effective Feb. 1, 1948. May 6, Maxwell Weir MacKenzie: to be Deputy Minister of Reconstruction and Supply, effective May 4, 1948. C. P. Edwards: to be Deputy Minister of Transport for Air Services, effective May 4, 1948.

Associate Deputy Ministers.—**1948.** Dec. 29, Sydney David Pierce: to be Associate Deputy Minister of Trade and Commerce, effective Feb. 1, 1949.

Dominion Archivist.—**1948.** Sept. 10, William Kaye Lamb, M.A., Ph.D., Vancouver, B.C.: to be Dominion Archivist.

Department of Mines and Resources.—**1948.** Oct. 22, Miss Rhoda R. Macdonald, Departmental Solicitor, Dawson, Yukon Territory: to be Deputy Registrar of the Yukon Land Registration District.

Department of Transport.—**1948.** Oct. 19, Capt. Claude H. Durant: to be Port Warden at and for the Port of Parrsboro, N.S., *vice* Harvey Macaloney, deceased.

Section 2.—Dominion Legislation, 1947

Legislation of the Third Session of the Twentieth Parliament, Jan. 30, 1947 to July 17, 1947

NOTE.—This classified list of Dominion Legislation has been compiled from the Statutes. Naturally in summarizing material of this kind it is not always easy to convey the full implication of the legislation. The reader who is interested in any specific Act is therefore referred to the Statutes themselves. Adequate references are given in this summary.

Chapter and Date of Assent	Synopsis
11 George VI.	
Agriculture—	
3 Mar. 28	*An Act to Amend the Canada Grain Act* (c. 5, 1930 and amendments). The amendments under this Act are concerned mainly with: (1) the extension of time allowed between weigh-overs in elevators and (2) the provision for full insurance of grain stored against fire and explosion.
10 May 14	*The Agricultural Products Act* authorizes the continuance of agreements made for the sale and export of agricultural products to distressed countries for the relief of suffering.
15 May 14	*An Act to Amend the Canadian Wheat Board Act, 1935* (c. 53, 1935 and amendments). The amendment authorizes the Canadian Wheat Board to continue as the sole wheat buying and selling agency until 1950, for the requirements of the wheat contract with the United Kingdom; and makes provision for other matters affecting the operations of the Board. The *National Emergency Transitional Powers Act, 1945*, regulations as expedient to the Board are to be in force until the end of the present crop year.
34 June 27	*An Act to Amend the Farm Improvement Loans Act, 1944* (c. 41, 1944-45). The amendment makes provision for the inclusion of poultry in the definition of live stock as contained in the Act.
43 June 27	*An Act to Amend the Prairie Farm Assistance Act, 1939* (c. 50, 1939 and amendments). This amendment provides for an increase per acre to be awarded in payments to farmers in need of assistance.
Civil Service—	
53 July 17	*An Act to Amend the Civil Service Act* (c. 22, R.S.C. 1927 and amendments), grants increases in the salaries of the Chairman of the Commission and Commissioners; amends former legislation concerning appointments, and the taking and subscribing of the oath of allegiance.
54 July 17	*An Act to Amend the Civil Service Superannuation Act* (c. 24, R.S.C. 1927 and amendments) provides for retirement of civil servants at the age of 60 years and compulsory retirement at 65 years; defines the areas of active overseas service in World Wars I and II and terms under which veterans are entitled to retirement benefits; eliminates the 10-year period of service before a retiring allowance is paid to a contributor; places on a statutory basis the wartime regulations in respect of temporary employee contributions to the Retirement Fund.
Communications—	
8 Mar. 28	*The Mail Contracts Supplemental Payments Act* authorizes supplementary payments on rural and land mail contracts.
50 July 17	*An Act to Amend the Canadian Broadcasting Act, 1936* (c. 24, 1936 and amendments). This amendment grants to the Canadian Broadcasting Corporation the full annual returns from radio licence fees without deducting costs of collection or administration.
External Affairs—	
56 July 17	*The Diplomatic Service (Special) Superannuation Act* grants payment, out of the Consolidated Revenue Fund, of superannuation benefits for senior appointees of the Department of External Affairs serving outside Canada and to their wives, widows or dependents.
Finance and Taxation—	
1 Mar. 28	*The Appropriation Act, No. 1, 1947* grants payment, out of the Consolidated Revenue Fund, of $190,921,733·56 for defraying expenses of the public service during the fiscal year 1947-48, being one-sixth of the amount of the Main Estimates, together with additional sums not exceeding $1,246,374·91, and $1,016,666·66, for charges and expenses not otherwise provided for. Authority is also granted for the raising of sums required for the redeeming of loans or obligations.

Legislation of the Third Session of the Twentieth Parliament, Jan. 30, 1947 to July 17, 1947—continued

Chapter and Date of Assent	Synopsis
Finance and Taxation—concl.	
2 Mar. 28	*The Appropriation Act, No. 2, 1947* grants payment of $55,839,512·54, out of the Consolidated Revenue Fund, for defraying expenses of the public service, based on further supplementary estimates for the fiscal year 1946-47.
4 Mar. 28	*An Act to Amend the Customs Act* (c. 42, R.S.C. 1927 and amendments). This amendment increases to 30 days the 14 days allowed to report to a customs collector for refund of duty paid.
11 May 14	*The Appropriation Act, No. 3, 1947* grants payment, out of the Consolidated Revenue Fund, of $95,969,200·11 for defraying expenses of the public service during the fiscal year 1947-48, being one-twelfth of the amount of the Main Estimates together with an additional interim sum not exceeding $5,853,666·66, for charges and expenses not otherwise provided for.
25 June 27	*The Appropriation Act, No. 4, 1947* grants payment of $95,299,991·78, out of the Consolidated Revenue Fund, for defraying expenses of the public service for the fiscal year 1947-48, being one-twelfth of the amount of the Main Estimates.
32 June 27	*An Act to Amend the Excess Profits Tax Act, 1940* (c. 32, 1940 and amendments) provides that a taxpayer, with the exception of taxpayers under Section 9, c. 32, 1940, is not entitled to make application for determination of his standard profits on or after Sept. 1, 1947; no tax will be imposed on profits earned on and after Jan. 1, 1948.
39 June 27	*An Act to Amend the Municipal Improvements Assistance Act, 1938* (c. 33, 1938). This legislation makes certain amendments respecting the loans to a municipality for the administration of a project when undertaken by another municipality.
58 July 17	*The Dominion-Provincial Tax Rental Agreements Act, 1947* authorizes the Government of Canada to enter into agreements with the provinces by which, in return for compensation, the Provincial Governments would agree to refrain from levying certain taxes for a period of five years commencing Jan. 1, 1947.
60 July 17	*The Excise Tax Act.* This Act changes the title of the Special War Revenue Act to Excise Tax Act; makes changes in respect of passenger transportation tickets; excise and bank cheque stamps; imposes a consumption or sales tax on exports of goods produced or manufactured in Canada; reduces the tax on syrups and gasoline.
63 July 17	*An Act to Amend the Income War Tax Act* (c. 97, R.S.C. 1927 and amendments). This amendment provides for revisions and reductions in personal income tax and corporation taxes, and taxes imposed on residents or non-residents of Canada in respect of dividends from private companies.
77 July 17	*The Western Provinces Treasury Bills and Natural Resources Settlement Act.* This Act authorizes the refunding and adjustment of the outstanding loans for relief of the four Western Provinces to the Federal Government and final settlement of the claims against the Government of Canada in respect of the administration and control of the natural resources of the Provinces of Alberta and Saskatchewan.
78 July 17	*The Appropriation Act, No. 5, 1947* grants the sums, out of the Consolidated Revenue Fund, of $761,256,101·04 (less the amounts already authorized under Appropriation Acts Nos. 1, 3 and 4, 1947) for public service expenses for the fiscal year 1947-48, together with supplementary estimates of $66,666·68, being the amount set forth in Schedule B to the Act (less the amounts already voted under Appropriation Acts Nos. 1, 3 and 4, 1947) and $114,989,219·16, being the amount set forth in Schedule C to the Act. Authority is also granted for raising a loan by the issue and sale or pledge of securities of Canada, a sum not exceeding $200,000,000, for public works and general purposes.
Fisheries—	
61 July 17	*An Act to Amend the Fisheries Research Board Act* (c. 31, 1937). This amendment gives authority for the appointment of a vice-chairman and an executive director, and for the employment of scientific, technical officers and other employees necessary to the work of the Board.
Immigration—	
19 May 14	*An Act to Amend the Immigration Act and to Repeal the Chinese Immigration Act.* The amendment permits dependents to enter Canada, subject to medical approval before proceeding to Canada, and repeals the Chinese Immigration Act, c. 95, R.S.C. 1927.

Legislation of the Third Session of the Twentieth Parliament, Jan. 30, 1947 to July 17, 1947—continued

Chapter and Date of Assent	Synopsis
Insurance and Trust Companies—	
27 June 27	*An Act to Amend the Canadian and British Insurance Companies Act, 1932, and the Foreign Insurance Act, 1932* (cc. 46 and 47, 1932 and amendments). The legislation authorizes Canadian and British insurance companies and foreign insurance companies doing business in Canada to invest in securities issued by the International Bank for Reconstruction and Development.
75 July 17	*An Act to Amend the Trust Companies Act* (c. 29, R.S.C. 1927 and amendments). This amendment makes revisions for the incorporation and organization of trust companies including: the amount of capital stock and shares; investment of trust moneys and company's funds; extension of the period for holding real estate for the protection of investments from seven to twelve years.
International Affairs—	
46 June 27	*The United Nations Act, 1947* empowers the Governor in Council to take the action necessary to implement decisions under Article 41 of the Charter of the United Nations.
47 June 27	*The Visiting Forces (United States of America) Act.* The purpose of this legislation is to make provision with respect to the discipline and to the internal administration of visiting Forces from the United States.
69 July 17	*The Privileges and Immunities (United Nations) Act* provides for privileges and immunities in respect of the United Nations and related international organizations.
Justice—	
13 May 14	*An Act to Amend the Canada Evidence Act* (c. 59, R.S.C. 1927 and amendments). The legislation amends the modes by which evidence of a treaty to which Canada is a party may be given.
14 May 14	*An Act to Amend the Canada Evidence Act (Banks)* (c. 59, R.S.C. 1927 and amendments). Under this amendment the books or records of the Bank of Canada and the Industrial Development Bank are made subject to the same provisions that apply to other banks.
31 June 27	*An Act to Amend the Criminal Code (Race Meetings)* (c. 36, R.S.C. 1927 and amendments). Current amendments are concerned with the holding of race meetings, and the administration and supervision of the pari-mutuel system.
33 June 27	*An Act to Amend the Exchequer Court Act* (c. 34, R.S.C. 1927 and amendments). The legislation grants a salary not exceeding $6,500 to the Registrar of the Exchequer Court.
35 June 27	*An Act to Amend the Identification of Criminals Act* (c. 38, R.S.C. 1927). The amendment provides for the extension of the Act to cover persons charged under the *Extradition Act or the Fugitive Offenders Act.*
36 June 27	*An Act to Amend the Judges Act, 1946* (c. 56, 1946). This legislation appoints an Associate Chief Justice to the Superior Court in the Province of Quebec, and provides for an additional judge of the Supreme Court of British Columbia.
37 June 27	*An Act to Amend the Juvenile Delinquents Act, 1929* (c. 46, 1929 and amendments). The amendment grants special leave by a Supreme Court Judge to appeal from any decision of the Juvenile Court or a magistrate.
41 June 27	*An Act to Amend the Penitentiary Act, 1939* (c. 6, 1939 and amendments). The amendment authorizes the appointment of one Commissioner and two Deputy Commissioners of Penitentiaries; and other minor administrative amendments.
55 July 17	*An Act to Amend the Criminal Code* (c. 36, R.S.C. 1927 and amendments). This amendment deals with offences and penalties, appeals and convictions, and fees taken for proceedings. Provision is made for an indeterminate period of imprisonment for habitual criminals.
64 July 17	*An Act to Amend the Interpretation Act* (c. 1, R.S.C. 1927 and amendments). This legislation extends the Act to make exceptions in Subsection 1 applicable to interpretation sections.

Legislation of the Third Session of the Twentieth Parliament, Jan. 30, 1947 to July 17, 1947—continued

Chapter and Date of Assent	Synopsis
Mines and Resources—	
7 Mar. 28	*An Act to Amend the Fertilizers Act* (c. 69, R.S.C. 1927 and amendments). Certain amendments are made respecting quality and percentages of different ingredients entering into the production of fertilizer; permits the continuance of control of sale and advertisement of fertilizers.
22 May 14	*The National Wild Life Week Act* authorizes the week in which Apr. 10 occurs (the birthday of the late Jack Miner) to be known and observed throughout Canada as National Wild Life Week.
57 July 17	*The Dominion Coal Board Act, 1947* establishes a corporation known as the Dominion Coal Board to exercise certain powers respecting the production, importation, distribution and use of coal in Canada.
62 July 17	*An Act respecting the Hudson Bay Mining and Smelting Company, Limited*, enacts legislation to declare that the works and undertakings of the Hudson Bay Mining and Smelting Company, Limited, are for the advantage of two or more provinces and provides for employer-employee working-condition agreements to remain under federal authority.
66 July 17	*The National Parks Amendment Act, 1947* (c. 33, 1930 and amendments). The amendment abolishes Nemiskam and Buffalo Parks and redefines the boundaries of certain other National Parks.
National Defence—	
5 Mar. 28	*An Act to Amend the Department of National Defence Act* (c. 136, R.S.C. 1927 and amendments). This legislation makes provision for the appointment of one Deputy Minister and not more than three Associate Deputy Ministers of National Defence; and authorizes the establishment of a Defence Research Board.
21 May 14	*An Act to Amend the Militia Act* (c. 132, R.S.C. 1927). This Act includes certain revisions *re* the organization of the Canadian Army, enlistments, retirement, exemptions, etc.
49 July 17	*The Army Benevolent Fund Act, 1947* provides for the establishment of a benevolent fund for Army veterans of the Second World War and authorizes a board of administration to be called "The Army Benevolent Fund Board", consisting of five members appointed by the Governor in Council.
Parliamentary Representation—	
71 July 17	*The Representation Act, 1947* provides for the readjustment of representation in the House of Commons by increasing the representation from 245 to 255 members as follows: Ontario 83 members; Quebec 73; Nova Scotia 13; New Brunswick 10; Manitoba 16; British Columbia 18; Prince Edward Island 4; Saskatchewan 20; Alberta 17; Yukon Territory and that part of the Northwest Territories lying west of 109th meridian west longitude. The Schedule defines the new electoral districts.
Trade and Commerce—	
17 May 14	*The Export and Import Permits Act* authorizes that certain commodities be exported and imported only under permit issued by the Minister of Trade and Commerce. Expiration date of the Act is set as the sixtieth day from the First Session of Parliament, 1948.
51 July 17	*An Act to Amend the Canadian Commercial Corporation Act* (c. 40, 1946). This amendment extends the powers of the Corporation.
Transportation—	
12 May 14	*An Act respecting the appointment of Auditors for National Railways* authorizes, for 1947, the appointment of independent auditors to make a continuous audit of the accounts of the National Railways.
28 June 17	*An Act to Amend the Canadian National-Canadian Pacific Act, 1933* (c. 33, 1932-33 and amendments). This amendment authorizes employer-employee agreements, rates of pay, hours of work and other conditions of employees of the railways, if agreements are filed with the Minister of Transport.
29 June 17	*Canadian National Railways Financing and Guarantee Act, 1947* authorizes the provision of moneys to meet capital expenditures made and capital indebtedness incurred by the Canadian National Railways during 1947 and to authorize the guarantee by the Government of certain securities to be issued by the Canadian National Railways.

Legislation of the Third Session of the Twentieth Parliament, Jan. 30, 1947 to July 17, 1947—continued

Chapter and Date of Assent	Synopsis
Transportation—concl.	
30 June 27	*Canadian National Railways Refunding Act, 1947.* The Act provides for the refunding of matured, maturing and callable financial obligations of the Canadian National Railway Company and for the issue of substituted securities in respect of such refunding to an amount not exceeding $200,000,000.
42 June 27	*The Port Alberni Harbour Commissioners Act.* This Act provides for the incorporation of the Port Alberni Harbour Corporation to have jurisdiction within the harbour limits.
52 July 17	*The Canadian Maritime Commission Act* gives authority for the establishment of a Canadian Maritime Commission consisting of three members to consider and recommend from time to time such policies and measures necessary for the operation, maintenance, manning and development of a merchant marine and a shipbuilding and ship-repairing industry commensurate with Canadian maritime needs.
70 July 17	*An Act to Amend the Railway Act* (c. 170, R.S.C. 1927 and amendments). The amendment provides for increases in salaries of its Commissioners and makes an annual grant of $200,000 from the Consolidated Revenue Fund for ten consecutive years from April, 1947, towards the actual construction of railway grade crossings.
74 July 17	*An Act to Extend the Term of Office of a Transport Commissioner* permits a Transport Commissioner who has reached the age of 75 years to continue to hold office for not more than one year after June 30, 1947.
Veterans Affairs and Pensions—	
9 Mar. 28	*An Act to Amend the Militia Pension Act* (c. 133, R.S.C. 1927 and amendments). The amendment provides that, for the purpose of this Act, a man promoted to the rank of acting warrant officer subsequent to Sept. 10, 1939, but prior to Jan. 1, 1947, is not deemed to be an officer.
65 July 17	*An Act to Amend the Militia Pension Act (Disablement Pension)* (c. 133, R.S.C. 1927 and amendments). This legislation makes provision for medical examination of disabled members of the forces, not already covered by the existing legislation, to qualify them for pension.
76 July 17	*An Act to Amend the Veterans Business and Professional Loans Act* (c. 69, 1946). The amendment provides for guaranteed loans with respect to partnership business.
Miscellaneous—	
6 Mar. 28	*An Act to Amend the Feeding Stuffs Act, 1937* (c. 30, 1937 and amendments). The amendment provides authority for establishing regulations that only feeding stuffs of the kind or composition as specified by such regulations shall be eligible for registration.
16 May 14	*The Continuation of Transitional Measures Act, 1947* provides for the continuation of certain orders and regulations in force under the War Measures Act and the National Emergency Transitional Powers Act, 1945. The expiration date of the Act is to be Mar. 31, 1948, or the sixtieth day after Parliament meets during 1948, unless extension is asked for a further period which shall not in any case exceed one year from the time it would otherwise have expired.
18 May 14	*The Government Employees Compensation Act, 1947.* This Act grants compensation payable out of unappropriated moneys of the Consolidated Revenue Fund to government employees for disease, disability or death arising out of their employment. This Act does not apply to any member of the Armed Forces or of the Royal Canadian Mounted Police.
20 May 14	*An Act to Amend the Inspection and Sale Act, 1938* (c. 32, 1938). This Act provides for the establishment of regulations respecting the inspection and grading of fibre flax.
23 May 14	*The Patent Act Amendment Act, 1947.* This amendment makes important changes in the original Patent Act, 1935, regarding: Government-owned patents; patents relating to atomic energy; extension of time for filing or prosecution of applications for patents; and tariff of patent fees.
24 May 14	*The Trading with the Enemy (Transitional Powers) Act.* This Act provides for the continuance of the revised regulations respecting trading with the enemy and the disposition of enemy property.

Legislation of the Third Session of the Twentieth Parliament, Jan. 30, 1947 to July 17, 1947—concluded

Chapter and Date of Assent	Synopsis
Miscellaneous— concl.	
26 June 27	*An Act respecting the Beauharnois Light, Heat and Power Company* (c. 19, 1931 and amendments) grants to that Company, its successors or assigns, certain water diversion rights between Lake Francis, the connecting Lake St. Louis and the River St. Lawrence.
38 June 27	*An Act to Amend the Merchant Seamen Compensation Act* (c. 58, 1946). This amendment revokes regulations established by P.C. 4755 July 17, 1945, and, as of Aug. 31, 1946, Section 19 of the Interpretation Act is substituted for these Regulations.
40 June 27	*An Act to Amend the National Housing Act, 1944* (c. 46, 1944-45 and amendments). The amendment concerns certain matters, including terms of contracts, loans on first mortgage and corporation agreements, etc.
44 June 27	*An Act to Amend the Publication of Statutes Act* (c. 2, R.S.C. 1927). The amendment removes from the original legislation provisions respecting disallowance of bills in relation to Dominion legislation.
48 June 27	*An Act to Amend the War Charities Act, 1939* (c. 10, 1939 and amendments). This amendment confines provisions of the Act to apply only to funds registered prior to the coming into force of this Act.
59 July 17	*The Eastern Rocky Mountain Forest Conservation Act* authorizes legislation for the protection of the forests and conservation of the watersheds on the eastern slope of the Rocky Mountains to be administered by the Eastern Rockies Forest Conservation Board, two members of which are to be appointed by the Governor in Council and one by the Lieutenant-Governor of Alberta in Council.
67 July 17	*An Act to Amend the Old Age Pensions Act* (c. 156, R.S.C. 1927 and amendments). This amendment permits an increase in the maximum old age pension, with liberalization of means and residence tests, and reduction to 21 years of the age at which a blind person is eligible for pension.
68 July 17	*An Act to Amend the Prisons and Reformatories Act* (c. 163, R.S.C. 1927 and amendments). The amendment provides that the Nova Scotia School for Boys be included as a reformatory institution.
72 July 17	*The Royal Style and Titles Act (Canada), 1947* gives assent to the omission of the words "Indiæ Imperator" and "Emperor of India" from His Majesty's Royal Style and Titles, the date on which the omission becomes effective to be published in the *Canada Gazette*.
73 July 17	*An Act to Amend the Senate and House of Commons Act* (c. 147, R.S.C. 1927 and amendments). This amendment provides for additional annual expense allowances to the Leader of the Government, and to the Leader of the Opposition, in the Senate.

Legislation of the Fourth Session of the Twentieth Parliament, Dec. 5, 1947 to June 30, 1948

Chapter and Date of Assent	Synopsis
11-12 Geo. VI	
Agriculture—	
1 Mar. 24	*An Act to Amend the Agricultural Products Act* (c. 10, 1947) by repealing Section 11 and placing the expiration date of the Act at Mar. 31, 1949.
4 Mar. 24	*An Act to Amend the Canadian Wheat Board Act, 1935*, provides that the Board, with the approval of the Governor in Council, may establish and contribute to a pension fund for the members, officers, clerks, employees and their dependents; also extends Parts I and IV of the said Act applicable to oats and barley.
9 Mar. 24	*An Act to Amend the Farm Improvement Loans Act, 1944*, limits the liability of the Government to a bank as to losses sustained under farm improvement loans during the period Mar. 1, 1945, to Feb. 28, 1951, and gives the form of security allowed a bank for payment and interest on such loans in certain cases.

Legislation of the Fourth Session of the Twentieth Parliament, Dec. 5, 1947 to June 30, 1948—continued

Chapter and Date of Assent	Synopsis
Agriculture—concl.	
24 May 14	*An Act to Amend the Prairie Farm Assistance Act, 1939*, defines the meaning of township in the Provinces of Manitoba, Saskatchewan, Alberta and British Columbia and the number of acres for which an award may be made; deduction of one per centum levy to be recorded by mill licensees on cash tickets or other form of settlement issued to the vendor of grain.
25 May 14	*An Act to Amend the Prairie Farm Rehabilitation Act* provides for the appointment of a Director and an Associate Deputy of Rehabilitation, officers and employees.
32 June 30	*An Act to Amend the Agricultural Prices Support Act, 1944.* Section 9 of the Act dealing with the powers of the Agricultural Prices Support Board shall continue in force for such further period as the Governor in Council may fix by proclamation.
61 June 30	*The Maritime Marshland Limitation Act* empowers the Minister of Agriculture to reclaim and develop marshlands in Nova Scotia, New Brunswick and Prince Edward Island.
Constitution and Government—	
46 June 30	*An Act to Amend the Dominion Elections Act, 1938*, amends the franchise qualifications of electors and makes minor amendments in the preparation of lists of enumerators and electors. Provision is made for voting by Defence Service electors and veteran electors at a general election; also for the superseding and withdrawal of writs for by-elections ordered to be held after the dissolution of Parliament.
67 June 30	*An Act respecting the Revised Statutes of Canada* establishes a Statute Revision Commission to examine, revise, classify and consolidate the statutes of Canada.
75 June 30	*An Act to Amend the Yukon Act* increases the sessional indemnity of the Councillors and makes other amendments.
Finance and Taxation—	
2 Mar. 24	*The Appropriation Act, No. 1, 1947-48* grants payment, out of the Consolidated Revenue Fund, of a sum not exceeding $179,134,768·68 for defraying expenses of the public service during the fiscal year 1948-49 not otherwise provided for, being one-sixth of the amount of each of the items to be voted in the Main Estimates; also $2,965,800·33 for items in Schedule A and $1,462,158·50 for items in Schedule B and $2,037,567·83 for items to be voted for as set forth in Schedule C.
3 Mar. 24	*The Appropriation Act, No. 2, 1947-48* grants payment out of the Consolidated Revenue Fund of $79,809,337·98 towards defraying expenses of the public service as set forth in the Schedule to this Act.
7 Mar. 24	*An Act to Amend the Emergency Exchange Conservation Act* authorizes importation of certain goods described in Schedules I, II and III only in accordance with a permit issued by the Minister of Finance and, subject to this Act and the regulations, the Minister may issue, vary or revoke permits for the import of such goods.
12 May 14	*The Appropriation Act, No. 3, 1947-48* grants the sum not exceeding $89,567,384·33 to be paid out of the Consolidated Revenue Fund to defray expenses of the public service not otherwise provided for and being one-twelfth of the amount of each of the items set forth in the Main Estimates with an additional $17,982,745·67 being one-sixth of the amount granted for items of the Schedule to this Act.
22 May 14	*An Act to provide for the winding-up of the Penny Bank of Ontario and the repeal of the Penny Bank Act.* The Penny Bank Act shall be repealed on and from a day to be fixed by proclamation published in the *Canada Gazette.*
23 May 14	*An Act to Amend the Pension Act* makes numerous minor amendments including: new provisions for widow's entitlement; certain pensions not payable in respect of children born after May 1, 1948; and extra allowances for total disability where requiring attendance according to A and B Schedules of this Act.
34 June 30	*The Canada-New Zealand Income Tax Agreement Act, 1948*, provides for an agreement between the Government of Canada and the Government of New Zealand for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income.

Legislation of the Fourth Session of the Twentieth Parliament, Dec. 5, 1947 to June 30, 1948—continued

Chapter and Date of Assent	Synopsis
Finance and Taxation—concl.	
43 June 30	*An Act to Amend the Department of National Defence Act* concerns the transfer of moneys contributed, and pay and allowances assigned, to the C.O.T.C. that previously belonged to Canada. They now cease to belong to Canada and may be transferred by order of the Governor in Council to a trust or to such persons as may be designated.
47 June 30	*An Act to Amend the Dominion Succession Duty Act* removes the limit whereby bequests to non-profit charitable organizations in Canada were exempt only up to 50 p.c. of the aggregate net value of an estate, and exempts from duty all successions derived from an estate of an aggregate net value not exceeding $50,000.
48 June 30	*An Act to Amend the Emergency Exchange Conservation Act* amends Schedule 1 of c. 7, 1947-48.
49 June 30	*An Act to Amend the ExciseAct, 1934*, repeals Part IV of the Act of 1934 regarding malting and malt houses and makes other minor amendments.
50 June 30	*An Act to Amend the Excise Tax Act* repeals Part II of the Act dealing with trust and loan company income. The 50 p.c. tax on certain articles and Schedule 5 is repealed. Parts XV and XVI concerning tax on places of amusement and entertainment are also repealed.
51 June 30	*An Act to Amend the Foreign Exchange Control Act.* Foreign currency is to be bought and sold only through authorized dealers and residents are required to sell all foreign currencies.
52 June 30	*The Income Tax Act.* This new legislation covers broadly all matters relating to income tax for individuals and corporations.
53 June 30	*An Act to Amend the Income War Tax Act* provides for an exemption of $500 for taxpayers who have attained the age of sixty-five. Provision is made for payment of interest to the taxpayer in respect of overpayment of tax. Schedule V, concerning the Income Tax Advisory Board, is repealed. Deductions may be made for expenditures incurred in certain phases of mining, oil drilling and refining as in previous years.
65 June 30	*An Act to Amend the Quebec Savings Banks Act* makes further regulations regarding loans which may be made without collateral security and on first mortgage.
68 June 30	*An Act to Amend the Salaries Act* fixes the salaries of the Lieutenant-Governors of the provinces.
70 June 30	*An Act to Amend the Tariff Board Act* makes changes in the tenure of office, appointments and salaries.
78 June 30	*The Appropriation Act, No. 4, 1947-48*, grants payment, out of the Consolidated Revenue Fund, of the sums of $781,658,186·63, $197,067,420·89, $10,100,000, set forth in Schedules A, B and C, and authorizes the raising of a loan of $200,000,000·00 for public works and general purposes.
Insurance and Loan Companies—	
36 June 30	*An Act to Amend the Canadian and British Insurance Companies Act, 1932, and the Foreign Insurance Companies Act, 1932*, provides for investments on loans, by such companies, in real estate or leaseholds in Canada or elsewhere not previously authorized by this Section but subject to certain provisions, exceptions and limitations.
57 June 30	*An Act to Amend the Loan Companies Act* repeals Part III of the Loan Companies Act of 1934 and makes other amendments.
International Affairs—	
71 June 30	*The Treaties of Peace (Italy, Roumania, Hungary and Finland) Act, 1948*, provides for carrying into effect the treaties signed by Canada and the countries mentioned in the title.
Justice—	
26 May 14	*An Act to Amend the Prisons and Reformatories Act* makes provision for the appointment by the Lieutenant-Governor of British Columbia of a Board of Parole and for the imprisonment in New Haven, instead of the common gaol, of any male between 16 and 21 years of age sentenced for a term of not less than 3 months or not more than 2 years less one day.

Legislation of the Fourth Session of the Twentieth Parliament, Dec. 5, 1947 to June 30, 1948—continued

Chapter and Date of Assent	Synopsis
Justice—concl.	
28 May 14	*An Act to Amend the Royal Canadian Mounted Police Act* by addition of Parts V, VI and VII concerning pensions, allowances and gratuities and contributions to the Consolidated Revenue Fund.
33 June 30	*An Act to Amend the Canada Evidence Act* makes provision whereby the wife or husband of a person charged with aiding or abetting juvenile delinquency shall be a competent and compellable witness for the prosecution without the consent of the person charged.
39 June 30	*An Act to Amend the Criminal Code* repeals Part XVII dealing with trial of juvenile offenders for indictable offences; provides for conspiracy to publish defamatory libel; establishes procedure in case of illness of a juror; makes changes in penalties; adds a Section (769A) on appeals to Court of Appeal; and provides for the admission in certain indictable offences of evidence as to whether the offender is a criminal sexual psychopath.
40 June 30	*An Act to Amend the Criminal Code (Race Meetings)* deletes the amount staked and the percentage deducted under the pari-mutuel system from c. 36, R.S.C. 1927 and substitutes other percentages.
55 June 30	*An Act to Amend the Judges Act, 1946*, repeals the provision for the salary of the judge of the Court of Divorce and Matrimonial Causes of the Supreme Court of Nova Scotia.
56 June 30	*An Act to Amend the Land Titles Act* defines how much land may be contained in an application for registration and in a certificate of title.
66 June 30	*An Act to Amend the Railway Act, the Exchequer Court Act and the Judges Act, 1946*, reconstitutes the composition of the Exchequer Court and further defines the jurisdiction of the Chief Commissioner of the Board of Railway Commissioners.
Labour—	
29 May 14	*An Act to Amend the Unemployment Insurance Act, 1940*, makes numerous changes in regulations regarding certificate exemptions, rates of contributions and benefits; disqualification for benefits; and legal proceedings for misrepresentation or non-compliance with the Act.
30 May 14	*An Act to Amend the Vocational Training Co-ordination Act, 1942*, authorizes the Minister to undertake projects to provide vocational training to fit unemployed persons for gainful employment.
54 June 30	*The Industrial Relations and Disputes Investigation Act* repeals the Industrial Disputes Investigation Act, 1927, enacts legislation regarding unfair labour practices, collective bargaining and agreements, strikes and lockouts, and outlines conciliation methods and procedures.
Mines and Resources—	
14 May 14	*An Act to Amend the Dominion Water Power Act* revises the powers of the Governor in Council.
15 May 14	*The Emergency Gold Mining Assistance Act* authorizes the Minister of Mines and Resources to make, under certain prescribed conditions, assistance payments to persons or corporations operating gold mines.
18 May 14	*An Act to Amend the National Parks Act* revises the descriptions of the National Parks.
60 June 30	*The Manitoba Natural Resources Transfer (Amendment) Act, 1948*, confirms the Agreement between the Government of Canada and the Government of Manitoba set out in the accompanying Schedule.
64 June 30	*The Northwest Territories Power Commission Act* establishes the Northwest Power Commission, defines its powers and arranges for financing the Commission.
69 June 30	*The Saskatchewan Natural Resources Act No. 4* confirms the Agreement set out in the attached Schedule.
76 June 30	*An Act to Amend the Yukon Placer Mining Act* provides for the more efficient tagging of claims and makes other minor amendments.
77 June 30	*An Act to Amend the Yukon Quartz Mining Act* makes amendments regarding filing, staking, grouping, tagging, etc., of claims.

Legislation of the Fourth Session of the Twentieth Parliament, Dec. 5, 1947 to June 30, 1948—continued

Chapter and Date of Assent	Synopsis
Trade and Commerce—	
6 Mar. 24	*An Act to Amend the Customs Tariff* by the striking out of tariff items 28 and 28a of c. 24, R.S.C. 1927; the enumeration of goods, rates of duties of customs of these items; and the insertion of the items, enumerations and rates of duty specified in the Schedule to this Act.
8 Mar. 24	*An Act to Amend the Excise Tax Act* revises certain sections of Schedules I, II and III of the Excise Tax Act, c. 179, R.S.C. 1927.
16 May 14	*An Act to Amend the Export and Import Permits Act* provides for the publication in the *Canada Gazette* of a list of countries to which goods, except under permit, may not be exported.
17 May 14	*An Act to Amend the Export Credits Insurance Act* provides that, where a contract of insurance will impose upon the Export Credits Insurance Corporation a liability in excess of that normally undertaken, such contract may be approved and authorized by the Governor in Council to be paid to the Corporation out of unappropriated moneys in the Consolidated Revenue Fund.
41 June 30	*An Act to Amend the Customs Act* provides for revision of the valuation of duty, and how the rate and amount of duty should be ascertained.
42 June 30	*An Act to Amend the Customs Tariff* revises the list of British countries to which preferential tariff applies and gives a Schedule of goods with rates of duties of customs.
Transportation—	
10 Mar. 24	*The New Westminster Harbour Commissioners Refunding Act, 1948*, provides for the refunding of maturing financial obligations of the New Westminster Harbour Corporation.
13 May 14	*An Act respecting the appointment of Auditors for National Railways* authorizes the appointment of independent auditors for 1948 to make a continuous audit of the National Railways accounts.
19 May 14	*An Act to Amend the North Fraser Harbour Commissioners Act* revises the manner in which the Commissioners are to be appointed and gives the Corporation power to administer dock property and water lots for Richmond, Burnaby and Vancouver.
27 May 14	*An Act to Amend the Railway Act* repeals legislation of c. 70, July 17, 1947 (see p. 1237), and makes an annual grant of $500,000 for nine consecutive years from Apr. 1, 1948, to be set aside from the Consolidated Revenue Fund for public highway crossings.
35 June 30	*An Act to Amend the Canada Shipping Act, 1934*, introduces new legislation concerning fatal accidents with regard to liabilities for damages and benefits to dependents. Numerous revisions have been made in the requirements for service certificates; appointments of masters and seamen; discharges; desertions; ship inspections; etc. As Schedule 14, following the amended legislation, the Conventions of the International Labour Convention concerning Medical Examination of Seafarers, certification of able seamen, food and catering for crews on board ship and the certification of ship's cooks are given.
37 June 30	*Canadian National Railway Financing and Guarantee Act, 1948*, authorizes the provision of money to meet certain capital expenditures and capital indebtedness incurred by the System during 1948 and to authorize the guarantee of certain securities to be issued by the Canadian National Railway Company.
Veterans Affairs—	
31 May 14	*An Act to Amend the War Service Grants Act, 1944*, authorizes the abolition of the Board of Review when the Minister is satisfied that the duties and functions of the Board can be transferred to a Committee of at least three officers of the Department of Veterans Affairs.
38 June 30	*An Act to Amend the Civilian War Pensions and Allowances Act* repeals the clause concerning the pension at death being applied for within one year from the date of death on the coming into force of this Act to applicants regarding civilian members of overseas air crews, Canadian merchant seamen and salt-water fishermen.

Legislation of the Fourth Session of the Twentieth Parliament, Dec. 5, 1947 to June 30, 1948—concluded

Chapter and Date of Assent	Synopsis
Veterans Affairs—concl.	
72 June 30	*An Act to Amend the Veterans Insurance Act* empowers the Minister to enter into a contract of insurance with veterans and dependents not hitherto provided for.
73 June 30	*An Act to Amend the Veterans Rehabilitation Act* extends the period in certain circumstances under which allowances may be paid by the Minister to those veterans applying for educational rehabilitation. The proviso that the Minister should not pay to any university more than $500 per annum for a veteran is rescinded.
74 June 30	*An Act to Amend the War Veterans' Allowance Act, 1946*, extends the definition of veteran and amends the allowances payable in certain cases.
Miscellaneous—	
5 Mar. 24	*An Act to Amend the Continuation of Transitional Measures Act, 1947*, sets forth the duration of the Act, provided a continuation is not at that time asked, for a period not exceeding one year.
11 May 14	*An Act to Amend the Animal Contagious Diseases Act* provides penalties for conspiracy with any person violating the provisions of this Act.
20 May 14	*An Act to Amend the Northwest Territories Act* authorizes the preservation of game in the Territories. Legislation is introduced concerning appeals from a decision of a Stipendiary Magistrate to the Appellate Division of the Supreme Court of Alberta.
21 May 14	*The Pelagic Sealing (Provisional Agreement) Act* enacts legislation respecting the Provisional Fur Seal Agreement between Canada and the United States of America.
44 June 30	*An Act to Amend the Diplomatic Service (Special) Superannuation Act* authorizes the Governor in Council to grant to a retiring public official a withdrawal allowance equal to the total amount of his contributions under the Civil Service Superannuation Act where a pension is not authorized, and computes the amount of contribution in respect of prior service.
45 June 30	*The Statistics Act* defines the duties of the Dominion Statistician; authorizes the collection of statistics of population, agriculture, industry, construction, trading and service establishments, transportation, etc.; and repeals the Statistics Act of 1918.
58 June 30	*An Act to Amend the Lord's Day Act* repeals the application to Ontario of the Abuses and Profanations of the Lord's Day Act of Great Britain (1781) and repeals the Act to Prevent Profanation of the Lord's Day, 1859 (Upper Canada).
59 June 30	*An Act to Amend the Mail Contracts Supplemental Payments Act* establishes Mar. 31, 1949, as the date for expiration of payments made under the Act of 1947.
62 June 30	*An Act to Amend an Act respecting the National Battlefields at Quebec* empowers the Minister of Finance to make payments of $100,000 per year for 10 years to acquire historic sites.
63 June 30	*An Act to Amend the National Housing Act, 1944.* This Act guarantees to builders entering into contract with the Central Mortgage and Housing Corporation rentals from the housing projects for a 30-year period and empowers approved lending institutions to advance up to 85 p.c. of the cost of rental housing projects guaranteed by the Corporation. It also restricts the powers of the Corporation and transfers the property of Wartime Housing Limited to the Corporation.

Statutory Holidays, 1949

New Year's Day	Jan. 1	Dominion Day	July 1
Good Friday	Apr. 15	Labour Day	Sept. 5
Easter Monday	Apr. 18	Thanksgiving Day	When Proclaimed[2]
Victoria Day	May 24	Remembrance Day	Nov. 11
King's Birthday	When Proclaimed[1]	Christmas Day	Dec. 25[3]

[1] June 7, 1948. [2] Oct. 11, 1948. [3] Christmas Day, Dec. 25, falls on Sunday in 1949. The following day will be observed as the holiday.

APPENDIX I

Chronology

(In continuance of the Chronology at pp. 72-77 of this volume.)

1948. June 28, Provincial general elections were held in New Brunswick; Liberal Government of Hon. J. B. McNair returned to power. June 29, Prince Edward Island voted in favour of Government-controlled Temperance Act. June 30, Rt. Hon. J. L. Ilsley resigned as Minister of Justice. The Fourth Session of the Twentieth Parliament prorogued. July 15, Canada gave full support to a United Nations Security Council order to the Jews and Arabs to cease fighting in Palestine. July 16, The New York State Power Authority announced that it and the Ontario Hydro-Electric Power Commission had filed plans for a joint development of a 2,200,000 h.p. hydro-electric project on the St. Lawrence River near Massena, N.Y. July 19, The United Nations Economic and Social Council, with representatives from 18 countries, held its seventh session in Geneva. L. D. Wilgress, Canadian Minister to Switzerland, was the delegate for Canada. July 22, Referendum held in Newfoundland resulted in a majority vote cast in favour of Confederation with Canada. July 28, Provincial general elections were held in Quebec; National Union Party Government of Hon. Maurice L. Duplessis returned to power. Aug. 5, Rt. Hon. W. L. Mackenzie King resigned as Leader of the Liberal Party, ending 29 years of leadership. Aug. 7, Rt. Hon. L. S. St. Laurent, Secretary of State for External Affairs, was chosen by the National Liberal Convention at Ottawa to succeed Rt. Hon. W. L. Mackenzie King as Leader of the Liberal Party. Aug. 17, Alberta provincial general elections held. Social Credit Government of Hon. Ernest C. Manning returned to power. Sept. 1, The Federal Labour Code, establishing machinery for collective bargaining and settlement of industrial disputes, became effective. Sept. 10, Appointment of Rt. Hon. L. S. St. Laurent as Minister of Justice. Sept. 17, Count Folke Bernadotte, United Nations Palestine mediator, assassinated in Jerusalem. Dr. Ralph Bunche appointed acting mediator. Sept. 21-Dec. 11, The third session of the General Assembly of the United Nations was held in Paris. The Canadian delegation included Rt. Hon. W. L. Mackenzie King (who gave farewell address Sept. 28), Hon. Lester B. Pearson, Hon. Lionel Chevrier, Gen. the Hon. A. G. L. McNaughton, Maj.-Gen. George P. Vanier and Hon. Wishart McL. Robertson. Sept. 30, John Bracken tendered his resignation as national Leader of the Progressive Conservative Party in Canada. Oct. 2, George A. Drew, K.C., was elected as Leader of the Progressive Conservative Party. Oct. 6-27, Representatives of Canada and Newfoundland met at Ottawa to discuss final arrangements for Newfoundland's entry into Confederation as the tenth Province of Canada. Oct. 11-22, Meeting of Commonwealth Prime Ministers in London to discuss questions of common interest. Owing to indisposition of Prime Minister Mackenzie King, the Canadian High Commissioner and later the Minister of Justice, Rt. Hon. L. S. St. Laurent, represented Canada. Oct. 19, Hon. Thomas L. Kennedy, Minister of Agriculture in the Ontario Government, was appointed Premier of Ontario after the formal resignation of Hon. George A. Drew. Oct. 20, United Nations General Assembly at Paris approved Canadian-sponsored plan for atomic energy control. Nov. 5, Hon. Stuart S. Garson, K.C., resigned as Premier of Manitoba in anticipation of his entry into the Federal Cabinet. Nov. 11, The Minister of Justice announced that representatives of Canada had joined in discussions on North Atlantic Regional Security Pact. Nov. 13, Hon. Douglas L. Campbell, Minister of Agriculture for the Province of Manitoba, was sworn in as Premier of Manitoba. Nov. 14, A son (Prince Charles Philip Arthur George) born to Their Royal Highnesses, Princess Elizabeth and Prince Philip. Nov. 15, Governor General Viscount Alexander accepted the resignation of retiring Prime Minister W. L. Mackenzie King. Rt. Hon. Louis Stephen St. Laurent took the oath as President of the Privy Council and became Prime Minister of Canada. Dec. 10, The United Nations adopted the first world Declaration of Human Rights proclaiming freedom and equality for everyone. Dec. 11, Representatives of Canada and Newfoundland signed the agreement under which Newfoundland, after approval by the Parliament of Canada and the Government of Newfoundland and confirmation by the Parliament of the United Kingdom, will enter Confederation as the tenth Province of Canada on Mar. 31, 1949, the Prime Minister the Rt. Hon. L. S. St. Laurent and Hon. Brooke Claxton, Acting Secretary of State for External Affairs, signed on behalf of Canada. Dec. 14, Supreme Court declared manufacture and sale of oleomargarine and other butter substitutes in Canada legal; import ban remained. Dec. 21, Ireland officially became an independent republic. Dec. 24, The Canadian Government informed the Provisional Government of Israel that the Canadian Government recognized *de facto* the State of Israel in Palestine and that it also recognized *de facto* the authority of the Provisional Government of Israel.

APPENDIX II

Foreign Trade of Canada, 1947-48

Chapter XXI of this volume includes foreign trade figures for the calendar year 1947. However, at the time of going to press, it is possible to give monthly figures up to the end of 1948; these are shown in the following table together with monthly data for 1947 which are given for purposes of comparison.

It will be noted that domestic exports have shown a decided increase in each of the first five months of 1948 as compared with the same months of 1947. Imports showed an increase in each month over the previous year except in March, May, July and October.

1.—Trade of Canada (Excluding Gold) by Months, 1947 and 1948

NOTE.—Figures for the calendar years 1940-43 are given at p. 1059 of the 1943-44 Year Book; 1944 figures at p. 1163 of the 1945 Year Book; 1945 figures at p. 1200 of the 1946 edition; and 1946 figures at p. 1214 of the 1947 edition.

Month	Imports		Domestic Exports		Total Trade	
	1947	1948	1947	1948	1947	1948
	$'000	$'000	$'000	$'000	$'000	$'000
January	173,782	206,077	208,639	235,384	384,267	445,137
February	177,090	182,167	179,505	208,269	358,926	392,482
March	208,891	197,051	208,973	228,369	420,777	427,956
April	225,611	226,690	190,864	212,337	419,009	441,779
May	240,308	225,093	267,807	282,283	511,546	512,620
June	231,052	232,997	272,671	233,476	507,447	468,967
July	226,813	225,099	236,574	250,864	466,449	478,569
August	204,552	206,490	221,297	224,143	429,387	433,019
September	208,132	221,678	218,552	283,025	429,665	507,712
October	254,463	243,438	250,761	306,964	508,152	552,911
November	229,096	238,172	253,103	293,905	485,088	534,508
December	194,154	231,993	266,156	316,419	465,022	551,314
Totals	**2,573,944**	**2,636,945**	**2,774,902**	**3,075,438**	**5,385,735**	**5,746,974**

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NOTE.—This Index does not include references to special articles published in previous editions of the Year Book. These are listed at pp. viii-xiii.

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