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COUNT OF RATION BOOK NUMBER 4 AS AN INDICATION OF
POST-CENSAL MIGRATION

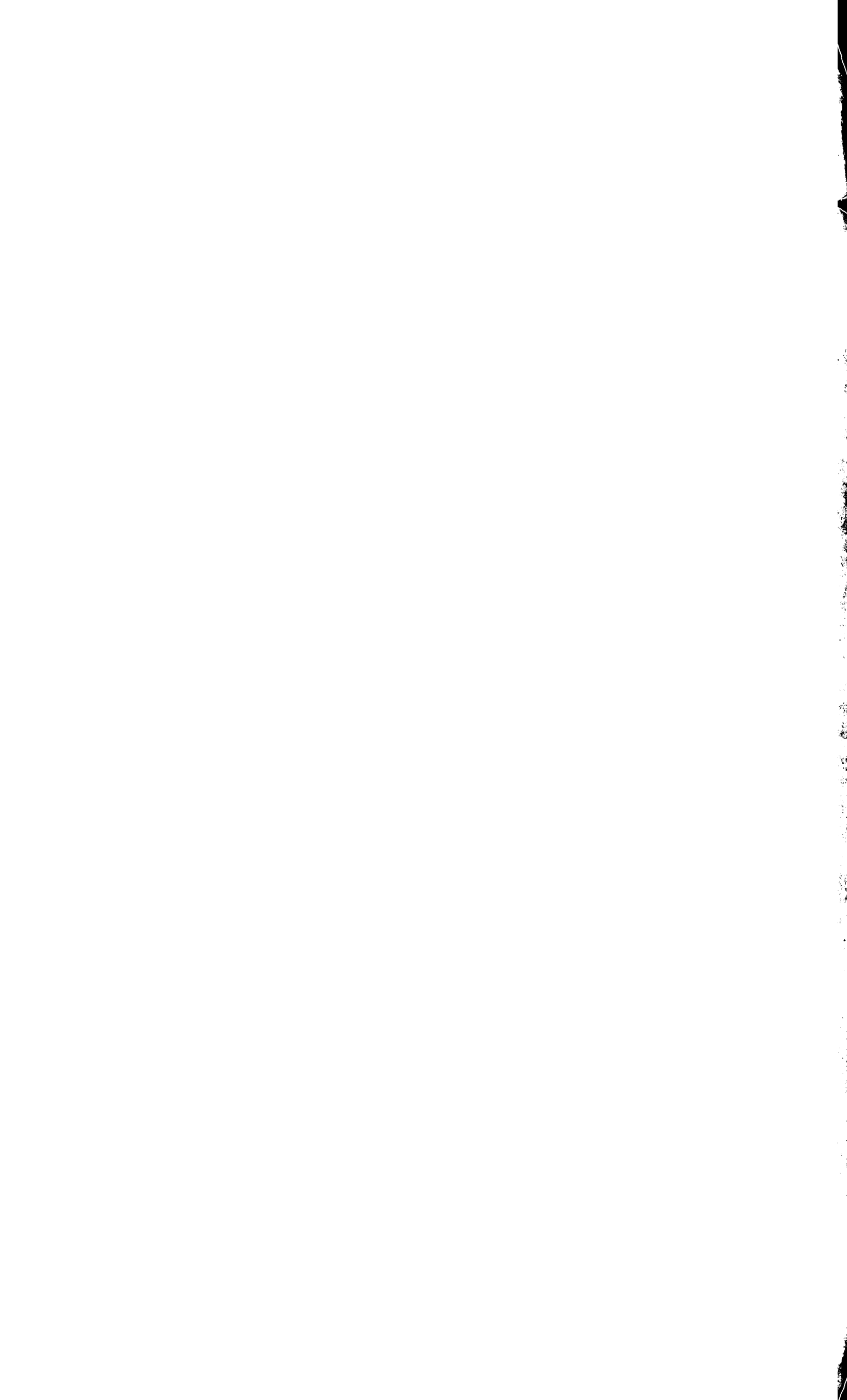
Herewith is presented a statement of the issue of Ration Book No. 4, as obtained by a count of the turn-in cards from Book No. 3. The turn-in cards were forwarded to the Bureau of Statistics by the Wartime Prices and Trade Board in an arrangement designed to make use of the Bureau's facilities.

Distribution of the successive ration books has provided opportunity to make counts of the population of Canada by small areas. These counts have been the only important measure for the civilian population of the very heavy internal migration which the War has occasioned. Notwithstanding the fact that ration book issue is carried out differently from Census enumeration, a useful though not perfect basis of comparison is afforded. The main differences are as follows:-

- (1) The Census allocates persons to their place of legal residence, whereas individuals entitled to ration cards may apply at any place of issue that happens to be convenient. In counting Ration Book No. 4 an attempt was made to allocate all cards back to the county or Census division of permanent residence as stated on the card, but it is possible that there were cases in which the stated place of residence was not the legal residence as defined in the more precise procedure of the Census.
- (2) In particular, the Census allocates members of the armed forces to their place of legal residence. The ration card count did not include any members of the armed services. Exact comparability is, therefore, impossible. Persons in the armed forces have been removed from the Census population but there remain in the 1941 civilian figures those persons who joined the forces between 1941 and 1944.
- (3) The natural increase in the period 1941-44 amounted to some 445,000. This element of the comparison is about 30,000 short of the increase in the armed forces, and operates in the opposite direction.
- (4) Certain areas of Canada are not under the rationing scheme, and no surrender cards, therefore, were received for such parts. An indication of the numerical importance of these areas is included in the table.

The count of the ration cards was made by a short-cut weighing process at a cost of between one-fifth and one-tenth that of counting all of the cards. A few cards were counted out in groups of three thousand and a weight constructed which represented 3,000 average cards. After the weight had been made, the main task of counting consisted of (1) sampling between one-tenth and one-twentieth of the cards, depending on the size of the county; (2) weighing the remaining nine-tenths or more; (3) weighing the sample cards and counting them by hand. The count per unit of weight as obtained in (3) was then applied to the total weight for the county. The variation between counties in the proportion sampled was employed to secure a greater degree of accuracy in smaller counties than would have been the case had the same proportion been used throughout. The accuracy attained was approximately as follows:-

- For a county of 10,000 persons a maximum likely error of $1\frac{1}{2}$ per cent, or 150 persons.
- For a county of 50,000 persons a maximum likely error of $\frac{1}{4}$ of 1 per cent, or about 400 persons.
- For a county of 500,000 persons, a maximum likely error of $\frac{3}{10}$ of 1 per cent, or 1,500 persons.



For the country as a whole, a maximum likely error of 1/10 of 1 per cent, or 10,000 persons.

These levels of error were established theoretically for the process at the outset and later verified by the duplication of the process in about a dozen counties.

In respect of population changes since the Census, the variation among provinces and counties is striking. Making very crudely the allocation of armed forces to place of legal residence and comparing the result with the Census, we find indication that Montreal and Jesus Islands, Quebec, York County, Ontario and British Columbia, Division 4, have each gained by civilian movement to the extent of 50,000 persons. Halifax, Chicoutimi, Carleton, Essex, Wentworth, Manitoba Division 6 (containing Winnipeg), and Alberta Division 11 (containing Edmonton), have increased by 10,000 to 25,000 persons. The gains of counties containing cities of 100,000 persons or more are reflected as losses in the counties which are primarily rural.

The following table shows provincial changes after adjusting the Ration Book count for natural increase and estimated numbers of persons in the armed forces with legal residence in each province. It will be seen that though for the country as a whole the net change is very small Ontario had a gain of 58,000 and British Columbia 90,000, while Saskatchewan lost 86,000 and Manitoba lost 25,000.

	Estimated Net Civilian Immigration, <u>1941 - 44.</u>	Estimated Population <u>April 1, 1944.</u>
CANADA (9 provinces)	- 7,000	11,927,000
Prince Edward Island	- 7,000	91,000
Nova Scotia	+ 8,000	610,000
New Brunswick	- 19,000	460,000
Quebec	- 11,000	3,492,000
Ontario	+ 58,000	3,954,000
Manitoba	- 25,000	730,000
Saskatchewan	- 86,000	844,000
Alberta	- 15,000	816,000
British Columbia	+ 90,000	930,000

POPULATION OF CANADA BY COUNTIES AND CENSUS DIVISIONS FROM COUNT OF SURRENDER CARDS FOR RATION BOOK No. 4, COMPARED WITH CENSUS 1941.

County	Number of Surrender Cards turned in for Ration Book No.4, March-April, 1944.	Census Civilian Population, June, 1941.	Total Census Population June 1941	Unrationed Areas (1941 Population).
CANADA (9 Provinces)	11,205,282	11,175,436	11,489,713	68,390
Prince Edward Island	85,656	90,649	95,047	-
Kings	16,279	18,548	19,415	-
Prince	31,732	33,202	34,490	-
Queens	37,645	38,899	41,142	-
Nova Scotia	565,900	554,312	577,962	2,564
Annapolis	16,598	16,973	17,692	-
Antigonish	9,940	10,287	10,545	-
Cape Breton	108,083	106,837	110,703	-
Colchester	27,850	29,098	30,124	-
Cumberland	38,476	37,837	39,476	-
Digby	18,546	19,019	19,472	-
Guysborough	12,637	15,010	15,461	-
Halifax	133,586	114,977	122,656	2,564
Hants	21,872	21,385	22,034	-
Inverness	16,932	20,098	20,573	-
Kings	26,937	27,585	28,920	-
Lunenburg	30,173	31,970	32,942	-
Pictou	43,235	38,869	40,789	-
Queens	11,659	11,609	12,028	-
Richmond	9,203	10,544	10,853	-
Shelbourne	12,376	12,820	13,251	-
Victoria	6,574	7,879	8,028	-
Yarmouth	21,223	21,515	22,415	-
New Brunswick	426,108	440,149	457,401	4,763
Albert	7,276	8,172	8,421	-
Carleton	19,344	20,596	21,711	-
Charlotte	20,920	21,905	22,728	-
Gloucester	41,497	48,711	49,913	4,763
Kent	23,083	25,322	25,817	-
Kings	19,595	20,684	21,573	-
Madawaska	26,654	27,674	28,176	-
Northumberland	34,714	36,925	38,435	-
Queens	11,561	12,315	12,775	-
Restigouche	30,404	31,578	33,075	-
St. John	69,095	65,334	68,827	-
Sunbury	6,652	8,041	8,296	-
Victoria	15,662	16,107	16,671	-
Westmorland	65,583	61,897	64,486	-
York	34,068	34,888	36,447	-
Quebec	3,391,243	3,282,895	3,331,882	22,987
Abitibi	64,266	67,388	67,689	3,634
Argenteuil	22,248	22,410	22,670	-
Arthabaska	29,777	29,811	30,039	-
Bagot	17,065	17,579	17,642	-
Beauce	48,322	47,805	48,073	-
Beauharnois	33,666	30,046	30,269	-
Bellechasse	23,515	23,587	23,676	-
Berthier	21,410	21,132	21,233	-
Bonaventure	36,428	38,267	39,196	-
Brome	11,725	12,096	12,485	-
Chambly	33,498	31,667	32,454	-

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 POPULATION OF CANADA BY COUNTIES AND CENSUS DIVISIONS FROM COUNT OF SURRENDER
 CARDS FOR RATION BOOK No. 4, COMPARED WITH CENSUS 1941, CONTINUED.

County	Number of Surrender Cards turned in for Ration Book No. 4, March-April, 1944.	Census Civil- ian Population, June, 1941	Total Census Population June 1941	Unrationed Areas (1941 Popula- tion).
Quebec - Continued				
Champlain	67,839	67,657	68,057	-
Charlevoix	25,781	25,570	25,662	-
Chateauguay	14,296	14,325	14,443	313
Chiboutimi	99,342	78,469	78,881	-
Compton	21,571	22,450	22,957	-
Deux-Montagnes	14,854	16,631	16,746	-
Dorchester	28,999	29,793	29,869	-
Drummond	38,076	36,460	36,683	-
Frontenac	26,695	28,377	28,596	-
Gaspé	44,281	54,344	55,208	8,940
Hull	71,853	69,581	71,188	-
Huntingdon	11,813	12,222	12,394	-
Iberville	10,757	10,180	10,273	-
Joliette	32,328	31,418	31,713	-
Kamouraska	23,903	25,341	25,535	-
Labelle	24,130	22,886	22,974	-
Lac-St-Jean	64,840	64,096	64,306	64
Laprairie	12,626	13,658	13,730	-
L'Assomption	18,931	17,489	17,543	-
Levis	41,403	37,491	38,119	-
L'Islet	20,182	20,443	20,589	-
Lotbinière	25,566	26,558	26,664	-
Maskinonge	17,399	18,157	18,206	-
Matane	55,686	55,036	55,414	-
Megantic	39,735	40,109	40,357	-
Missisquoi	20,944	21,037	21,442	-
Montcalm	14,531	15,176	15,208	-
Montmagny	22,424	21,875	22,049	-
Montmorency	15,535	18,456	18,602	-
Montreal & Jesus Islands	1,186,702	1,112,005	1,138,431	-
Napierville	8,217	8,311	8,329	-
Nicolet	28,772	30,022	30,085	-
Papineau	25,568	27,362	27,551	-
Pontiac	18,187	19,488	19,852	-
Portneuf	38,753	38,821	38,996	-
Quebec	211,958	198,735	202,882	-
Richelieu	28,929	23,594	23,691	-
Richmond	27,431	27,094	27,493	-
Rimouski	45,423	43,709	44,233	-
Rouville	15,274	15,781	15,842	-
Saguenay	20,063	29,331	29,419	10,036
Shefford	34,202	33,046	33,387	-
Sherbrooke	48,216	45,510	46,574	-
Soulanges	9,174	9,291	9,328	-
Stanstead	29,792	27,437	27,972	-
St. Hyacinthe	32,316	31,354	31,645	-
St. Jean	20,924	20,337	20,584	-
St. Maurice	85,934	79,627	80,352	-
Temiscamingue	42,759	40,147	40,471	-
Temiscouata	53,595	57,179	57,675	-
Terrebonne	51,602	46,492	46,864	-
Vaudreuil	11,771	13,035	13,170	-
Vercheres	14,448	14,162	14,214	-
Wolfe	16,891	17,397	17,492	-
Yamaska	16,102	16,485	16,516	-

POPULATION OF CANADA BY COUNTIES AND CENSUS DIVISIONS FROM COUNT OF SURRENDER CARDS FOR RATION BOOK No. 4, COMPARED WITH CENSUS 1941, CONTINUED.

County	Number of Surrender Cards turned in for Ration Book No.4, March-April, 1944.	Census Civilian Population, June, 1941.	Total Census Population June 1941	Unrationed Areas (1941 Population).
Ontario	3,671,487	3,669,951	3,787,655	11,996
Algoma	49,365	51,176	52,002	-
Brant	56,764	54,552	56,695	-
Bruce	37,826	40,589	41,680	-
Carleton	202,921	191,023	202,520	-
Cochrane	70,414	78,697	80,089	1,580
Dufferin	12,280	13,794	14,075	-
Dundas	14,809	15,790	16,210	-
Durham	22,825	24,504	25,215	-
Elgin	43,684	44,385	46,150	-
Essex	181,030	170,420	174,230	-
Frontenac	55,468	50,808	53,717	-
Glengarry	16,841	18,228	18,732	-
Grenville	14,618	15,505	15,989	-
Grey	52,007	55,823	57,160	-
Haldimand	20,758	21,246	21,854	-
Haliburton	5,700	6,551	6,695	-
Halton	27,297	27,421	28,515	-
Hastings	61,264	61,021	63,322	-
Huron	40,374	42,906	43,742	-
Kenora	20,966	33,125	34,013	10,244
Kent	63,261	64,699	66,346	-
Lambton	52,191	55,650	56,925	-
Lanark	31,196	32,030	33,143	-
Leeds	34,662	34,826	36,042	-
Lennox & Addington	16,753	17,981	18,469	-
Lincoln	67,193	63,475	65,066	-
Manitoulin	9,325	10,701	10,841	-
Middlesex	122,562	122,178	127,166	-
Muskoka	18,957	21,258	21,835	-
Nipissing	37,086	41,979	43,315	-
Norfolk	34,359	34,671	35,611	-
Northumberland	26,843	29,715	30,786	-
Ontario	65,730	64,317	65,718	-
Oxford	49,602	49,614	50,974	-
Parry Sound	24,935	29,487	30,083	-
Peel	30,654	30,772	31,539	-
Perth	45,453	48,259	49,694	-
Peterborough	47,649	45,906	47,392	-
Prescott	23,981	24,959	25,261	-
Prince Edward	15,035	16,042	16,750	-
Rainy River	16,855	18,588	19,132	-
Renfrew	52,475	52,569	54,720	-
Russell	17,448	17,195	17,448	-
Simcoe	80,355	84,324	87,057	-
Stormont	38,812	39,610	40,905	-
Sudbury	84,527	79,690	80,815	-
Thunder Bay	81,355	83,282	85,200	172
Timiskaming	40,768	49,155	50,604	-
Victoria	23,249	25,227	25,934	-
Waterloo	97,334	96,233	98,720	-
Welland	97,875	92,182	93,836	-
Wellington	54,240	57,727	59,453	-
Wentworth	209,898	201,047	206,721	-
York	946,658	917,039	951,549	-
Manitoba	668,450	704,991	729,744	7,710
Division 1	25,162	27,580	27,813	-
" 2	38,494	40,913	41,426	-
" 3	21,310	24,187	24,781	-

POPULATION OF CANADA BY COUNTIES AND CENSUS DIVISIONS FROM COUNT OF SURRENDER CARDS FOR RATION BOOK No. 4, COMPARED WITH CENSUS 1941, CONTINUED.

County	Number of Surrender Cards turned in for Ration Book No. 4, March-April, 1944	Census Civilian Population, June, 1941	Total Census Population June 1941	Unrationed Areas (1941 Population).
Manitoba - Continued.				
Division 4	13,457	15,264	15,699	-
" 5	44,166	47,478	48,424	-
" 6	285,115	281,292	295,342	-
" 7	34,299	35,344	36,669	-
" 8	15,484	17,036	17,803	-
" 9	42,483	45,133	47,277	-
" 10	17,878	18,918	19,562	-
" 11	23,008	25,694	26,637	-
" 12	23,259	25,044	25,387	-
" 13	24,986	25,418	26,033	-
" 14	22,994	26,115	26,613	-
" 15	10,168	11,829	12,059	-
" 16	26,187	37,746	38,219	7,710
Saskatchewan	779,178	871,959	895,992	6,201
Division 1	29,396	33,085	34,171	-
" 22	34,186	35,247	36,140	-
" 33	31,510	37,788	38,648	-
" 4	19,469	21,847	22,300	-
" 5	46,576	49,495	51,022	-
" 6	96,582	103,881	108,816	-
" 7	48,225	52,164	53,852	-
" 8	36,450	41,968	42,845	-
" 9	55,102	61,288	62,334	-
" 10	35,675	42,370	43,207	-
" 11	73,015	76,524	80,012	-
" 12	30,072	33,915	34,673	-
" 13	30,312	35,652	36,346	-
" 14	56,007	63,808	65,166	-
" 15	81,013	87,368	89,036	-
" 16	43,214	52,198	53,212	-
" 17	29,592	32,383	33,173	-
" 18	2,782	10,978	11,039	6,201
Alberta	751,430	771,958	796,169	8,841
Division 1	29,274	28,804	29,595	-
" 2	59,209	56,909	58,563	-
" 3	13,729	15,219	15,518	-
" 4	28,211	28,714	29,383	-
" 5	13,196	18,447	18,926	-
" 6	145,170	139,742	146,990	-
" 7	29,656	32,541	33,285	-
" 8	67,280	65,526	67,630	-
" 9	24,596	31,472	32,232	-
" 10	48,059	57,852	58,807	-
" 11	158,164	143,698	149,193	-
" 12	15,170	16,985	17,431	-
" 13	29,521	32,755	33,172	-
" 14	42,557	47,203	47,899	-
" 15	17,243	16,989	17,484	-
" 16	26,775	29,467	30,349	-
" 17	3,620	9,635	9,712	8,841
British Columbia	865,830	788,572	817,861	3,328
Division 1	22,356	20,629	21,345	-
" 2	53,807	46,870	48,266	-
" 3	52,665	49,693	51,603	-
" 4	491,779	434,586	449,376	-
" 5	147,452	142,396	150,407	-
" 6	29,606	29,741	30,710	-
" 7	12,707	14,096	14,344	-
" 8	24,925	24,752	25,276	58
" 9	19,804	17,537	18,051	1,744
" 10	10,729	8,272	8,481	1,526

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