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CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
FORESTRY BRANCH

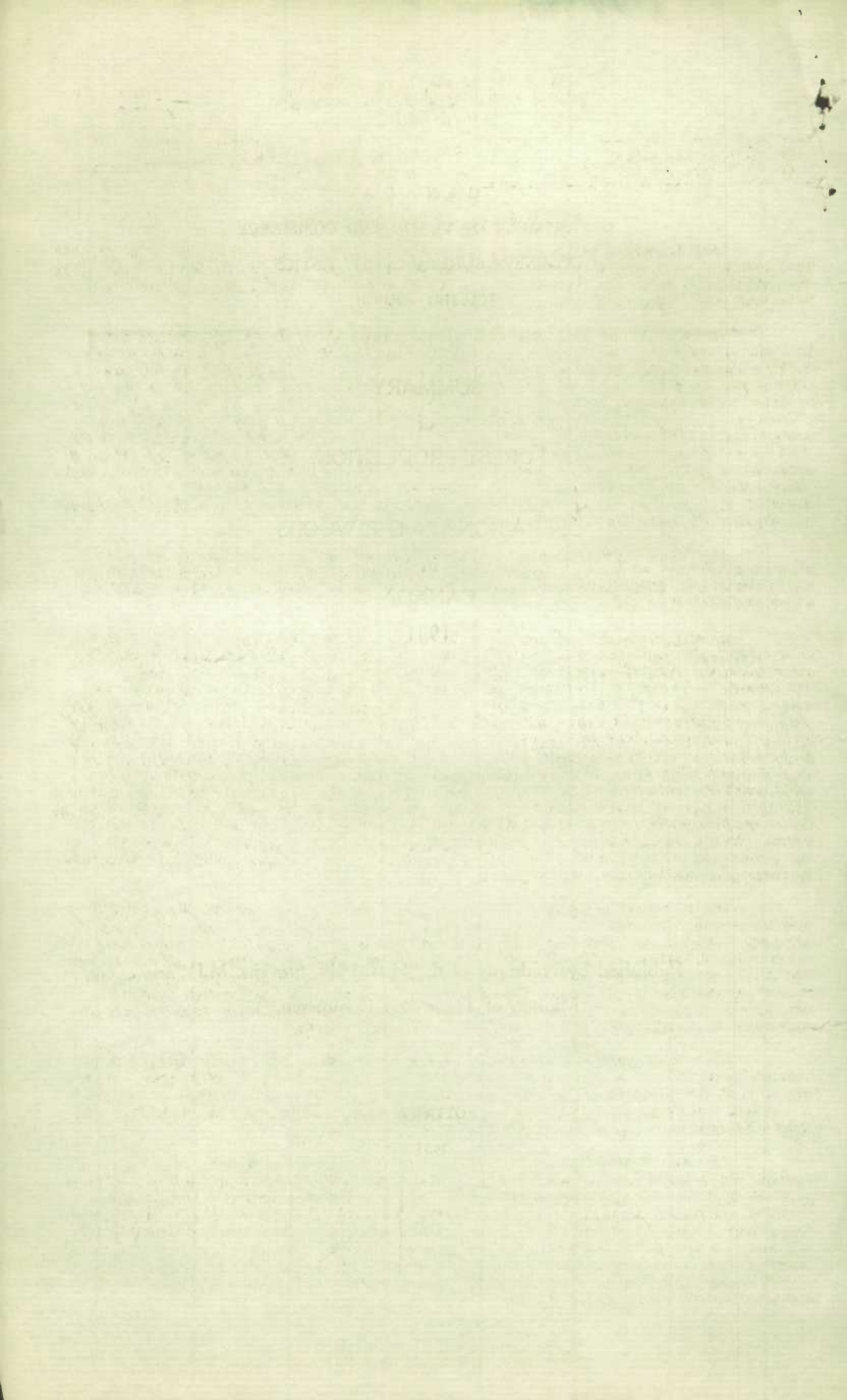
SUMMARY
of
FOREST PRODUCTION,
—
OPERATIONS IN THE WOODS
in
CANADA
1931

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DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS - CANADA
FORESTRY BRANCH

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SUMMARY OF FOREST PRODUCTION, 1931.

Ottawa, April, 1933. - An estimate of the total forest production of Canada for 1931 has just been completed by the Forestry Branch of the Dominion Bureau of Statistics. The estimate includes all the products of operations in the woods, the unmanufactured materials cut in Canadian forests during the year.

An estimate has also been made of the extent to which our forests are being depleted annually in the process of exploiting these materials. For this purpose converting factors based on actual measurements have been used. Each of these factors represents, in cubic feet, the quantity of standing timber that must be cut in the forest in order to produce one unit of the material in question, based on the total cubic content of the tree. By the use of these factors it has been estimated that our total forest production in 1931 involved the cutting of 2,306,143,706 cubic feet of standing timber. This constitutes only the annual depletion for use and to it must be added the volume of material annually destroyed by fire, which exceeds 230,000,000 cubic feet of merchantable timber and the young growth on 550,000 acres. Insects, fungi and windfall destroy annually at least 700,000,000 cubic feet so that the annual drain on our forest resources is considerably more than 3,236,000,000 cubic feet.

The latest available estimate places Canada's forest resources at 267,733 million cubic feet of standing timber which is capable of yielding 448,255 million feet board measure of sawn lumber and 1,528,767 thousand cords of pulpwood, ties, poles and other smaller materials.

A total depletion of 3,236,000,000 cubic feet per annum does not necessarily imply that our total resources of 267,733,000,000 cubic feet are reduced by that amount every year and that the supply will therefore be exhausted in eighty-three years. Estimating the probable duration of our supply of forest products is not a matter of simple arithmetic. The rate of utilization is far from constant. It tends to increase with the discovery of new uses for wood, the increase in our population and the increase in the demand for forest products from other countries whose supplies have been reduced to a greater extent than our own. The rate of destruction from fires and other agencies is also very uncertain. The fire hazard tends to increase with the increase of population and the extension of settlement unless measures are taken to prevent this tendency. During the last few years, forest fire damage in Canada has been materially reduced owing to favourable weather conditions and improved methods of detecting and fighting forest fires. Credit is also due to the general public for a greater measure of cooperation in the prevention of fires and to the various organizations which have carried on educational campaigns for forest conservation.

On the other hand there is a steady increase in volume taking place in all healthy stands of timber due to annual growth. By the application of scientific forest management this annual growth can be stimulated and could be made to take place over our entire area of potential forest land. If all the land in Canada which is better suited for the growing of timber than for any other purpose were under intensive forest management on a sustained yield basis, it would furnish enough timber and forest products annually in perpetuity to supply the needs of a much larger population than we have at present with a sufficient surplus for profitable exportation.

There is reason to believe that in time the loss due to forest fires will be reduced to a minimum as the general public realizes the necessity of precaution. Ninety per cent of forest fires are due to human carelessness. Scientific methods of controlling insect and fungus damage are being rapidly developed and in time the depletion will consist almost entirely of material cut for use.

The use of substitutes for wood may tend to reduce consumption but this is usually exaggerated as a factor in forest conservation. The increasing scarcity of wood will result in increasing prices which will tend to limit consumption. It is now a profitable investment to plant trees in Canada under certain conditions and the planting and management of forest lands will become increasingly profitable as supplies decrease and prices advance, but before this planting and management can possibly result in forest crops sufficient for our needs we will pass through a period of lean years whose duration and intensity will depend entirely on how soon and how effectively we apply scientific management to our remaining forests.

SUMMARY OF FOREST PRODUCTION, 1931.

As far as the value of forest products is concerned pulpwood headed the lists in 1931 with over fifty-one million dollars. Pulpwood also heads the lists as far as value is concerned in the provinces of Nova Scotia, New Brunswick, Quebec and Ontario. Firewood comes second on the value list for the Dominion with a total exceeding forty-four million dollars and is the most valuable item of forest production in the provinces of Prince Edward Island, Manitoba, Saskatchewan and Alberta. Logs and bolts with a total of over thirty-two million dollars come third on the list for the Dominion as a whole and head the list in British Columbia. Hewn railway ties with over four million; poles with over three million and posts with over one million are among the more valuable of the other items. The total estimated value of all these forest products is \$141,123,930, a decrease of 31.8 per cent over the estimated value for 1930.

Comparing forest products on the basis of equivalent volume of standing timber, we find that firewood heads the list for the Dominion as a whole, and forms the most important item in Prince Edward Island, Quebec, Ontario, Manitoba, Saskatchewan and Alberta. It also comes second in Nova Scotia, New Brunswick and British Columbia. As firewood is made up chiefly of inferior material of smaller sizes than logs or pulpwood, its use is a less serious drain on our forests and often forms a valuable outlet for material that might otherwise be left in the woods to increase the forest fire menace. Pulpwood is the next most important item in respect to volume. It heads the lists in the provinces of Nova Scotia and New Brunswick and comes second in Quebec, Ontario and Manitoba and third in British Columbia. Logs and bolts form the next most important item for the Dominion. They come first in British Columbia, second in Prince Edward Island and third in Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba and Alberta. The other forest products in order of importance from the volume standpoint are hewn railway ties, which come second in Saskatchewan and Alberta; posts which come third in Saskatchewan; rails which come third in Prince Edward Island and poles, round mining timber, wood for distillation, square timber and other miscellaneous forest products.

The Province of Quebec heads the list for value and volume of forest production and also leads in the quantity production of pulpwood, square timber, fencing materials and miscellaneous products. It comes second on the list of provinces for the production of logs, firewood and wood for distillation and third for poles. Ontario is the second most important province on the list for total value and volume of production. It leads in firewood and wood for distillation. It takes second place in the production of ties, pulpwood, and poles and third place for logs, bolts, square timber and miscellaneous products. British Columbia comes third on the list, leading in the production of logs, bolts, hewn ties and poles. This province comes second on the list for round mining timber and third for rails. New Brunswick and Nova Scotia come next in order being important producers of pulpwood, firewood and logs. Nova Scotia is the most important producer of round mining timber among the provinces. Production in Alberta and Saskatchewan is made up chiefly of firewood, ties, logs and fencing materials. In Manitoba, firewood, pulpwood, logs, ties and fencing materials head the list. In Prince Edward Island, firewood, logs and fencing materials are the most important forest products.

Under the item "Miscellaneous products" are included piling, boom timber, masts, spars, knees and futtocks, tan bark, stave, shingle and lath bolts, match blocks, hop and hoop poles, lathwood, Christmas trees, hardwood billets, etc.

Reports received from about 890 of the more important logging concerns operating in Canada in 1931 account for about a third of the total estimated cut. Using these reports as a basis it has been estimated that operations in the woods in Canada in 1931 involved the investment of \$198,000,000 in logging equipment most of which is employed in the industry in British Columbia where power logging has reached its highest development. These operations are estimated to give employment for a part of the year to more than 52,000 men and to distribute over \$37,000,000 in wages and salaries. The largest number of employees were reported from British Columbia, Ontario and Quebec in the order mentioned.

Table 1 shows forest production in 1931 giving first under "Total production" the quantities of forest products in the units of measurement commonly used in the industry and in the adjacent column these same quantities converted into their equivalent volume in standing timber. The third column in each case gives the estimated values of these products.

The next three columns under "Home consumption" include similar details for material which was used in Canada in the form in which it was taken from the woods or imported, together with material subjected to some further manufacturing process in Canada before being sold or exported. The third section of the table under "Exportation" shows the details in connection with the exports from Canada of raw or unmanufactured forest products for use or further manufacture in other countries. The final portion of the table gives the details of our imports of raw forest products which are used in Canada

SUMMARY OF FOREST PRODUCTION, 1931.

in the form in which they are imported or are further manufactured in some Canadian industry.

Out of a total of over 2,306 million cubic feet of standing timber cut in Canada in 1931 about 93.6 per cent was retained in the country for immediate use or as raw material for some Canadian industry, and 6.4 per cent was exported in a more or less unmanufactured form.

Manufactures of commodities whose chief component material is wood or paper depend on the products of the forest as their principal raw material. This group of wood and paper using industries in Canada ranks first among similar groups of industries in capital investment, number of employees, wages and salaries paid and net value of products. In gross value of production they are exceeded only by the manufacturers of vegetable products.

In 1931 the total value of capital invested in the wood and paper group of industries was \$1,053,064,435. The employees numbered 121,672 and were paid \$140,349,106 in wages and salaries. The net value of production or value added by manufacture was \$291,858,015 and the gross value \$484,237,930.

There are a number of other industries in which wood and paper are important raw materials although they are not the principal component materials used and still others in which wood and paper are used indirectly in connection with the manufacture of articles which do not contain wood or paper as a component part. Practically no form of industrial activity is entirely independent of the use of forest products, directly or indirectly.

The logs and bolts were converted into two and a half million feet board measure of sawn lumber and into other sawmill products with a total value added by manufacture of over twenty-five million dollars. Less than three per cent of the saw logs cut in Canada in 1931 were exported unmanufactured.

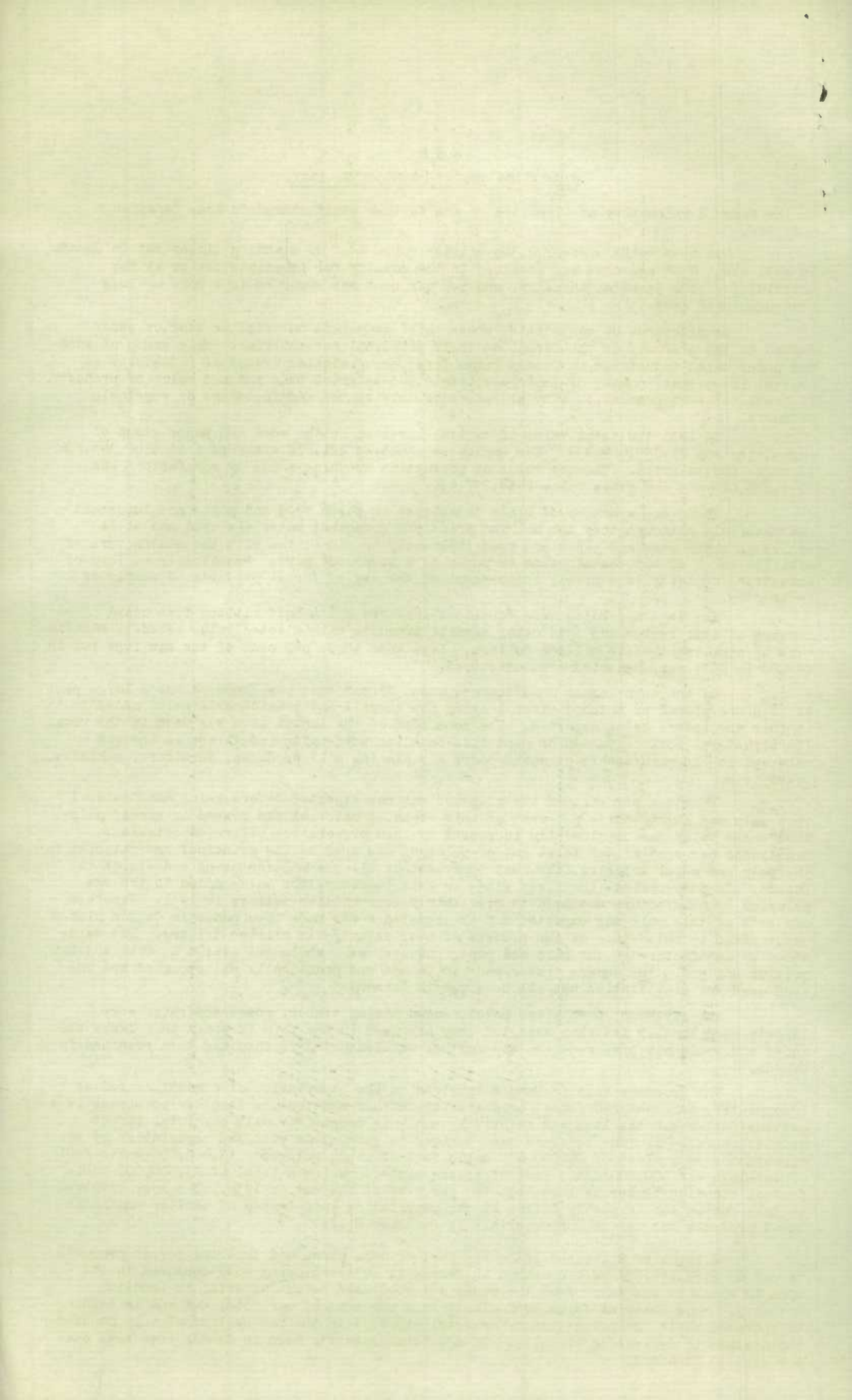
Of the sawn lumber manufactured about 37 per cent was exported but a large part of this was planed or matched after leaving the sawmill and considerable value added to it in this way before being exported. The remainder of the lumber sawn was used in the rough for structural work in Canada or went into Canadian wood-using industries as the raw material in the manufacture of sash, doors and planing mill products, furniture, vehicles, boxes, etc.

Nineteen per cent of the pulpwood cut was exported before being manufactured into pulp and eighty-three per cent of this exported material was rossed or barked pulpwood whose value was considerably increased by this preparation before exportation. Eighty-one per cent of our total cut of pulpwood was used as the principal raw material in the pulp and paper industry, the most important of all the manufacturing industries in Canada. In pulp-making, the first stage in this industry, the value added to the raw pulpwood by manufacture amounted to over thirty-four million dollars in 1931. Nineteen per cent of this pulp was exported and the remainder was made into paper in Canada with a value added in this stage of the process of over seventy-six million dollars. The value added by manufacture in the pulp and paper industry as a whole was over a hundred and ten million dollars. The square timber made in Canada was practically all exported and the wood used for distillation was all consumed in Canada.

The firewood, hewn ties, poles, round mining timber, posts and rails were largely used locally and when exported they are used in the form in which they leave the woods and would not have received any further manufacturing if they had been retained in Canada.

The economic loss in Canada involved in the exportation of unmanufactured or incompletely manufactured forest products for further manufacture in other countries is a serious matter but the loss was relatively small in comparison with our total forest production in 1931. The loss was most serious in connection with the exportation of the approximate equivalent of 20,000,000 cubic feet of rough pulpwood, 13,000,000 cubic feet of saw-logs and 500,000 cubic feet of square timber, making a total of 33,500,000 cubic feet of standing timber or less than two per cent of the cut in 1930. The loss involved in this connection is partly offset by the importation into Canada of similar unmanufactured products for use as raw materials in Canadian mills.

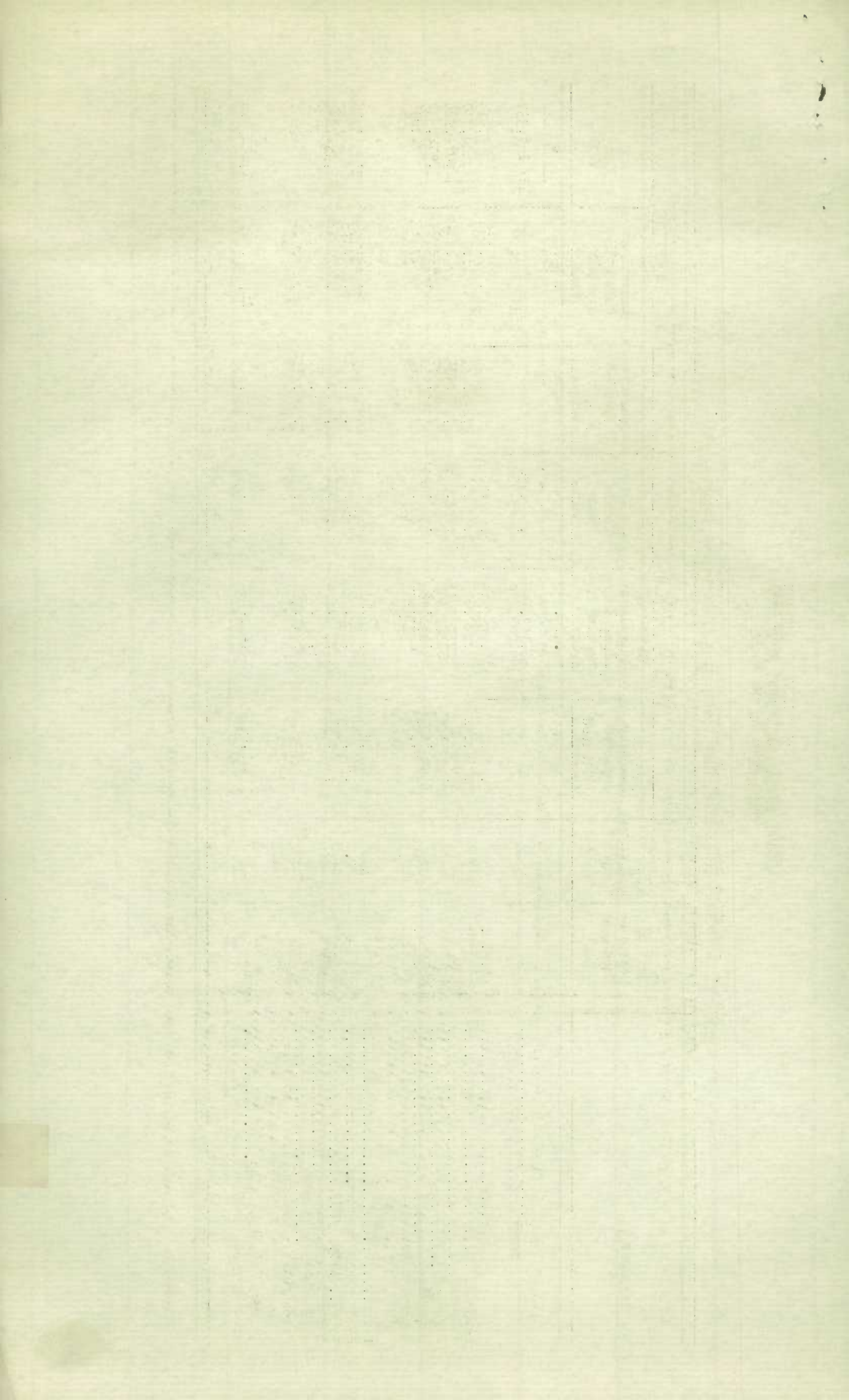
A total of 2,171,108,183 cubic feet of home grown and imported forest products valued at \$129,198,337 were consumed in Canada in 1931 including wood consumed in the form in which it was taken from the woods and wood used as raw material in Canadian industry. This material forms over ninety-four per cent of our total cut and is tending to increase while the proportion of material exported in the raw or incompletely manufactured state is decreasing annually. Of the total quantity used in Canada less than one per cent is imported.



ANNUAL SUMMARY OF FOREST PRODUCTION
OPERATIONS IN THE WOODS

Table 1. - Forest Production, Home Consumption, Exports and Imports, 1931.

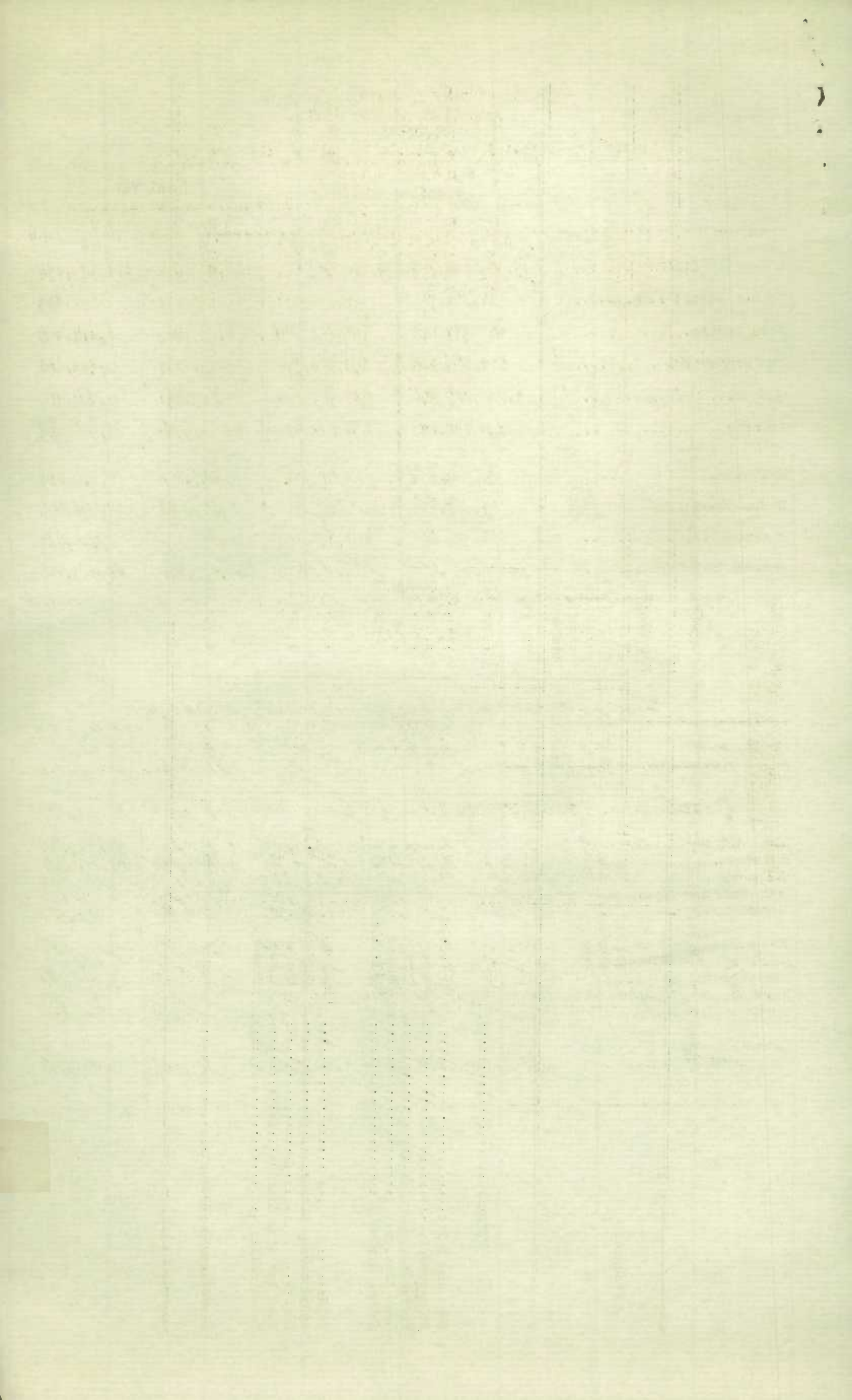
Products	Unit of Measure Used	Convert- ing Factor	TOTAL PRODUCTION			HOME CONSUMPTION		
			Quantity reported or estimated	Equivalent volume in standing timber	Total Value	Quantity reported or estimated	Equivalent volume in standing timber	Total Value
				Cu. ft.	\$		Cu. ft.	\$
TOTAL.....	-	-	-	2,306,143,706	141,123,930	-	2,171,108,183	129,198,337
Logs and bolts.....	M ft.b.m.	219	2,674,817	585,784,923	32,889,204	2,623,058	574,449,702	32,317,618
Pulpwood.....	Cords	117	5,046,291	590,416,047	51,973,243	4,148,279	485,348,643	43,120,740
Firewood.....	Cords	95	10,253,700	974,101,500	44,237,948	10,229,404	971,793,380	44,074,926
Hewn ties.....	Number	12	6,593,232	79,118,784	4,144,169	6,295,981	75,551,772	3,957,332
Square timber.....	M ft.b.m.	219	2,369	518,811	151,114	643	140,817	36,096
Poles.....	Number	13	675,008	8,775,104	3,057,546	284,092	3,693,196	1,537,923
Round mining timber.....	Cubic feet	1.3	4,746,441	6,170,373	958,681	4,746,441	6,170,373	958,681
Posts.....	Number	2	14,274,059	28,548,118	1,388,074	13,648,729	27,297,458	1,332,138
Wood for distillation.....	Cords	123	31,302	3,850,146	266,080	31,302	3,850,146	266,080
Fence rails.....	Number	3	5,312,959	10,625,918	454,205	5,312,959	10,625,918	454,205
Miscellaneous products.....	Cords	117	155,846	18,233,982	1,603,666	104,161	12,186,778	1,142,598



ANNUAL SUMMARY OF FOREST PRODUCTION
OPERATIONS IN THE WOODS

Table 1. - Forest Production, Home Consumption, Exports and Imports, 1931 - Con.

Products	Unit of Measure Used	Convert- ing Factor	EXPORTATION			IMPORTATION		
			Quantity reported or estimated	Equivalent volume in standing timber	Total Value	Quantity reported or estimated	Equivalent volume in standing timber	Total Value
				Cu. ft.	\$		Cu. ft.	\$
TOTAL.....	-	-	-	146,706,451	12,913,698	-	11,670,928	988,105
Logs and bolts.....	M ft.b.m.	219	59,070	12,936,330	701,226	7,311	1,601,109	129,640
Pulpwood.....	Cords	117	957,303	112,004,451	9,359,592	59,291	6,937,047	507,089
Firewood.....	Cords	95	29,513	2,803,735	182,605	5,217	495,615	19,583
Hewn ties.....	Number	12	414,140	4,969,680	260,307	116,389	1,402,668	73,470
Square timber.....	M ft.b.m.	219	2,369	518,311	151,114	643	140,817	36,096
Poles.....	Number	13	402,119	5,227,547	1,588,678	11,203	145,639	69,055
Round mining timber.....	Cubic feet	1.3	-	-	-	-	-	-
Posts.....	Number	2	672,911	1,345,322	63,319	47,581	95,162	7,383
Wood for distillation.....	Cords	123	-	-	-	-	-	-
Fence rails.....	Number	3	-	-	-	-	-	-
Miscellaneous products.....	Cords	117	58,975	6,900,075	606,857	7,290	852,871	145,789



ANNUAL SUMMARY OF FOREST PRODUCTION
OPERATIONS IN THE WOODS

Table 2. - Forest Production, by Provinces, 1930 and 1931.

Provinces	Equivalent volume in standing timber		Total Value	
	1930	1931	1930	1931
	Cubic feet	Cubic feet	\$	\$
CANADA.....	3,056,930,373	2,306,143,706	206,853,494	141,123,930
Prince Edward Island.....	11,001,310	10,650,577	533,931	507,593
Nova Scotia.....	128,377,416	121,560,040	8,589,205	7,414,836
New Brunswick.....	179,844,960	154,368,599	13,991,127	9,982,658
Quebec.....	1,000,825,308	646,317,624	73,493,851	45,344,956
Ontario.....	719,125,633	604,631,925	53,381,944	39,675,042
Manitoba.....	94,913,732	84,935,609	5,015,898	4,170,223
Saskatchewan.....	109,262,403	101,603,910	5,100,417	4,598,193
Alberta.....	116,647,253	102,251,513	5,896,861	4,916,683
British Columbia.....	696,932,358	479,823,909	40,850,260	24,513,746

Table 3. - Value of Forest Production, by Kinds, 1927 to 1931.

Products	1927	1928	1929	1930	1931
	\$	\$	\$	\$	\$
TOTAL.....	204,939,750	212,950,799	219,570,129	206,853,494	141,123,930
Logs and bolts.....	74,270,067	76,431,481	79,278,543	75,563,041	32,889,204
Firewood.....	40,582,774	41,164,270	41,764,507	43,786,064	44,237,948
Pulpwood.....	70,284,895	74,848,077	76,120,063	67,529,612	51,973,243
Hewn railway ties.....	6,242,865	5,871,724	5,730,423	5,038,899	4,144,169
Square timber.....	2,865,906	3,772,137	4,179,077	2,945,748	151,114
Poles.....	3,948,723	4,934,371	6,677,559	6,733,259	3,057,546
Round mining timber...	965,185	998,146	1,028,126	885,343	958,681
Fence posts.....	1,281,633	1,506,050	1,674,489	1,585,985	1,388,074
Wood for distillation.	482,277	476,726	455,957	335,330	266,080
Fence rails.....	431,057	463,469	477,569	624,968	454,205
Miscellaneous products.....	3,584,368	2,484,348	2,183,816	1,825,245	1,603,666

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