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LABRADOR

The region of Labrador has an area of 110,000 square miles and is almost three times the size of Newfoundland to which it belongs. Generally speaking, it is a rocky table-land which is still rising from the depths, old beaches being seen almost 1500 feet above the present level of the sea. Its eastern coast, fringed with myriads of islands, is bold and picturesquely pierced by fiords whose grandeur is unexcelled by those of Norway, and it is crowned with mountains, some of which, higher than any others in Canada east of the Rockies, have not yet been trodden by the feet of man. Inland the country is gently undulating and covered with numerous lakes varying from small ponds to sheets of water with surfaces hundreds of square miles in extent. It is traversed by ridges of low rounded hills which seldom exceed by more than 400 feet the general surrounding level (less than 2,500 feet). There are big rivers in plenty, deep canyons and foaming rapids--to say nothing of the many waterfalls, the greatest of which has twice the drop of famed Niagara.

HISTORY

It was not until some years after the Cabots had returned from their voyages in 1497 and 1498 with glowing accounts of abundance of codfish that enterprising fishermen from Brittany and Normandy set out for the new fishing grounds off the coasts of Newfoundland and Labrador. Almost simultaneously arrived the Basque whalers from the bay of Biscay, who, records definitely prove, frequented the strait of Belle Isle and the gulf of St. Lawrence in large numbers from the year 1525 to about 1700. Portuguese fishermen followed in the track of the Corte-Reals, while the voyage of Estevan Gomez induced the Spaniards also to cross the seas. What is now Bradore bay was long known as baie des Espagnols; and in 1704 the ruins of a Spanish fishing establishment were still to be seen at that spot. The

English were somewhat slower in recognizing the value of these northern fisheries but eventually entered into competition with the French, appropriating to themselves a large part of the fishing grounds, but it was about 1763 before they first diverted their attention from the Banks of Newfoundland to the coasts of Labrador.

In 1669 had been granted the famous charter to the Governor and Company of Adventurers trading from England into Hudson bay, and later various trading posts were established on tidal water to transact business with the Indians of the interior, but the first permanent fishing village did not appear until the early part of the nineteenth century.

England, America, France, Canada, and Newfoundland each at one time or another owned Labrador but the boundaries of this area, ultimately granted by the Treaty of Paris to Newfoundland--which in 1890 had offered to Canada its rights for \$9,000,000--were not definitely settled until the Privy Council of Great Britain handed down its decision in July, 1927.

POPULATION

The permanent population of Labrador in 1921, when the last census was taken, was 3774^{*}, which compares with 3,939 and 3,947 in the census years of 1911 and 1901 respectively. The population in 1921 according to religious denominations was made up as follows: Church of England 1,653, Methodist 918, Roman Catholic 425, Salvation Army 6, Presbyterians 6, other denominations (chiefly Moravians) 766. Of the total permanent residents more than 2,000 adults engaged in the fisheries. The number attached to the Government of Newfoundland was twelve. Places with inhabitants

* "The Newfoundland and Labrador Pilot" (1929) gives the population in 1926 as 3,977 (inclusive of 1,300 Eskimos), but the source of these figures is not given, and the territory covered probably includes areas outside Newfoundland's Labrador.

By the Treaty of Paris what was then known as Labrador was ceded to Great Britain, which united it to Newfoundland. It changed hands subsequently, and since 1825 only the 'coast' of Labrador has been permanently annexed to Newfoundland. It is the boundaries of this coastal area (with which this report deals) that were defined by the Imperial Privy Council in July, 1927.

of 60 or more were:-

| | | | |
|------------------------|-----|----------------------------|----|
| Northwest River | 182 | Battle Harbour | 95 |
| Hopedale | 170 | Cartwright | 87 |
| Main | 159 | Mid Lake | 77 |
| Forteau | 134 | West St. Modeste | 75 |
| Red Bay | 114 | Hebron | 72 |
| Cape Charles | 106 | Spotted Islands Harbour .. | 71 |
| L'Anse au Coup | 106 | Fox Harbour | 70 |
| L'Anse au Claire | 100 | Matthew's Cove | 62 |
| | | George's Cove | 61 |

The population, the classification of which by Whites, Indians, Eskimos ("Innuits", as they call themselves), and others, is not available, falls naturally into four divisions.

(A) The Permanent White Community

The permanent white community, which dwells by the salt-water, includes those who are permanently attached to the Moravian and other missions, to the schools, hospitals, nursing stations, etc.; the Hudson's Bay Company's factors; and the "livyeres" (live here).

Mission Stations

The Moravian Church originally flourished in Bohemia, Moravia, and Poland, and though disrupted and suppressed in the 17th century was resuscitated in Saxony in the 18th century, and at present exists in its reorganized form in Europe and America with an extensive mission work in many parts of the world. It was a product of the evangelical movement led by the Bohemian reformer, John Huss, who suffered martyrdom at Constance, July 6, 1415.

The work of the Moravian mission in Labrador is outstanding in the annals of missionary effort. In 1752 a first attempt was made to found a mission among the Eskimos, but it ended tragically, and it was not until 1771, after much tribulation that there was built at Nain the first Moravian mission house in Labrador. In 1775 the mission at Okkak was established, in 1782 that at Hopedale, and since 1804 the mission stations at Hebron, Zoar,

* L'Anse au Loup is probably intended.

Ramah, and Makkovik, in connection with each of which the Newfoundland Government gave special grants of land. The station at Ramah has been abandoned since about 1908 and that at Zeor has long ceased to exist. The population at Okkak was wiped out by an epidemic of influenza in 1919, but when the station at Nain, the headquarters of the Moravian Brethren, was destroyed by fire in 1921, a large portion of the settlers migrated to Okkak. In ministering to the material and mental welfare of the Eskimo, the Moravians have done a great and heroic work, without which the majority of the Eskimos would long since have perished, but the Eskimo who has attempted to pattern his life on that of the white man has fared ill. According to the "Newfoundland and Labrador Pilot" (1929), the number of Eskimos under the control of the Moravian missionaries in 1918 was 1,271, made up as follows: Makkovik 184, Hopedale 217, Nain 242, Okkak 263, Hebron 222, Killinek (just outside Labrador and near cape Ghidley) 143.

In addition to the Moravian missions there are the Church of England mission at Cartwright, the Methodist mission at Rigolet, the Episcopal Church and mission near Battle Harbour, and the mission hall at Indian Harbour.

Hospitals and Nursing Stations

Closely allied to the welfare work of the missions are the medical, educational, and other services rendered largely by the International Grenfell Association. This undenominational association is a consolidation of the Grenfell Association of America, the Grenfell Association of Great Britain and Ireland, the New England Grenfell Association, the Grenfell-Labrador Medical Association, and the Grenfell Association of Newfoundland, and was formed in 1912 because at that time the Royal National Mission to Deep Sea Fishermen was no longer able to cope with affairs which

had gone beyond its control. It has hospitals in Labrador at Northwest River, Indian Harbour, and St. Mary's River. The nursing station and summer hospital at the last named place, which is at the mouth of the famous salmon river of that name, were built to replace those burnt in the fall of 1930 at Battle Harbour, about seven miles away; the site is owned, the house has its own water supply, and as the buildings are on the mainland they are much more accessible in winter. At Forteau are a nursing station and dispensary, while the new dispensary and service rooms at Batteaux enable more efficient work to be performed, as also do the houses, despite their smallness, which have been built for summer workers at George's Cove, Boulter's Rock and Seal Islands. A nurse is stationed throughout the year at Cartwright, the coming capital of Labrador, and during the summer at Batteaux. The dispensary at the latter place, also those at Spotted Islands and other small centres, are open in summer and are usually run by volunteers. Through its hospital steamer and the three motor launches which carry medicine cases the association gives such additional medical assistance, while in winter its dog sleighs cover many thousands of miles in visits to families all the way from Natashquan (in the Province of Quebec) on the St. Lawrence to Nain.

In the foregoing connection mention must be made of the beautiful little nursing station erected at the latter place by the Hudson's Bay Company at its own expense, also the hospital with seven beds, operating room, and the usual requisites, belonging to the Moravian Brethren at Okkak.

Trading Posts

The Hudson's Bay Company has posts at Hebron, Okkak, Davis Inlet, Rigolot, Northwest River, Mud Lake, Cartwright, Nakkovik, Hopedale, and Nain. The posts at the three latter

places were not open in 1932. The company has a few outposts also, and by acquiring stores of some of its competitors and securing about 6 years ago the trading stations of the Moravians at Hopedale, Nain, Okkak, and Hebron on a 21 years' rental basis has a very large share of the fur trade in Labrador. There is not a single trading post in the interior. A New York firm, Porter and Company, has posts at Northwest River and Cartwright, where it trades for both fur and salmon.

Educational and Religious Institutions

The denominational spirit engendered by compulsory sectarian schools appears to be strongly emphasized in both the island of Newfoundland and Labrador. All moneys assigned by the Government for education are handed to the separate denominational schools, but, as the financial support has been somewhat meagre, education has not made much progress despite some really heroic efforts. Taken by and large the best educated people in the country at present are the Eskimos. Almost without exception they can read and write. Many can play musical instruments, share in part singing, and are well able to keep accounts, and know the value of things. These accomplishments, entirely due to the Moravian missionaries, have largely helped them to hold their own in trade, a faculty for want of which almost every aboriginal race is apt to suffer severely.

In 1921 there were 18 schools (mostly one-room buildings), the Church of England establishments predominating, followed in order by the Methodist, Moravian, and Roman Catholic schools.

Through the instrumentality of the Grenfell Association are (1) the Yale school at Northwest River, which was made possible by the generosity of the students of Yale University and which for two years was run by a volunteer headmaster from that university.

It now (1932) has 85 scholars; (2) the Cartwright school, largely a gift from a lady in Texas, which has 40 students; and (3) the St. Mary's River school, a gift from the students of Princeton University, which was opened about 1932 with 28 boys and girls. At Red Bay the association has a small weaving and industrial training school. A proportion of the scholars at each of these centres is permanent, the others returning in summer to their isolated homes.

On behalf of the Eskimos the Moravian missions have for many years run an excellent boarding-school for some 35 children at Makkovik, and in 1932 Commander MacMillan opened a school at Nain for the same purpose.

According to the 1921 census the churches in Labrador numbered 35, the Church of England having the greatest number, the Methodist, Moravian, and Roman Catholic churches following numerically in that order. Charitable institutions existed at Spotted Islands Harbour, Indian Harbour, Battle Harbour, Forteau, and at one or two other centres.

The Liveryes

The white population in that coast portion of Labrador along the St. Lawrence consists largely of French Canadians who obtain a livelihood chiefly from the fisheries and with some slight help from fur hunting in the winter. Northward along the Atlantic coast from the strait of Belle Isle to Sandwich bay, the whites are largely English speaking and are either immigrants from Newfoundland or the descendants of English fishermen formerly engaged in the salmon industry. North of Sandwich bay the white inhabitants are for the most part descended from the hardy French and English fishermen, who came into the region more than a century and a half ago, and the Scotch traders of the Hudson's Bay Company, who married Eskimos and remained on the coast after their services had

expired. It is these who are known as the livyeres; they live from the cod and salmon fishery in the summer and by fur hunting in the winter. As a rule they are in debt to the Hudson's Bay Company and to Newfoundland fishing firms for supplies advanced. At the close of the fishing season the greater number leave their small houses on the coast and proceed to the heads of the various bays where they go into winter quarters in their small houses there and engage in hunting fur-bearing animals. During April and May they, together with the Eskimos, engage in the seal hunt, spearing them until the ice leaves the bays when they resort to nets set along the shore. Despite the decrease in the fishery, furs, and seals, the livyeres could make a comfortable and independent living if they exerted themselves to a greater extent and were more thrifty. With a reasonable amount of care, thought, and labour, they can procure sufficient provisions to keep their families well fed, for, in the fall, after the close of the commercial fishery, they can obtain an abundance of brook trout, which swarms at the mouths of nearly all streams flowing into the sea. At this time spruce partridges are plentiful on their migration from the coast inland, while, later, ptarmigan and rabbits are generally abundant. The proceeds of their fishing would easily provide them with flour and provisions, while some of those living away from the coast, but not too far north, might be able to raise a small crop of potatoes. The winter's catch of fur would then, in most cases, be ample to ensure them clothes for a year and leave a credit balance.

So long as the Labrador community is limited to predatory life it is really a case of the survival of the fittest. Here the white man shows marked superiority in initiative, and few of the white families normally require any assistance. Good trappers, seal hunters, and salmon-or-cod-fishers that they are,

a certain number of them have carved out a quietly independent position.

South of Hamilton inlet coloured blood is seen to little extent. There is a very fair standard of workmanship in Sandwich bay, and from there south when work is to be had--which at present is limited to building activities of trade firms and missions. As the strait of Belle Isle is approached, the people approximate more and more to the Newfoundland type of cod-fisher and lumberman, and there is less and less coloured strain.

B. The Temporary White Population

During the summer 15,000 to 20,000 fishermen mainly from Newfoundland visit Labrador to engage in cod fishing. Their activities are mostly in the southern section of the coast, though increasing numbers occupy 'tickles' (narrow deep passages or straits on the coast between islands or between islands and the mainland) and harbours in the north, going even as far as Eclipse harbour and cape Chidley. They make no establishments on the shore in these northern parts but live on board their schooners which are anchored in some sheltered cove, and set their trap-nets along the shores of the bays or the open coast. The fishermen are kindly and hospitable and are on good terms with the Eskimos, with whom they trade to some extent. It is doubtful, however, whether this annual influx of thousands of fishermen has been to the advantage of the original inhabitants.

C. The Eskimos

The Eskimo tribes are the real children of the coast. All along the eastern littoral from Makkevik northwards they exist cared for and preserved by the Moravian Brethren, who most wisely have encouraged them to live as nearly as possible along

the lines that Nature intended. Hamilton inlet is the present southern limit of the Eskimo on the Atlantic coast. There is a little tribe of some half dozen families living in log houses on the shore of Carawalla cove at the head of Henrietta island. A few more families are scattered along the shores of the lower half of the inlet. The purity of the stock is doubtful; they are in a state of semi-civilization, having adopted European dress, and they all talk more or less English. They are riddled with tuberculosis, poor, and dependent on the fishery and seal hunt for a livelihood. Except for these, there are few or no Eskimos to be found south of Makkovik.

The Eskimos, whose numbers have been declining, now account for probably less than 900 of Labrador's present population. They are slowly being driven back and dying out before the tide of white men, and there is no doubt that improved rifles, improved seal-nets, and the modern sealing vessels have been potent factors of their downfall. On the whole they are a wretched relic, riddled with syphilis and tuberculosis. Probably less than one-third of the Eskimo dwellers is of pure stock. Statistics taken a few years ago revealed that, taking the entire coastal population of Labrador, one out of every three deaths was due to tuberculosis and that one out of every three native babies dies before reaching one year old. Professor Elliot refers to the absolute destitution of two villages of 300 Eskimos, whom he knew personally and regarded as a superior type of Eskimo, their starvation in this case resulting from the fact that a special movement of the ice in that year deprived them of walrus. Again, two of the six Moravian villages at Makkovik, Hopedale, Nain, Okkak, Hebron and Killinek were practically wiped out through influenza in 1918-1921, and whites and half-breeds shortly afterwards began to settle in these places.

The Eskimos are too sophisticated to decentralize now, and they do not prosper on the white man's mode of life, nor have they any resistance to epidemic disease. The Eskimos will soon no longer be.

They are altogether predatory, a race of hunters and fishers. Fish in the summer, fur in the winter, and seal, walrus, and white whale are their quarry from one year's end to another. In the early spring, while the ice still holds the land ironbound, they journey inland by dog sleigh (kumatik) varying distances up to 200 miles in quest of the herds of barren-ground caribou, the branch of the reindeer family which inhabits the uplands of north and central Labrador. The caribou provides them with food, skins for clothes, and sinews for the stitching of boots and garments.

The half-breed Eskimo presents a difficult problem. He is a poor fur hunter as a rule, which is a serious handicap, as no one can live for 12 months on the proceeds of only 4 months' fishing. He is being shepherded through unemployment into unemployability. He is the Government's chronic dependent. The problem could perhaps be solved, provided it was intelligently and energetically organized, by presenting him with the alternative of a bona fide job under proper supervision or the abrupt cutting off of all relief.

D. The Indians of the Interior

The Indians of Labrador are of Algonquin stock and belong to two tribes, the Montagnais of the south and the Nascaupees of the north. Very few hundred actually exist in Labrador today and it will not be long before they are wiped out by tuberculosis, which is very prevalent amongst them. Hamilton river (sometimes called Gillesport or Grand river) and lake Melville form the approximate boundary between the hunting grounds of these two

groups. The tribes are closely related by intermarriage, and, although using different dialects, have many customs in common. The Nascaupes hold to the tradition that their people originally dwelt far to the south, on the north side of a great river, with the sea to the eastward. They were driven north by the Iroquois during the wars of the early French rule in Canada.

The Montagnais are more or less of mixed blood, having intermarried with the old *coureurs des bois* and the French and English traders. This admixture of white blood is seen in their better physiques, the men being more muscular and broader than the pure Indian of the interior. As a rule they are of medium height, but a few are tall. The Nascaupes of Labrador, on the other hand, are usually not above five feet six inches in height, slightly built, and by no means muscular, being incapable of carrying half the loads of the Montagnais. They are also the dirtiest and most degraded Indians of the country.

The Indians of both groups depend for their food, clothing, and their habitations upon the creatures of the chase; they live a life of hardship and freedom such as was more common in the world of a hundred years ago. The Montagnais come every summer to Paradise at the head of Sandwich bay, 20 miles west of Cartwright, to sell fur and secure supplies. The fur buyers go to Paradise from Cartwright to meet them, sometimes parties of Indians come to Cartwright, where they remain a few days, but their main headquarters during the summer is at Paradise where they camp and make canoes and do other work. At the same season the Nascaupes are to be seen chiefly around Davis Inlet, at which place they trade with the Hudson's Bay Company.

The half-breed Indian is a born hunter and his principal occupation is the trapping of fur-bearing animals, which he finds more profitable than fishing, but like most half-breeds he is not thrifty.

CLIMATE AND AGRICULTURE

Cape Ghidley, the most northerly point of Labrador, is in the same latitude as the north of Scotland, while Battle Harbour at the southeastern extremity is almost on the parallel of London. Consequently, days and nights in Labrador have a similar length to those in England and Scotland, but the climate, as a result of the polar current, ranges from somewhat temperate on the southern coast to arctic in the Hudson strait and on the high lands of the northern interior. On the whole, the cold is not more severe than it is in many a civilized land, while fogs, despite exaggerated statements to the contrary, are no more prevalent than they are around certain sections of the British Isles.

The climate, however, is far too vigorous to permit the pursuit of agriculture to any appreciable degree. On the lowlands around the western end of lake Melville potatoes, hardy vegetables, and rhubarb can be successfully cultivated, although potatoes have been killed by frost before September 10, but on the coast where the climate is more severe, being influenced by the northern current with its numerous icebergs, the growth of root crops is slow and uncertain, even at Rigolet in latitude 54° . And though potatoes and garden vegetables are grown at Nain, extra precautions are taken such as the building of walls to protect them from the east wind and covering them with canvas when there is danger from summer frost. Even at Northwest River, which offers perhaps the best opportunities for the practice of agriculture, particularly the growing of various types of vegetables, midsummer frosts are said to occur one year in every four or five.

The last census (1921) indicated Labrador's annual

output of farm products was 46 tons of hay, 32 barrels of potatoes, 15 barrels of turnips, 2 barrels of other root crops, 300 head of cabbage, 1,300 gallons of milk, 320 pounds of butter, 280 dozen eggs. The livestock consisted of 4 cows, 5 sheep, 5 pigs, and 52 poultry.

The absence of grass plains and the mantle of moss and lichens which covers the surface of the interior lands almost everywhere make the country valueless as a grazing district except for caribou and reindeer.

The high lands of the interior have only two seasons, summer and winter. The summer season begins almost simultaneously throughout the interior, and the jump from winter into summer occurs as a rule during the first two weeks of June, when the snow disappears and the ice leaves the rivers and lakes, except the largest--where it often remains until July. Frosts are likely to occur nightly until about the end of June. To the north of latitude 52° snow falls and ice begins to form in the small lakes about the middle of September. From early in October the snow remains permanently, and all the smaller lakes are solidly frozen, so that, for the greater part of the interior plateau, there is at most only three months of summer. The temperature during the winter is often very low on these interior high lands that are away from the influence of the sea. The coldest months are December, January, and February. The lowest temperature^{*} recorded at the Northwest River post from 1867 to 1893 was 53° below zero. There are several observations of 45° below zero, which appears to be the minimum winter temperature of most years. At Rigolet, where the temperature is moderated by the open sea, the thermometer rarely registers 40° below zero. The head of lake Melville freezes com-

* All temperatures are given in degrees Fahrenheit.

pletely over between the latter end of November and December 15, and opens again between May 15 and June 15. The water in the part of Hamilton inlet where Rigolet is situated rarely or never freezes solid before the middle of January, and in some winters not at all. This is a result of strong currents. Grand lake, because of its great depth, seldom freezes before the middle of December nor does it break up till the middle of June. Sandwich bay, nearly one hundred miles further south, generally freezes over towards the end of December, at which time most of the larger fiords become closed.

Arctic ice still besets the coast in June. The northern harbours, in fact, are barred until about the third week in July and are navigable with ease for only five to six weeks, after which at the commencement of September stormy autumn weather presents difficulties.

Winds

During summer, south and southwest winds prevail in the interior and are accompanied by higher temperature and often overcast sky, with drizzling rain. The west and northwest winds bring clear weather with lowering temperature, especially in winter. North and northeast winds are usually accompanied by heavy storms of rain and snow with cold moist atmosphere, while east and southeast winds are associated as a rule with clear pleasant weather.

According to the fishermen east or northeast winds laden with fog and making conditions on the coast chill and drear are customary in summer. The fogs do not penetrate far inland, particularly if mountains intervene between valleys and the sea. As a consequence there is often a great difference between the coastal and interior temperatures. Floating ice may be seen on the waters of Hamilton inlet throughout the summer but ice is unknown in the Narrows or Double Mer after early July. The remarkably sharp contrast between the climate of the coast and the summer climate

of the interior is due to the Labrador current and the floe-ice which it bears southward along the coast. A journey from the eastern part of Hamilton inlet up lake Melville is, as Holme said, "like passing from winter to summer". Twenty miles inland from the mouth of a bay the surface water may have a temperature which is 5° higher.

As a probable result of the condensation of the moist air which rises from the level of Ungava bay to the crest of the narrow table-land on the eastern side of the Labrador peninsula, attaining an average height of about 4,000 feet, the deeper valleys like those running south from Nachvak fiord enjoy a drier and warmer climate than that prevailing in the rest of the country. This sort of chinook effect has been given by Coleman² as the reason why berries on the east side of Ivitak valley, for instance, ripen much earlier than they do at Hebron, which is 60 miles south. In late August the grassy floor of the valley grows sear and yellow, bringing to mind certain wide valleys among the foothills of Alberta at the same season.

Precipitation

The precipitation of moisture over the interior is not great. The snowfall in winter varies from three to six feet. During the summer the precipitation, though not much, is constant, a day seldom passing without drizzle or thunder showers. At Northwest River snow falls early in October, and from that date to about the first week in May, the latest record being July 2. In the more northerly portions of Labrador the higher hills are snow-capped throughout the year except sometimes during the first half of September.

² A.P. Coleman, "Northeastern Part of Labrador and New Quebec", Geol. Sur. Can., Memoir 124, 1921, p.11; v. also Geogr. J., vol. 82, No. 3, Sept. 1933, pp. 204,207, and Idem, vol. 82, No. 4, Oct. 1933, p. 316, for Odell's references to chinooks during his visit to the mountains of northern Labrador in 1931.

Additional Meteorological Data

The figures in the following tables are based, unless otherwise stated, largely upon the records of the Meteorological Service, Toronto. At present this Service has no stations in Labrador. Beginning about the year 1870 Moravian missionaries sent

Daily Temperatures at Northwest River from December, 1920, to March, 1921.

| Date | December 1920 | | January 1921 | | February 1921 | | March 1921 | |
|----------|---------------|------|--------------|------|---------------|------|------------|------|
| | Min. | Max. | Min. | Max. | Min. | Max. | Min. | Max. |
| 1 | 7 | 31 | -27 | -6 | -25 | 0 | 20 | 33 |
| 2 | 30 | 37 | -25 | -15 | -34 | 10 | 10 | 35 |
| 3 | -5 | 5 | -8 | 3 | -25 | 4 | 7 | 33 |
| 4 | -12 | 0 | -10 | 8 | -28 | 12 | 7 | 14 |
| 5 | -11 | 8 | -8 | 10 | -24 | 24 | -25 | 21 |
| 6 | -13 | 12 | -13 | 6 | -20 | 15 | -14 | 18 |
| 7 | -3 | 28 | -25 | -3 | -34 | 8 | -10 | 21 |
| 8 | 20 | 28 | -34 | -13 | -24 | 16 | -10 | 22 |
| 9 | 20 | 32 | -13 | 12 | -29 | 34 | 10 | 33 |
| 10 | 3 | 42 | -6 | 14 | 10 | 40 | 9 | 42 |
| 11 | 0 | 36 | -15 | 23 | -3 | 26 | -10 | 25 |
| 12 | -3 | 28 | -27 | -6 | -24 | 10 | -10 | 38 |
| 13 | -13 | 24 | -25 | 5 | -20 | 21 | -23 | 30 |
| 14 | -16 | 10 | -24 | -8 | -31 | 22 | -20 | 25 |
| 15 | -17 | 22 | -27 | 5 | -31 | 24 | -19 | 7 |
| 16 | -15 | 8 | -14 | 10 | -25 | 22 | -27 | 9 |
| 17 | 15 | 28 | -34 | -15 | -20 | 10 | -6 | 10 |
| 18 | 15 | 35 | -15 | -5 | -24 | 3 | 10 | 28 |
| 19 | 16 | 30 | -24 | 5 | -21 | 7 | -10 | 28 |
| 20 | 15 | 33 | -10 | 0 | -24 | 10 | -13 | 20 |
| 21 | 28 | 34 | -6 | 18 | -22 | 21 | 13 | 24 |
| 22 | 20 | 29 | -15 | 12 | -21 | 27 | -11 | 30 |
| 23 | -4 | 20 | -20 | 20 | -3 | 30 | -3 | 35 |
| 24 | -10 | 18 | -20 | 3 | 3 | 31 | -1 | 40 |
| 25 | 0 | 15 | 17 | -10 | -10 | 23 | 5 | 45 |
| 26 | 0 | 5 | -3 | 7 | -23 | 14 | 30 | 54 |
| 27 | 0 | 5 | -25 | 10 | -21 | 12 | 7 | 25 |
| 28 | -13 | -2 | -25 | 5 | 10 | 35 | 27 | 38 |
| 29 | -17 | 5 | -23 | 10 | ... | .. | 7 | 16 |
| 30 | -30 | -5 | -10 | 12 | ... | .. | -4 | 36 |
| 31 | -25 | 5 | -30 | -5 | ... | .. | 0 | 34 |

fairly regular reports to the Deutsche Seewarte at Hamburg from Nain, Okeak, Zoar, Hebron, and Hopedale. After the Great War began these reports did not reach Germany. Later, the Meteorological Service

Daily Maximum and Minimum Temperatures from July 18, 1921,
to September 24, 1921
(from observations by L.T. Bowes at Carter Basin on lake Melville
opposite Northwest River)

| Day | July | | August | | September | |
|-----|------|------|--------|------|-----------|------|
| | Max. | Min. | Max. | Min. | Max. | Min. |
| 1 | -- | -- | 79 | 57 | 60 | 44 |
| 2 | -- | -- | 58 | 50 | 54 | 46 |
| 3 | -- | -- | 59 | 44 | 60 | 40 |
| 4 | -- | -- | 59 | 44 | 50 | 39 |
| 5 | -- | -- | 66 | 46 | 50 | 40 |
| 6 | -- | -- | 65 | 45 | 39 | 49 |
| 7 | -- | -- | 65 | 44 | 48 | 60 |
| 8 | -- | -- | 60 | 45 | 49 | 68 |
| 9 | -- | -- | 56 | 48 | 49 | 59 |
| 10 | -- | -- | 78 | 52 | 41 | 56 |
| 11 | -- | -- | 76 | 52 | 58 | 38 |
| 12 | -- | -- | 76 | 48 | 54 | 36 |
| 13 | -- | -- | 62 | 47 | 64 | 36 |
| 14 | -- | -- | 72 | 46 | 62 | 44 |
| 15 | -- | -- | 66 | 46 | 62 | 42 |
| 16 | -- | -- | 64 | 47 | 50 | 42 |
| 17 | -- | -- | 63 | 45 | 50 | 41 |
| 18 | 79 | 52 | 60 | 46 | 48 | 36 |
| 19 | 68 | 51 | 64 | 46 | 46 | 38 |
| 20 | 66 | 54 | 64 | 44 | 46 | 38 |
| 21 | 66 | 51 | 62 | 48 | 40 | 35 |
| 22 | 77 | 56 | 58 | 46 | 54 | 38 |
| 23 | 76 | 57 | 63 | 42 | 52 | 42 |
| 24 | 62 | 53 | 62 | 42 | 51 | 40 |
| 25 | 72 | 54 | 61 | 43 | -- | -- |
| 26 | 78 | 57 | 66 | 44 | -- | -- |
| 27 | 67 | 54 | 76 | 54 | -- | -- |
| 28 | 63 | 48 | 76 | 57 | -- | -- |
| 29 | 54 | 43 | 72 | 54 | -- | -- |
| 30 | 56 | 42 | 68 | 44 | -- | -- |
| 31 | 69 | 47 | 68 | 44 | -- | -- |

supplied an outfit of instruments to the missionary at Nain, but he ceased to report in December, 1930, as neither the Newfoundland nor the Canadian Government would pay for his services.

In the gulf of St. Lawrence the Service has observers at Natasquan, Harrington, and on Anticosti, Grindstone, and St. Paul islands in Canadian territory and at Amour Point and on Belle Isle in Newfoundland.

In the region of Hudson Strait reports are received daily from Nottingham island by radio-telegraph, and from time to time from Hopes Advance, Resolution island, Chimo and Port Burwell.

Meteorological data compiled from observations at
Hebron during period 1883-1918*

| Month | Average Temperature | | | | Precipitation | No. of days of fogs |
|------------|---------------------|------|---------------|---------------|------------------------|---------------------|
| | Mean daily | | Absolute | | | |
| | Max. | Min. | Max. Recorded | Min. Recorded | Average fall in inches | |
| Jan. | 1 | -12 | 56 | -42 | 0.95 | 0 |
| Feb. | 2 | -12 | 48 | -42 | 0.67 | 0 |
| Mar. | 14 | - 2 | 47 | -36 | 0.87 | 0.3 |
| Apr. | 26 | 10 | 53 | -20 | 1.10 | 0.3 |
| May | 39 | 24 | 59 | - 7 | 1.57 | 1 |
| June | 48 | 32 | 74 | 14 | 2.17 | 1 |
| July | 56 | 38 | 87 | 25 | 2.72 | 3 |
| Aug. | 56 | 40 | 86 | 26 | 2.72 | 2 |
| Sept. | 47 | 34 | 81 | 19 | 3.35 | 0.2 |
| Oct. | 36 | 26 | 59 | 5 | 1.57 | 0.1 |
| Nov. | 25 | 15 | 48 | -20 | 1.20 | 0 |
| Dec. | 10 | - 2 | 45 | -29 | 0.60 | 0 |

Note: The mean daily maximum and minimum temperatures given above are based on 23 years' observations; the absolute maximum and minimum monthly temperatures cover about a thirty-year period; the precipitation and number of days of fogs are based on 15 years' and 8-9 years' observations respectively.

Mean monthly temperatures at Hopedale and points north**

(Based upon observation covering 5-7 years and prior to 1900)

| Month | Hopedale | Zoar | Nain | Okkak | Hebron | Ramah |
|-----------|----------|-------|-------|-------|--------|-------|
| Jan. | -7.9 | -12.8 | -11.7 | -9.9 | -9.7 | -7.9 |
| Feb. | -5.8 | - 8.5 | - 7.8 | -8.1 | -9.4 | -7.8 |
| Mar. | 6.4 | 2.6 | 3.4 | 2.3 | 2.5 | 2.5 |
| Apr. | 21.2 | 19.0 | 18.3 | 18.5 | 17.0 | 20.1 |
| May | 33.2 | 32.3 | 32.0 | 32.5 | 32.3 | 34.5 |
| June | 42.9 | 42.4 | 41.5 | 42.1 | 40.1 | 42.1 |
| July | 50.9 | 49.8 | 47.1 | 47.3 | 46.6 | 49.3 |
| Aug. | 50.7 | 50.5 | 48.7 | 47.6 | 46.4 | 46.9 |
| Sept. ... | 42.1 | 41.7 | 40.8 | 40.1 | 38.6 | 38.6 |
| Oct. | 32.9 | 32.3 | 31.1 | 31.8 | 29.5 | 30.7 |
| Nov. | 19.6 | 17.6 | 18.1 | 17.9 | 18.3 | 19.7 |
| Dec. | 3.0 | - 0.6 | 0.7 | 0.8 | 2.1 | 2.5 |

* Source:- (1) MS. data supplied by Meteorological Service, Toronto.
(2) Deutsche Ueberseeische Meteorologische Beobachtungen

** From the report of an official visit to the coast of Labrador by H.E. the Governor of Newfoundland, 1905.

Highest and Lowest Temperatures Recorded

| Place | Maximum | Date | Minimum | Date |
|--------------|---------|---------------|---------|---------------|
| Hopedale .. | 83.6 | July 14, 1890 | -36.4 | Feb. 11, 1888 |
| Zoar | -- | -- | -38.0 | Jan. 21, 1884 |
| Main | 77.0 | July 30, 1887 | -36.5 | Jan. 21, 1884 |
| Hebron | 86.2 | Aug. 3, 1890 | -40.0 | Jan. 17, 1891 |

FISHERIES

Introduction

The fish resources are Labrador's most valuable asset, and the pursuit of the cod, salmon, herring, halibut, and whale in summer and seals in March constitutes the dominant industry of the country. It is practically the only industry of the white population scattered along its coast as well as of a large proportion of the inhabitants of Newfoundland and it has long been recognized as a nursery for seamen--particularly so in the days of sailing craft.

The cod fishery is carried on from June to October. In July sometimes as many as 2,000 small schooners carrying seven to nine men each as well as women and girls for packing leave their various ports on Newfoundland's coast and proceed to Labrador. There are also a few United States schooners engaged in the fishery. At almost every bay, cove, or harbour on the Labrador coast are huts and fishing stages where some of these people live, while others follow the fish to the northward in their vessels. The principal stations are Battle Harbour and St. Charles Harbour. The fishery is carried on not only in small brigs and schooners, which are generally of 30 to 100 tons, but also in boats. When the vessels return to Newfoundland a few persons are left behind, who spend the winter near the heads of the bays so as to hunt for furs and to be ready for the seal fishery at the breaking up of the ice in the spring.

Fish caught by boats at the settlements are cured there, and in many cases exported direct to foreign markets while those taken by the vessels at sea are cleaned and packed in salt preparatory to final curing at one of the southern settlements or in Newfoundland.

The salmon fishery on the Labrador coast had been

declining until 1920, when it was resuscitated through the erection of a storage plant at Pack's (Pax) Harbour, from which 9,000,000 pounds of frozen salmon were exported in 1921.

Fishing is confined practically to Newfoundlanders, the Livières, Eskimos, Americans from Massachusetts and Maine, and a few Canadians from the Maritime Provinces. British, Canadians, Newfoundlanders, and Americans all have equal fishing rights on the coast of Labrador, but in the event of any portion of the coast being settled the treaty of 1818 between Great Britain and the United States does not permit the inhabitants of the latter country to dry or cure fish on such portion without the sanction of the occupants or owners.

The Cod and Cod-Fishery

More than 300 years ago cod were known to be plentiful on the southern coast of the peninsula, and the cod-fishery off the shores of Labrador has been more or less vigorously pursued ever since.

In the gulf of St. Lawrence and on the east coast of Labrador the cod are of smaller average size than on the Banks off Newfoundland and the United States. In the far north of Labrador, which is not much frequented by Newfoundland fishermen despite the fact that the harbours of Cape Chidley island were successfully fished for several years by a Captain Blandford, who established a fur, seal skin, and narwhal fishery at Port Burwell, the fish are shorter and thinner than those taken in the strait of Belle Isle between Blanc Sablon and Battle Harbour, a stretch of water which is fished almost exclusively by Newfoundlanders and white residents of Labrador. The average Labrador cod taken in the trap-net is about 20 inches long and weighs between 3 and 4 pounds, while those caught on hook and line in the fall are much larger and heavier.

The majority of Labrador fishermen think that the cod are diminishing in number along the whole coast. In judging the case however not too much reliance must be placed on the testimony of a few individual captains. As the number of men and the amount of capital engaged in the industry increase, the chances of failure of cargo for the single schooner increase. Quite independently of man's interference, the harvests of the sea, like those on land, may naturally swing in cycles. In 1775, for example, the cod-fishery along the north side of the strait of Belle Isle was a complete failure, yet in recent times it has been quite good, in fact more fish are taken today in the strait and along the southern shore than in the north, where, as a consequence, many summer settlements have been abandoned. The in-shore fishing may at times be in a period of relatively lean years to be followed by a period of fat years, but places where the largest catches were made years ago are still some of the best berths to-day, a fact of some significance when it is considered that cod tend to return to the section of the coast where they were born.

In any event the cod seem to be as plentiful as ever in deep water. The failure of many a schooner to find cargo may be because the principal method of prosecuting the Labrador fisheries is by trap-net from "floaters", of which there are about 400 in operation now. A floater is a skiff of from 35 to 60 tons and carries two, three, or four traps and a crew of from five to fifteen, depending upon the number of traps carried. The skiff carries two or three motor boats and sets the traps at likely spots near the shore. The traps are hauled and set at least twice a day, and through the use of motor boats are readily moved from one place to another along the coast to where the fish are. If for any reason the fish, though as plentiful as ever, do not come right home to the rocks, the captain, who is outfitted with trap-net only, might wrongly report

on the question of a possible diminution in the numbers of the cod in Labrador's seas. There is no doubt that too much reliance is being placed on trap fishing. Many men do not want to go into deep water in open motor boats, they wait for the cod to come to the traps, and if the fish do not come they pack up and go home. Not conducive to a change in their procedure is the present price for salt and provisions, which is too high in relation to that for cod, in fact the prices[§] received in 1932 and 1933 for Labrador cod were below the cost of production, with the result that the floaters, which are becoming worn out, are not being replaced or rebuilt. More and more fishermen are giving up their calling, the old brigade is dying out, and the younger men have a tendency to treat the whole matter as a farce.

It was largely because cod began to show real or apparent failure on the Newfoundland coast, and then on the Grand Banks, that the great fleet of fishing vessels began to turn its bows northward, and now every year as soon as the ice breaks up there is a great exodus of men, women, and children from Newfoundland to Labrador, but for every two fishermen who went twenty years ago, only one probably goes now--which is undoubtedly true in the case of the "stationers", that is, those who go to Labrador for the summer and fish from the shore.

In 1845 two hundred vessels employing 500 men made the voyage, and in 1851 it was estimated that 700 vessels went to Labrador from Newfoundland, carrying from 10,000 to 15,000 men, while in 1880 there were from 1,000 to 1,200 schooners with more than 30,000 people in all.

The average annual export of fish (largely dry cod-fish) direct from Labrador during the latter part of the nineteenth century has been:-

§ In December, 1933, prices increased as a result of the appreciation in value of sterling. Fishermen selling cod to England were receiving as much as 100 per cent more than they did early in the year, about \$4 as against \$2 a quintal.

| | |
|-----------------|--------------|
| 1860-1864 | 192,051 cwt. |
| 1865-1866 | 197,885 " |
| 1873-1877 | 300,854 " |
| 1878-1882 | 371,681 " |
| 1885-1889 | 216,434 " |

In addition an average of 350,000 cwt. a year was carried from Labrador to Newfoundland and exported thence.

After the fishing is over the fine days for drying the cod are rare; it is therefore better to ship the fish partially dry rather than wait perhaps weeks for the purpose of drying it hard, or it can be shipped unwashed in salt to Newfoundland for final curing. Some of the schooners however have so many passengers and so much gear to carry to and fro that they are unable to take their fish to Newfoundland whether they wish to do so or not, while the merchants who have commissioned steamers or schooners to go to Labrador for loads are so anxious for the fish to reach the markets early that they will give at times considerable bonuses over the price arranged by the Chamber of Commerce at St. John's, Newfoundland. The rapid loading and the accepting of all fish just as it comes along is not conducive to good results, and as the loading often goes on by flares at night, unsound fish will be occasionally slipped in, and a whole cargo thereby injured. Furthermore, cod does not receive so severe a culling in Labrador as in Newfoundland.

Italy is the best market for Labrador cod to-day, though up to 1904 Spain was. Both the latter country and Greece still take a large quantity. In recent times the United Kingdom has not taken much. The Portuguese and Brazilians prefer their cod cured hard and secure the bulk of their requirements from Newfoundland. The fish culled out as unsuitable for other markets is shipped to the West Indies at a lower price.

Labrador cod has to compete with the Norwegian and Icelandic catches and in recent years has lost appreciable ground

in the world's markets largely because it has been put up in a less careful manner, hand methods still predominating. The Hudson's Bay Company is applying the quick-freezing process to fat cod fish, also to halibut, which the company is catching off the re-discovered halibut banks between Labrador and Newfoundland, and if it proves successful it will in time supplant the present salt method of curing and will prove a boon to the fishermen.

The quantity of codfish furnished annually by the Labrador fisheries from 1925 to 1932 has been:-

| <u>Year</u> | <u>Quintals (112 lbs.)</u> |
|-------------|----------------------------|
| 1925 | 359,220 |
| 1926 | 175,380 |
| 1927 | 291,245 |
| 1928 | 301,750 |
| 1929 | 250,000 |
| 1930 | 350,000 |
| 1931 | 380,000 |
| 1932 | 317,636 |

In 1920, according to the last census (1921), Labrador contributed to Newfoundland's output of fish products 342,318^x quintals of cod, 3,190 tierces of pickled salmon, 964 barrels of pickled herring, 242 barrels of trout, 20,688 gallons of cod oil, of which 282 gallons were refined, 6,011 seals, and 204 tuns of seal oil.

Salmon and Sea-Trout

Salmon are found from end to end of the coast, but particularly in most of the more southerly rivers. The run takes place between the latter part of June and the end of July after they have browsed about on the coast for a month or so. In the northern rivers of Labrador the salmon is largely replaced by splendid sea-trout of at least two species, which are caught in large numbers by the Eskimos and salted at the mission stores prior to shipment to Newfoundland or England. In such waters

* This includes the catch by Newfoundlanders during their sojourn off the shores of Labrador.

as the Nachvak and Komaktervik rivers magnificent trout of a golden and coppery colour with red and white spots are frequently seen battling their way up-stream among the rocks towards their spawning grounds. The fish is as red and well-flavoured as the salmon.

The grilse, from their agility or smaller size, are fairly successful in escaping the cod-trap leaders. They even pass through the salmon-nets in the rivers, and the rod-and-line fishing for these is still excellent in many Labrador rivers. Eagle river still gives good sport for salmon, and an enterprising Hudson's Bay Company's factor contemplated at one time the building of a summer hotel for visitors near the large pools. Sandhill Bay river also gives good fishing.

Land-locked salmon are common in the lakes and upper reaches of Hamilton inlet, which, with lake Melville, constitutes an important source of trout, salmon, and seal skin in early spring and late fall for the winter settlers. From the standpoint of the visiting sportsman it is of interest to know that no rivers are reserved for clubs or private owners; he may fish any or all as he wishes.

The Labrador salmon are said to be the best in the world for eating, the cold waters apparently producing a specially vigorous, well-fleshed fish. The salmon-fishery preceded the cod-fishery by many years and was very valuable.

By catching salmon and trading in furs the resident white inhabitants grew up and flourished, but with the destruction of the salmon in many waters poverty and even starvation have befallen them. The former great abundance of this fish is well emphasized in the extracts from Cartwright's journals in 1775-1785: "The big pool (writing of Eagle river) is so full of salmon, you could not fire a ball into it without injuring some". His famous

description of some 14 white and black bears which he saw fishing in the pool is unique. In 1776 from August 7 to 11 Cartwright took 1,230 salmon from the pool.

The depletion of the salmon has resulted from the illegal netting of the rivers. Furthermore, nearly every trap-net used in the cod-fishery catches salmon, which are salted, smoked, and carried to Newfoundland. Grenfell knows of 300 salmon taken in one day in a cod-trap. Rivers in Labrador are usually not now barred, but practically all that are of any value are illegally netted. If, however, these rivers received the protection the laws of the country nominally afford them, there is no reason why they should not regain their great attractiveness for visitors and sportsmen.

The Hudson's Bay Company, which is by far the largest salmon buyer on the coast, owns many nets, also houses, or "posts" as they are called, at all the best vantage points in the long inlets, which the livyeres and natives, by whom the salmon-fishery is chiefly carried on, rent, giving half their catch to the company and receiving goods for the balance. Of the estimated 3,000,000 pounds of salmon exported from Newfoundland in the 1933 season, the bulk came from Labrador, ice interfering with the fishermen in Bonavista, Notre Dame, and White bays of Newfoundland this year. The Hudson's Bay Company alone shipped over 1,000,000 pounds from Cartwright, while the National Fish Company sent 400,000 pounds from Battle Harbour to Sydney.

The former company applies the Birdseye process of quick freezing to the fat cold-water North Atlantic salmon. Despite the fact that money was lost in experimenting, that more salmon were put on the market than should have been at first, and that the depression has wrought havoc among all industries; the process has meant the difference between hunger and

sufficiency to the families of the salmon fishers of Newfoundland and Labrador, most of whom, particularly those who lived on or near the coast and did little trapping, were in sore straits. Now they can sell direct from the net without having to extract the bones and ^{to} salt and barrel their catch, receiving into the bargain an even better price than before. Success in the exportation of chilled salmon should ultimately lead to the development along similar lines of a large sea-trout fishery.

Formerly the Hudson's Bay Company had a salmon-fishery three miles up Eagle river, also a cannery; and the Elwerthys of Pinware commercially fished inside the mouths of the Pinware rivers. These businesses were closed several years ago by the Newfoundland Government, which legislated against commercial fishing in waters inside a line drawn 200 yards outside the mouth of any river or estuary. Even if this legislation had not been enforced, it is very doubtful whether sufficient salmon could have been obtained to maintain business on a scale to permit competition with British Columbia canned salmon. Fishing by rod and line, however, is permitted, and Indians, Eskimos, sportsmen and others engage in it either illegally or under license costing ten dollars.

The Herring and Other Fish

Labrador once had a share, though at best only a very small one, in the development and maintenance of the world's herring fisheries, but to-day her output is merely a few paltry barrels. Labrador herring, which ran to seventeen or even more inches in length and weighed nearly one pound apiece, had won a well-earned reputation, only those from Icelandic and Shetland waters being able to compare with them.

Dr. Moses Harvey, writing in 1880, said the average export of herring from Labrador was 50,000 to 70,000 barrels for

the years immediately preceding. In 1880, 20,000 barrels were exported; in 1881, 33,330 barrels; in 1908, only 180 barrels. As many as 500 barrels have been taken in one haul at Snug Harbour. Captain Hennessy described to Grenfell how he sailed through millions of herring north of cape Mugford, their vast bulk making the surface of the sea oily.

Mackerel are not taken except occasionally along the shores of the gulf of St. Lawrence, neither are hake nor haddock, which are rarely seen.

The Ocean Mammals of Labrador

In compensation, as it were, for the loss of herring and the decline in the numbers of salmon taken, a whale fishery sprang up again. It met with varying success for some years, but has since felt the combined effects of increasing scarcity of whales off the Labrador coast, over-production elsewhere, and the force of the present depression, and is now no longer operating. The whale factory established at Cape Charles in 1904 ran for quite a number of seasons, while that at Hawke's Harbour (40 miles to the north of the strait of Belle Isle), which accounted for most of the whales taken, operated from 1906 until comparatively recently, without such interruption except during the war and shortly afterwards. The factory at L'Anse au Loup has long been closed because of scarcity of whales.

Whilst the industry was prosecuted, the statistics of the yearly catch indicated a growing decline. In 1904 two companies fished and killed 153 whales, whereas in 1906 and 1907 the same number of companies secured only 85 and 94 whales respectively. The 149 whales killed by three companies in 1905 included 5 sulphur-bottoms, 101 finbacks, and 43 humpbacks. Reading the records of the Moravian missions for the years 1780 to 1850, one is greatly struck by the number of dead whales mentioned as having been discovered

from time to time.

Six species frequent the Labrador coast, though only four kinds can still be regarded as occurring to any extent; the finback, humpback, sulphur-bottom, and white whale. A specimen of the largest, the sulphur-bottom, has been taken with a length of 95 feet and a girth 39 feet in circumference, its weight being estimated at 147 tons.

The finback is the commonest whale on the coast. He runs to about 65 feet but in proportion gives less oil than the sulphur-bottom. The humpback is, at times, scarcely worth catching because he gives very little oil. He may be 70 to 75 feet long and has bone up to 3 feet in length. According to Grenfell, it is too hard when cured in salt, but, canned, is a really good meat, with not enough characteristic qualities for the ordinary man to distinguish it from canned beef. In a country where vegetables are a rarity, cattle out of the question, and the supplies of wild meat are diminishing with the years the immense quantity of cheap nourishing food which could thus be made available would be a desirable addition to the diet of all. If preserved by being frozen and kept for consumption in the winter, whalefish would help to prevent scurvy, which often affects the inhabitants after their long winter of isolation.

The white whale is likely to be found anywhere along the Labrador coast and was quite common in the gulf of St. Lawrence, where it is still to be seen. The adult weighs about one and a quarter tons and gives 100 gallons of oil. His skin forms excellent leather (porpoise hide) which is impervious to water. These whales have been caught in cod-trap nets, and in 1907 some 60 were caught in the big seal-nets set at cape Chidley by the Moravian missionaries.

The narwhal, like all the other species, is retiring steadily before the advent of the white man, and is now caught only

occasionally in the north.

A note of warning is necessary. The modern mechanized methods of catching whales demand the adoption of national conservation measures, for the history of the whaling industry in various parts of the world plainly shows that the available whale population is likely to be greatly reduced or wiped out in the near future with consequent loss of an important economic asset. Approximately 10,000 whales were taken in the gulf of St. Lawrence and off the Newfoundland and Labrador coasts between 1898 and 1929.

At its inception the Newfoundland fishery was almost exclusively a right whale fishery, but in the course of time this species was well nigh exterminated. The whalers then sought the sperm whale and continued the slaughter until it too could not be hunted profitably. Land stations were then established, and small speedy vessels, equipped with harpoon guns, were employed to take the humpbacks, and when these were depleted the whalers sought the larger and swifter finbacks and blue whales, which in their turn have begun to decline in numbers, and the final stage in this fishery is near at hand. In the case of whales, overfishing sooner or later reaches a point beyond which recovery is impossible even should there be a subsequent long period during which the whales are unselected.

The Seal-Fishery

What cod and salmon are to the white inhabitants of Labrador, seals and walrus are to the aboriginal coast dwellers - the Eskimos. Unfortunately for these people, the increasingly vigorous prosecution of the seal fishery from Newfoundland has already begun to tell on the numbers of the seals, particularly the harp seal--the commonest and most valued.

In the late fall the seal migrates south from the arctic north, and during November to February the seal hunters along the east coast of Labrador set gill-nets. About March 1, the seals bring forth their young on the ice-floes off the coast, also in the gulf of St. Lawrence as far as the Magdalen islands and even Nova Scotia. For this purpose they herd in tens of thousands on the floating ice, which under ordinary circumstances ensures their safety. But at this time, when escape is absolutely impossible for them, the Newfoundlanders hunt in large steamers and kill immense numbers of the babies by clubbing them. From 250,000 to 500,000 is the average number thus destroyed annually. When these poor creatures are killed, the waste is terrible. Dr. Grenfell states that he has seen three or four thousand bodies of young seals, freshly stripped of their furry jackets, left to rot or to be a prey for sharks.

There is no doubt whatever that the wealth which Labrador possesses in her harp seals is being seriously depleted under the influence of the modern vessel, the ease with which the seal nurseries are now located by aeroplane and wireless, and the difficulty of enforcing laws designed to prevent the abandonment of seals which have been killed and not hauled aboard. Furthermore, the Newfoundland Government is seemingly loath to interfere, for the seal fishery is a source of revenue, has long been practised, and has much capital invested in it.

The next most important seal is the bay seal (harbour or fresh-water seal), a small seal weighing only about 100 pounds and looking rather dingy in a drab coat with faded black markings. Though they are now not very numerous, never being seen in herds, they are found along the coast and low parts of the rivers all round Labrador, also in a large lake, so it is stated, at the head of the north branch of Northwest river (Naskaupi river). Some of Labrador's rivers are almost ruined for ordinary fishing by the number of bay seals which infest them. The seals will watch the

salmon nets very carefully and rapidly eat the struggling captives.

The ringed seal is also now rare in Labrador, only a few specimens being taken - and those in the extreme north. Nor does the hooded seal come often to the shore. The last and largest of Labrador's seals is the gray seal, but it is scarce. It is almost devoid of hair and makes the best possible material for covering kayaks and for the manufacture of water-tight feet for boots. The skin of the harp seal is used for the legs and, when the boots are to be used in the coldest weather, for the bottoms as well, because the skin is so soft and allows free movement, but the gray sealskin is much more resistant to water. The gray seal is usually shot as he plays along the edges of the ice, but is occasionally entangled in sunken nets. The bearded seal (square-flipper) is found about Nachvak, its skin being used for making dog traces for the southern posts of the Hudson's Bay Company.

Every year the white communities in Labrador are finding it less worth while to prosecute the seal-fishery. And now that the land is largely denuded of its former great abundance of game, many settlements have disappeared. In 1795 it was considered a poor seal year when 1,100 were killed at Battle Harbour; 150 would be a good year's catch now.

Walrus

Again, not more than 50 walrus, which were once common along the entire coast of Labrador, are now caught in the year. Most are killed by the Eskimo at Okkak, Hebron, and Rasmah. They are more numerous around cape Chidley, but fewer people are there to kill them. A.P. Low records the death of every single soul in a Hudson bay community from starvation because the whalers had supplied modern weapons to neighbouring Eskimos, whom they employed to destroy what walrus were available to the fatal settlement for

the sake of securing the skins for export.

Although to Europeans the walrus is of little value, to an Eskimo it means everything--meat, clothing, light, housing, boats, weapons, and nets (from plaited bowel). The dense skin, half an inch to three inches thick, is useful commercially for only a few purposes. The ivory of the tusks keeps its colour well, but is very faulty and not large enough for the manufacture of billiard balls. It is of comparatively little value. To the Eskimo, however, the tusks are the greatest prize, for they are used in making harpoon tips.

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OF CANADA

FUR-BEARING AND OTHER ANIMALS

Fur hunting, which ranks next in importance to the catching of fish, is carried on by both Indians and Eskimos. During April and May the latter as well as the livyeres are engaged at the heads of the inlets in spearing seals which come through holes in the ice to breathe or sun themselves. Fifty years ago the catch by this means was large, but to-day it is so small that the hunt is being abandoned. As soon as the ice leaves the bays, seals are taken in nets set along the shore. The seals are used principally for local consumption, although some skins and a small quantity of oil are exported. The skins are used for outer clothing in winter and for various domestic requisites, and the fat and meat are preserved for dog food, a purpose for which a great quantity of seals is needed as each livyere has two to six dogs and the Hudson's Bay Company a large number. The Eskimos confine their activities chiefly to the coastal district, although in the spring of each year large bands used to go inland--and still do so to some extent--from Okkak, Ramah, Main, and Hebron distances up to 200 miles, if necessary, in quest of the caribou, while the Indians--who depend mainly upon the fur-bearing animals for their support--live for most of the year in the interior, spending only from one to three months of the summer season at tidal water where the fur-packs are handed over to the traders. The bulk of the furs is exchanged for supplies or, as is now done to a greater extent than in former years, for cash. In August the Indians ascend the rivers to cache supplies, for, owing to the extermination of the caribou in many parts of the country and to an insufficiency of other game, they are now usually obliged to buy and carry inland to their hunting grounds a large quantity of flour. Then, returning to equip themselves, they re-ascend the rivers in September, remaining in the country until the ice breaks up when

they can transport their winter catch to the posts, all of which are now on tidal water.

Each family of Indians is supposed to own a portion of territory with the exclusive hunting rights to it. The territory is divided generally into 3 parts, which are hunted over in yearly rotation, the supply of fur-bearing animals thereby being conserved.

Unfortunately, extensive fires, too close hunting, and other causes have been rapidly exterminating the animals, and the families owning such areas have been obliged to encroach upon their neighbours' lands in order to obtain a living. As the intruders care little or nothing about conservation, the result is most disastrous, and if strict laws are not enacted and enforced the numbers of the fur-bearing animals will rapidly decrease and the Indians reduced to beggary. Not only the Indians but almost all the other inhabitants of Labrador experience much privation in lean years of fur, game, and fish.

The trapping laws which were made for Newfoundland apply also to Labrador, where, according to Dr. Grenfell they work most uneconomically and unfairly, no consideration having been taken of the wide extent of latitude and the consequently different conditions.

Each livyore has a path, or line, of traps often extending 50 miles or more inland, in fact some of the paths are so long that a week is necessary to cover the ground and attend to the traps on the way.

Before the lakes and streams freeze, hunting is largely carried on with the gun, the Indians shooting from their canoes beaver, otter, mink, and muskrats, and, in the burnt areas where blueberries are plentiful, bears. The northern Indians at this time are engaged in their principal hunt for caribou, killing numbers by spearing them in the rivers as they pass on their annual migration. After the rivers are frozen, most of the fur hunt is made with traps,

which are either steel traps or dead-falls of wood. The principal animals taken in the early winter are marten, fox, and lynx. During the intense cold of December, January, and February, the wild animals move about very little and hunting is unprofitable, and during this period the Indians do not hunt unless compelled to do so by hunger. In March the martens are once more travelling, and continue to constitute the principal hunt until the small streams begin to break up, when attention is given to the beaver and otter, and, later, to the bear. In this manner the winter routine is carried out, with the intervals mostly filled in looking for food. Ptarmigan and partridge are killed during the winter, also rabbits, which are periodically plentiful, while fish, duck and geese aid in stocking the larder in spring and fall.

The barren-land caribou, which are of the greatest importance to the Nascaupes and Eskimo, who hunt them in the fall and winter, are much less plentiful than formerly. They are to be found during the fall near Nachvak and Komaktovik bays, in Davis inlet, on the hills about Main, inside cape Mugford, at the head of Makkovik bay, and on the hills above Stag and False bays. After Christmas they approach within reach of the settlers and are seen as far south as the Healy mountains, the high barren range between Hamilton inlet and Sandwich bay. Caribou flesh is the best meat obtainable in Labrador.

Periodically, however, the caribou, which range in herds, not nearly as immense as they used to be, change their route of migration or fail altogether to return to the wooded areas from the barrens, and when this happens the Indians depending on them are left in a most lamentable condition, being largely without food and clothing. Many die of starvation in consequence, unless outside aid is given. In the evidence given before the committee of the Hudson's Bay Company in 1851, a letter was read from W. Kennedy as

follows: "Starvation has, I learn, committed great havoc among our old friends, the Nascauppes, numbers of whom met their death from want last winter; whole camps of them were found dead, without one survivor to tell the tale of their sufferings".

Woodland caribou are now met with in small bands only, principally on the upper Hamilton river. The indiscriminate destruction of these animals, which were once plentiful throughout the southern wooded region, resulted in the dying off, from actual starvation, of a large proportion of the interior Indians, and as a consequence the number of fur-bearing animals increased during the next few years.

Black bears, which are common, are most likely to be encountered where the settlers are fewest, and where the caplin come to the landwash near the woods. Many are killed every year in Hawke bay. White bears, which come south on the flee-ice in pursuit of the seal herds which have their young on it, are found in small numbers on the more northerly parts of the coast.

Among the animals indigenous to Labrador are Arctic hares, squirrels, beavers (protected by law and consequently quite numerous), Norway rats, Labrador deer, red-backed mice, phenacomys, moles, muskrats, lemmings (the commonest land animal, its burrows and nests being seen everywhere in dry, grassy places), porcupines, lynx (becoming much scarcer), fox, otter, skunk, wolverine, mink, weasel, marten, wolves, bears, and bats. Minks, weasels, and martens are the more common fur-producing animals. The marten is one of the most abundant and valuable fur-bearer of Labrador. Its northern range is practically limited to the southern boundary of the semi-barrens, and it is found only in the wooded stretches of the river-valleys north of this line. The mink is limited to the southern part of Labrador, and, as in the case of the marten, is rarely found north of the

Hamilton river. The weasel is common everywhere south of the tree limit.

Red, cross, silver, black, white and blue foxes are trapped--the last-named generally being found near the coast. The number killed each year varies greatly. In 1910 and 1911, for example, a large number was taken, but in 1911-1912 scarcely a fox was caught, and all fur was scarce. The reasons attributed were that in 1910 the mice and lemming being very scarce, the foxes had to come to the winter-trapping grounds, hunting food near the land-wash, and their hunger made them take bait readily. In 1911 mice were again very plentiful, and some foxes certainly went farther inland for them. Some were caught, but probably too large a toll of breeders had been taken in the previous year.

In order to encourage the domestic fox farm, the exportation of live wild foxes from Labrador is prohibited. The farm that was started at Muddy bay (on Sandwich bay) about ten years ago was closed after a short life, but Dr. Grenfell was so convinced that it could be made as remunerative as the fox farms of Prince Edward Island that he purchased the farm. And the success that has since attended the efforts of the Hudson's Bay Company in the raising of both fox and mink is a vindication of his belief. Dr. Grenfell holds the same opinion in regard to the domestication of reindeer despite his previous failure through lack of skilled and interested management, and he started a new herd under American supervision, receiving the support of the Newfoundland Government and a suitable land grant around Hamilton inlet.* For raising both reindeer and caribou, Labrador's landhold the requisite food in great abundance and permanency, and, furthermore, woodland-and-barren-land caribou are sufficiently allied to domestic reindeer to mate with them successfully. The milk of reindeer is rich and well-suited to the

* As no Government sanctuary had been granted, most of the deer, which had increased in 5 years from 300 to 1,700, were ruthlessly poached, the sorry remnant being transferred to Canada for safety.

making of butter and cheese.

According to the last census of Newfoundland and Labrador, the value of the furs secured from Labrador in 1920 was \$60,224, the number of pelts being 4,621. These figures compare with \$28,456 and 3,602 when the previous census was taken. In 1920, 3,472 furs were traded in at Northwest River, 185 at Hopedale, and 127 at Fox Harbour.

FORESTS

The forest resources of Labrador have been built up mainly from seven species of trees, namely, black spruce (*picea nigra*), tamarack (*larix Americana*), white birch (*betula papyrifera*), balsam fir (*abies balsamea*), white spruce (*picea alba*), balsam poplar (*populus balsamifera*), and aspen (*populus tremuloides*). Black spruce is the most abundant and probably constitutes about ninety per cent of the forest. Tamarack ranks next; it is the hardiest tree of the sub-arctic forest belt and grows everywhere, continuing as a tree near the northerly limit of the forest, where the black spruce is dwarfed to a mere shrub.

All that portion of Labrador lying between its southern boundary and latitude 54° is forested except the summits of rocky hills and the outer islands along the Atlantic coast, but the density and nature of the forests vary considerably according to the latitude, height above sea-level, distance from the sea-coast, and the character of the soil.

Commercial Forest Areas

(A) Lake Melville Region

It is practically in this section* only that are found forest areas of commercial importance, the outstanding one of which is perhaps in the Lake Melville region near where the Hamilton river enters Geese bay. White spruce two feet in diameter and more than seventy feet high is not uncommon, and such lumber was cut around the west side of this bay about 1910 to 1915 when saw-mills were in operation. Newfoundland fishermen come up Hamilton inlet and lake Melville to cut spars for their boats and timber for all fishery purposes. The liveries also cut timber for house-building and they supply wood to the mission steamers and the fishing vessels for fuel and cooking purposes. But to-day such lumber is largely cut

* The section of Labrador south of latitude 54° .

with the old whip-saws.

Throughout the Lake Melville district (including Kenamu River and Grand Lake areas), black spruce is the dominant tree, but back from the lake and bays the stands of white spruce become more numerous. White birch is very common and in burned-over tracts has taken possession of the ground to the exclusion of all other trees. In the approximate order of their abundance, the principal trees are: black spruce, white birch, tamarack, balsam fir, white spruce, balsam poplar, yellow birch, and aspen poplar. Where the spruce trees have their maximum development they reach a height of from 75 to 100 feet. The black spruce do not grow quite as large, but large enough to make good commercial timber, and the same may be said of the tamarack. On Mulligan river a black spruce 5 feet 6 inches in circumference 20 inches above the ground was measured, while another on Kenomich river measured 9 feet 10 inches in circumference, its fine, straight trunk appearing to be 100 feet high. The black spruce here probably reaches a greater average size than in Nova Scotia. At the head of Grand lake a spruce with a diameter of 25 inches was noticed in the driftwood. Extensive forests of fine timber about this lake are said to have been destroyed by fire in 1886, evidence of which was furnished by the large areas of birch. A white birch on the Kenomich river measured 5 feet 1 inch in circumference. The foregoing figures represent a few of the largest trees, but many others nearly or quite as large can be seen, in fact many trees approach these sizes sufficiently closely to assure a large supply of logs suitable for lumber. In addition the mountain slopes support considerable smaller timber. The bulk of the forest lands in the Lake Melville area have been leased by the Newfoundland Government to private interests.

(B) Alexis River Region

Some authorities assert that the best timber for commercial purposes is to be found in the valleys of the rivers Alexis, St. Lewis, and Gilbert. From an aerodrome on the delta of the Alexis river an aerial survey was made in 1919, and the several thousand pictures taken from a low altitude showed, so it was reported, dense spruce and balsam fir covering hillsides and valleys everywhere. In 1920 Dr. Grenfell examined the timber at the head of Lewis bay and later secured 25 square miles of forested land adjoining the seaboard, where he started a saw-mill and employed 40 families. The land is a series of hills and valleys with excellent timber covering the sheltered slopes.

Timber along Hamilton River Valley

Although fires have taken their toll--in fact, more than half of the original forest area of the interior of Labrador was so destroyed between 1865 and 1895--the valley of the Hamilton river west of Goose bay continues to be well wooded where unburnt, and the timber is usually of fair size and of potential commercial value, which is in marked contrast to the small stunted trees found partly covering the rolling country on either side of the valley. There are sections, however, such as the valley-area between Cache river and Grand falls that are either destitute of trees or partly covered with such small second-growth timber of no commercial value.

The trees on the slopes about Grand falls are large enough for commercial purposes, white spruce 70 feet high and 2 feet in diameter at the base being common, along with large-sized black spruce, balsam fir, and white birch. Above the falls the character of the river changes completely; it no longer flows in

a distinct valley cut deep into the surrounding country but nearly on a level with the surface of the table-land, spreading out so as to fill the valleys between the long, low ridges of hills that are arranged in echelon all over the country. The low banks of the river here are covered with a dense growth of willows, which form a wide fringe between the water and the spruce trees covering the higher ground behind. What white spruce occurs is scattered and usually small, remaining so until the bedded sandstone area of the waters above Sandgirt lake is reached, where it increases in size, becomes more abundant, and grows some distance up the hillside-- the forest generally changing to a more diversified one of white and black spruce, balsam fir, tamarack, balsam poplar, aspen, and white birch. Many of the white spruce trees of this region are very stout at their base, but being short and branching would make poor lumber. The black spruce is often 24 inches in diameter at the base but diminishes so rapidly above that few exceed 18 inches at a height of 6 feet from the ground. Balsam fir is abundant but not very large. White birch is also common and grows to 10 or 12 inches in diameter but is generally crooked, as also is the balsam poplar which is found growing to 6 inches in diameter in small patches.

Southward, along the Attikonak branch and the upper Romaine river, very little white spruce is to be seen.

Timber North of Latitude 53°

North of latitude 53° the higher hills are treeless, and the size and number of the barren areas rapidly increase. In latitude 55° more than half the country is treeless, timber occurring only about the margins of small lakes and in the river-valleys. Beyond this point the trees decrease in size until north of 50° , which is Hebron's approximate latitude, they disappear

altogether.

The thickets of willows and alders, which throughout the forest belt of Labrador cover lowlands fringing streams and lakes, become more extensive in the semi-barrens, and with dwarf birches occupy in addition much of the open glades. Beyond the limits of the true forest, thickets of arctic willows and birches, which are difficult to pass through, are found on the low grounds, but on the elevated lands they grow only a few inches above the surface. The undergrowth in the wooded areas of the south is chiefly Labrador tea (*ledum latifolium*) and laurel (*kalmia glauca*), which are often seen in tangled masses from two to four feet high. In the semi-barrens these die out, and the sphagnum moss which covers the ground to a considerable depth in the southerly parts of Labrador gives way to the white lichens or reindeer mosses, which grow freely in the treeless regions also.

Monetary Value of Forests of Labrador

When addressing the Newfoundland House of Assembly on June 23, 1927, Dr. Mosdell, the member for Fortune Bay, aimed at an estimate of the value of Labrador's forests thus:-

He assumed that 30,000 square miles of the territory of Labrador were sufficiently wooded to permit of operations on a commercially profitable scale, and that each square mile would produce on the average 2,600 cords (4 cords per acre) making for the entire area almost 77,000,000 cords of pulpwood, which, at the rate of \$1 a cord, gives a figure of \$77,000,000 as the value of Labrador's pulpwood.

Dr. Mosdell went on to say:-

"Where, for leasing purposes, we set a nominal rate of two dollars per square mile per year, Quebec demands an initial royalty of \$400 per square mile and gets besides additional royalties

in respect to stampage and other charges totalling another \$5 per square mile. Lest it be concluded that these charges apply only to more favourably situated territory than that owned by us in Labrador, allow me to point out that this is the Quebec assessment at Clarke City, situated in immediate proximity to the southern end of our Labrador territory. Let us now assume, for argument's sake and to arrive at a true estimate, or one approximately correct, of the value of this territory to Newfoundland, that we are in a position to charge only half the initial royalties collected by Quebec. Then, these 30,000 square miles would bring us in \$6,000,000 for the first year. Thereafter, charging at the Quebec rate of \$5 per square mile we would receive an annual revenue of \$150,000 in respect to royalties for the whole area, always assuming, of course, that the Government of Newfoundland has entire control of this territory. Reckoned at even the low valuation of two dollars an acre, which the International Paper Company places upon its woodland areas, the 30,000 square miles of Labrador timber lands would have a cash sale price of \$40,000,000."

In reply to Dr. Masdell, the Minister of Justice said in part, "He (Dr. Masdell) comes forward and suggests that we ought to apply Quebec's method of valuing forest lands, knowing as he does, and as everyone in this house does, that we know nothing about Newfoundland's forests, let alone Labrador's."

Mr. Bradley, the member for Port de Grave, said:-

"In fact I have been talking to fishermen who have been going to the Labrador all their lives, and they tell me that if the licenses which are at present in existence cover timber limits south of Hamilton inlet then you can forget the rest of the Labrador so far as timber is concerned. In other words, if these licences are going to stand, the rest of the Labrador is not worth a snap of my finger, despite the \$200,000 spent on winning it.

(The map accompanying this report shows that a large section of the best forest lands in the Lake Melville region is still under rental to private interests on the basis of \$2 per square mile.)

"I don't suppose that there is a single Hon. Member in this House this afternoon who has any real knowledge of the value of that territory. I must quite frankly say I have not. But we have seen statements made in the newspapers and by various persons at different times, since the settlement of the dispute, to the effect that it is worth to the ancient colony, \$200,000,000, \$250,000,000, and so on. I have not got the faintest idea as to whether either of these statements is even approximately correct. But it is quite apparent that there are a number of people, there are some I know, who have some idea of the value of that territory, and who believe it is a valuable one."

Present and Possible Future Forestry Operations

The only operations at present being conducted in the forests of Labrador are solely for the purpose of meeting the lumber and fuel requirements for local needs. The Grand River Company functioned for a few years near the head of Goose bay, and about 1923 an English company cut pit props along several rivers in the Lake Melville district.

Dr. Grenfell is of the opinion that successful lumber operations can be carried on under normal conditions provided the law is enforced to compel owners of timber areas to develop their properties. Now that the boundaries of Labrador have been defined there is nothing to prevent pulp and paper industries from being operated profitably on the east coast as soon as conditions in the industry, particularly in Canada, become more healthy. Manufacturing ought to be cheap there, and although shipping to Europe would have to be done between late June and December, the distance

is short and safe enough to ensure commercial results which should be as successful at any rate as those now being derived from the pulp and paper mills of central Newfoundland. These latter mills, by the way, will doubtless have to seek in the not distant future large supplies of pulp wood from outside the island, and in such event Labrador should be able to meet the requirements.

The fact that companies were holding land for speculative purposes worked a hardship on the residents of the southern coast because, the best timbered areas being so held, it was no use their erecting even small saw-mills. The cancellation of a number of timber berths within the last two or three years has helped to remedy this state of affairs to some extent. It should now be possible to produce sawn lumber even if for no other purpose than exportation to St. John's in those supply schooners that come yearly to Labrador and which have been returning with practically no freight because none or very little of any kind was offered. Shortly before the war a steamer of about 2,000 tons came up the Hamilton river to Mud Lake, whence it took a cargo of lumber to England for sale at Liverpool.

The following statistics bearing upon the forest products of Labrador are taken from the last census (1921) of Newfoundland and Labrador.

| Product | No. |
|-------------------------------|-------------------|
| Saw-mills | 2 |
| Value of saw-mills | \$9,000 |
| Persons employed | 9 |
| Logs cut (1920) | 30,600 |
| Pine sawn (1920) | 300,000 super.ft. |
| Other timber sawn | 10,000 " " |
| Firewood cut (1920) | 539,250 |
| Wharf sticks cut (1920) | 500 |

Timber Licenses

The two main features of the legislation bearing upon the granting of timber licenses in Labrador are:-

(1) A timber license gives the holder the right to cut timber on the lands designated therein (timber licenses on lands lying within 3 miles of the seashore are not granted) for a term of 99 years on the payment of an annual rental at the rate of \$2.00 per square mile.

The licensee must commence within one year and complete within three years the erection of a saw-mill capable of cutting at the rate of 1,000 feet board measure every 24 hours for each 10 square miles of land licensed, or to expend a sum to be determined by the Governor in Council in the erection of a pulp and paper mill to be commenced within two years and completed within five years.

(2) A royalty of 25 cents per 1,000 feet board measure is imposed on all timber cut, except that which is manufactured into pulp or paper.

The following table gives the timber licenses upon which rentals are now (1933) being paid:

| Original Licensees | Locality | Date of Issue | Area Sq. Miles | Annual Rental \$ |
|-----------------------------------|-----------------|---------------|----------------|------------------|
| Grand River P. & L. Co. | Grand river | 1902 | 197 | 394.00 |
| " | " | " | 34 | 68.00 |
| " | " | " | 64 | 128.00 |
| " | " | " | 2 | 4.00 |
| J.P. Blackwood | Paradise river | 1911 | 80 | 160.00 |
| C.A. Lusby, C.C. Black & I.J. Soy | Chateau bay | 1912 | 550 | 1,100.00 |
| W.J. Ellis | Stug bay | 1913 | 140 | 280.00 |
| G.J. Jardine | Hawkes bay | 1915 | 1,000 | 2,000.00 |
| Labrador P. & L. Co. Ltd. | Sandwich bay | 1915 | 2,008 | 4,018.00 |
| Sandwich Bay P. & L. Co. | " | " | 1,600 | 3,200.00 |
| J.J. Galway | St. Lewis bay | 1916 | 160 | 320.00 |
| London Lab. Corp. Ltd. | Lake Melville | 1914 | 512 | 1,024.00 |
| Riordan & Macaulay | Hawkes bay | 1918 | 800 | 1,600.00 |
| Labrador Pulp & L. Co. Ltd. | Kenimou river | 1916 | 150 | 300.00 |
| J.C. Hepburn | Lake Melville | 1927 | 1,550 | 3,100.00 |
| Est. J.J. Tobin & C.P. Egan | St. Lewis Inlet | 1925 | 2,434 | 4,868.00 |
| International Grenfell Ass. | " | 1919 | 60 | 120.00 |
| | | | 11,341 | 22,684.00 |

MINERALS

General Geology

The following notes give merely a rough approximation of the distribution and extent of the areas of the different rocks observed in Labrador. In only a few comparatively small areas is the geology known in detail.

A. Laurentian

The greater part of Labrador is occupied by highly crystalline Archaean rocks, predominating among which are medium to coarse-textured hornblende-granite gneisses varying in colour from red to light-gray, a pink variety being commonest. They are made up chiefly of orthoclase, much quartz, together with hornblende and, usually, mica; and along the coast are seen at Nachvak and Hamilton inlet. On the lower Hamilton river they are associated with mica-gneisses, which are most abundant, while above Grand falls hornblende-granite was found to be the principal rock seen by A.P. Low throughout the route he travelled from lake Mishikamau to the gulf of St. Lawrence.

The rocks next in importance as regards area are the mica-gneisses and mica-schists with which bands of crystalline limestone are associated in a number of places, particularly at lake Attikonak and in the valley of the Hamilton river below lake Winokapau. These rocks are taken to be the representatives of the Grenville series of Logan. Over large parts of the Komaktervik and Nachvak regions extends a great series of grey or pale pink gneissoid rocks, mostly characterized by the presence of garnets. This series may be equivalent to the Grenville series of Ontario, although crystalline limestone, the most typical rock of the original Grenville series is seldom found, and never in large quantities.

The usual irregular dykes of pegmatite, generally consisting of pink feldspars and quartz are to be found with the gneisses in most places. One such dyke, however, on Tomchuk island in Saglek bay, is formed of very white feldspar with some quartz and large plates of black mica, making a very striking rock.*

Along with the typical granitoid gneisses are often well-banded varieties, light and dark, the darker bands having more biotite or hornblende, and in places an older basic rock has been carried off as angular blocks, then drawn out and rendered schistose, thus accounting for the darker bands of the gneiss, all phases of the operation being present.

Igneous gneisses having the composition of diorite schist or of amphibolite and enclosing dark bands occur in a number of localities. They have characteristics of such of the Keewatin of northern Ontario, and as they seem always to be older rocks than the granitoid gneiss, they should perhaps be classed with the Keewatin. The fact that banded iron formation of jasper and iron ore occurs as loose blocks near cape Chidley lends support to the idea that Keewatin occurs in the region, although iron range rocks have not yet been found in place.

Irruptive rocks are represented by great areas of anorthosite, gabbro, diabase, and diorite. The anorthosite areas are the largest and most common. They occur on both sides of lake Mishikamau, along lake Osseksaruan, about the south end of lake Attikonak, on the Atlantic coast in a number of places from Nain to Hamilton inlet, on Grand lake, in the Mealy mountains, and at Tub island, which is within a hundred miles of the strait of Belle Isle. The anorthosite is a variety of gabbro, made up of labradorite holding isolated masses of hypersthene, almonite, and mica. In

*. Coleman, A.P. 'Northeastern Part of Labrador and New Quebec'. Geol. Sur. Can., Mem. 124, No. 106, Geol. Series, 1921, p. 23.

texture it varies from exceedingly coarse, with crystalline faces sometimes nine by six inches, to a fine-grained saccharoidal form. The colour is as a rule a shade of violet, and is mostly dark, especially in the coarser varieties, which sometimes have a green tinge. Along the north shore of Mishikameu lake, where the rock is very coarse-grained, many of the crystal faces show a beautiful iridescent play of colour, in shades of green, blue, and bronze-yellow. Crystals of this nature were seen for more than ten miles along the shore of the lake.

B. Huronian

On the upper waters of Ashuanipi branch of the Hamilton river there is a large area, in part or wholly underlain by Huronian schists, but as the outcrops are very few, little is known of the extent and kind of rocks occurring there. A small area of similar rock is met with on the Attikonak branch at Gabbro lake, and the strike is such as to lead to the belief that this is an extension of the area just mentioned. Below Birch lake and at the head of the southeast bay of Mishikameu lake, there is a narrow band of talc-schists, hydromica-schists and chlorite-schists, which may be Huronian.

Along the Atlantic coast, Dr. Bell reports Huronian rocks about the mouth of Nachvak bay and the Moravian mission station at Ramah. A.P. Coleman* however says that the rocks are evidently of much later age than the typical Huronian rocks found in Ontario and Quebec, and that, though they resemble part of the rocks of the original Huronian as defined by Logan and Murray, they do not include any 'slate conglomerate'--perhaps the most characteristic rock of the original Huronian. Furthermore, as they are separated by more than 1,000 miles from the nearest known outcrop of Huronian,

* "Northeastern Part of Labrador, and New Quebec" (Coleman).
Geol. Sur. Can., Memoir 124, 1921, p. 21.

Coleman suggests that it is safer to use a local name for them, the name chosen by Daly, the Ramah series, being suitable. How the Ramah rocks are related to the somewhat similarly placed Mugford series 60 or 70 miles to the southeast is not certain. The character of the Mugford rocks suggests the Keweenaw, including probably part of the Animikie, rather than the original Huronian. It is advisable to have these rocks under the name Mugford series, as used by Daly.

According to Odell,^{*} "All the Torngat region north of Nachvak fiord, in contrast to the relatively younger volcanic formation of the Kamsajet mountains further south, is of metamorphic rocks, which appear to be the extreme easterly extension of those of the Canadian Archaean Shield. They are predominantly acid gneisses and granulites, and in the Kangalaksiervik and Komaktervik[#] area types rich in garnet and pyroxene were of frequent occurrence. The region has been subject to extreme compression, and the structures rendered largely vertical, along a mainly north-south direction, by ancient mountain-building forces. As is so often found elsewhere in the Canadian Shield and in other Archaean areas, the whole complex has been shot through with black basic dyke-rocks, which at the coast form a most striking appearance. Apart from pegmatites and local acid differentiates, granite intrusions that might have accompanied the original mountain-building movements are absent from the region. It is to this absence that the lack of mineral deposits of economic importance is no doubt due. Indeed, apart from the pyritous deposit in the younger Ramah series at Russell Harbour, no sulphide mineralization was seen anywhere in the Torngat country".

No other areas of these rocks are known in Labrador,

* Geogr. J., Vol. 82, No. 3, Sept. 1933, p. 210, also *Idem*, Vol. 82, No. 9, Oct. 1933, p. 321.

What Coleman (following, according to Odell, the incorrect nomenclature of the Admiralty chart) refers to as Komaktervik fiord is really Kangalaksiervik fiord. The former name is given to a neighbouring smaller opening running southwest from nearer the entrance to Seven Islands bay.

but there is yet every probability that other bands will be found when the country is more fully explored. The occurrence of gold, copper, nickel and pyrites in rocks of this age in other parts of Canada render the tracing of these areas of great importance.

Cambrian

The series of rocks in Labrador classified as Cambrian comprises beds of arkose rock, sandstone, chert, limestone, dolomite, felsitic shale, argillite, and argillaceous shale, together with gabbro, diabase, fine-grained decomposed traps and volcanic agglomerates.

The sedimentary deposits have a minimum thickness of about 2,500 feet and may have a much greater thickness, which can be determined only by close study of the area along the upper Hamilton river, where a well-developed series of overthrust-faults causes frequent repetitions of the different members. From the direction of the strike of this area and of that along the Koksoak river in the province of Quebec it is highly probable that these areas are portions of a single great belt that extends from the neighbourhood of latitude 54° N. to beyond the Koksoak river, and continues in a north-northwest direction to Hopes Advance on the west side of Ungava bay, from where specimens of similar rocks were brought to Chimo by the Eskimos. The total length would in this case be more than 400 miles. The breadth of this band where examined is about 50 miles.

Upper Hamilton River

The rocks of the great area of Cambrian* in the upper Hamilton river were first seen on a number of low islands in the small lake-expansion six miles below the outlet of Birch lake. The beds here are impure sandstone or graywacke, made up of irregular grains of quartz and red orthoclase cemented together

* Often now classified as late Precambrian

with silica. Along the river to the outlet of Birch lake the banks are formed of drift deposits, and no rock is seen in place. On the sharp ridge on the south side of the lake, near its southern inlet, a dark siliceous and ferruginous limestone is seen forming the crest of the hill. For three miles up the southern inlet the only rocks observed were small exposures of a similar limestone, very much fractured and dipping west at a high angle. From the angular blocks scattered about, it was evident that these rocks hold large quantities of carbonate of iron, present as segregations or concretions in the limestone.

Just above the heavy rapid at the outlet of Dyke lake, there is a rocky ridge extending along the north side. The rocks here are very complicated, bedded siliceous limestones being interbanded with volcanic ash rocks and eruptives and with a jasper conglomerate.

On the summit of Fault hill (so called because of the great fracture which traverses it from southeast to northwest), at the end of the long point between the northern and southern discharges of Dyke lake, a medium-grained, dark diabase is seen, while on the southern flanks of the hill a brownish, fine-grained, highly siliceous shale is met with in broken masses, containing much carbonate of iron.

On the western point of Dyke lake at the narrows leading to lake Petitsikapau, a bed of fine granular magnetite, 20 feet wide, is seen extending along the shore for 200 feet. Like all other beds of this kind, the iron ore is associated with red jasper in broken angular masses, scattered in bands through the ore. On the west side these beds are followed by 200 feet of dark cherty rock, with a brownish fracture, and containing a considerable percentage of iron carbonate. At the upper end of the narrows the rock seen is a dark, shaly, siliceous limestone, which also holds a quantity of iron. These ferruginous rocks are met with also along the west

sides of the first deep northern bay of lake Petitsikapau where their strike coincides closely with the trend of the shores.

Near the head of the middle northern bay of Astray lake, on its west shore, a low hill, 150 feet high, of bedded jaspery iron ore is seen. The ore is a fine-grained magnetite with patches of red hematite, and holds broken bands of red jasper. Some of the beds are of pure ore without any jasper. The ore-beds are overlain by the buff-weathering, blue limestones, holding black chert, and are greatly shattered and re-cemented by quartz. These limestones come out in great thickness on a high island about a mile to the southeast. On the west shore, a large dyke of fine-grained, dark green diabase follows the shore, from behind the island, southward for upwards of a mile. This dyke forms a low escarpment; and its contact with the bedded rocks was not seen.

At the outlet of Menihék lake there are many large loose blocks of alternately bedded jasper and magnetite. These blocks evidently show the condition of the bedded ores when undisturbed, the jasper being in continuous layers from one-half to three inches thick, and not in angular fragments scattered through the ore, as seen where the beds have been tilted and crushed.

On the west side where a small stream enters at a point about 10 miles south of the outlet to Menihék lake, there is an exposure, a quarter of a mile long, of flat-bedded dark-gray chert, much broken, and weathering to a dark brown. The rock is blotched with siderite, often altered to an earthy limonite. The ore-masses vary from half an inch to two or three feet in diameter, and also occur as thin beds of irregular thickness. The total thickness seen is about 40 feet, and the rock is everywhere split up into angular blocks that are scattered about, giving the exposure the appearance of a dump at a mine.

The last exposure of rock on the Menihék lake is at the mouth of the large western branch, 12 miles farther southward. On the south bank of this stream there is an outcrop of fifteen feet of similar ferruginous chert. From here southward for 20 miles to the head of the lakes, although no rocks are seen in place, the numerous blocks of chert scattered about everywhere, with the continuous similarity in character of the country, lead to the belief that the Cambrian rocks continue underlying the drift to the entrance of the river, where the surface changes in aspect and loose blocks of Huronian schists replace those of chert.

The mode of occurrence of thick beds of magnetic iron ore overlain by cherty, non-fragmental carbonates in this series, closely resembles that of the iron ores of the Lake Superior region. This, with other characters of resemblance, renders it almost certain that the two developments represent the same period, or, in other words, that the Animikie rocks of lake Superior, assumed to be lower Cambrian, are equivalent to the rocks here described as Cambrian in Labrador.

Lake Mishikamau

The basin occupied by lake Mishikamau seems to have been cut out of the lower beds of the Cambrian series, and the area of these rocks here may be connected with the main mass to the north of lake Petitsikapau, as the wide valley partly occupied by lake Mishikamau extends far beyond the north end of the lake towards the main area.

Although there are only a few places about the lake where the Cambrian rocks are seen in place, there is no doubt that these rocks are everywhere present in the bottom of the lake, and that the loose angular masses of sandstone which are very abundant in many places along the shores, have been showed by the ice out of the

water into their present position. Only the lowest beds of the Cambrian series are met with, consisting of red conglomerate and red sandstone, with a few beds of limestone above them. The north end of the lake is low and the shores are formed chiefly of sand; the scattered boulders are mostly large and consist of Archaean rocks, these being much more abundant than the Cambrian sandstones. Southward along the eastern side, the blocks of sandstone are not numerous on the sandy shores until the anorthosite rocks have been passed, when they again become plentiful.

"Domino Gneiss"

Dr. A. S. Packard^{*} mentions as occurring along the Labrador coast from Domino Harbour to Cape Webuc for a distance of 125 miles a "development" of "domino gneiss" occupying depressions in the Laurentian gneiss, on which it rests unconformably, generally dipping at low angles. These rocks appear to be arkose conglomerate and sandstone beds, similar to those seen on Hamilton Inlet, and may represent the basal beds of the Cambrian, although Dr. Packard believes them to be of Precambrian age. He described the rocks of this type occurring within or near Hamilton Inlet as follows: "Occasionally an island is seen half black and half white, one side being composed of dark trap-rock, and the other of the light-coloured quartzite. Such is 'Black and White', a very prominent island near 'Indian Tickle', a harbour at the northern side of Hamilton Inlet. Here are some remarkable dykes which ascend the gneiss hills in huge, irregular, zigzag crests, often crossing each other at right angles".

* The Labrador Coast. Hodges, New York, 1891, pp. 286-290

Economic Geology

Introduction

Prior to the arrival of the whites, the Eskimos of Labrador made use of three important mineral products for various purposes: cherty quartzite for arrow-heads and scrapers; soapstone for lamps and pots; and pyrite for producing fire.

The mineral resources of Labrador are practically an unknown quantity. No deposits of great value have yet been found, but this is because very little search has been made for them, and the slight attempts at prospecting have been carried on largely at or near the coast and usually by inexperienced persons.

Labrador is a region which deserves closer study than it has yet received, and its very bareness and lack of vegetation facilitate such a study. Such meagre details as are available follow:

Iron

According to the "Newfoundland and Labrador Pilot", 1907, iron ore occurs largely in mount Thoresby as well as the adjacent land. As mount Thoresby is in the anorthosite area it is quite probable that the basic rocks may have segregations of titaniferous magnetite like those associated with the similar rock in the Province of Quebec.

At the head of Rowse harbour, solid pyrite (which is common in Labrador) is found associated with pyrrhotite, which contains very little nickel. However, under a bed of quartzite not far above sea level. The deposit, which is said to run $1\frac{1}{2}$ miles and to be 7 feet thick in places, was worked for a time by the then Dominion Iron and Steel Company, but has been abandoned since 1905 on account of the narrowness of the seam and the short season of open water.

The mineral, which was worked for sulphur, occurs in the

Ramah series, and occupies veinlets within the bedding planes of the shales, part of which it has replaced. Rock-movements have speared the veins and broken them up. The outcrop is plainly visible from vessels in Nachvak bay. Specimens seen were of massive compact marcasite, which weathered rather rapidly to a basic iron sulphate. Pyrites is found also in the black shales along the Hamilton river, but in no place seen by Low was the percentage sufficiently great for profitable working.

Along the shores and in the hills surrounding the lakes from Birch lake to the Menihok lakes on the Ashuanipi branch of the Hamilton river, the cherty limestone rocks with which the iron ores of this locality are associated are well developed. The faulting of the rocks has caused these measures to be repeated in four ridges in a distance of about 25 miles across the strike. The most westerly ridge runs along the west side of the Menihok lakes; the next is along the east side of Astray lake; the third forms the ridge between Dyke and Petitsikapau lakes, and the last forms the watershed between Petitsikapau and the head-waters of the George river.

The concentrated magnetite and hematite ores were first met with at the rapid at the discharge of Dyke lake, where two beds each about five feet wide were found associated with cherty carbonate and a siliceous trap ash-rock. At the narrows into lake Petitsikapau, over 25 miles beyond along the same ridge, the ores again come out on the shore for 200 feet and have a width of 20 feet. Analysis of the ores from this place gave:-

| | |
|------------------|--------|
| Metallie Iron | 30.43% |
| Insoluble matter | 51.22 |
| Titanic acid | none |

At the head of the middle northern bay of Astray lake, there is a low hill where 150 feet of jaspersy magnetite and hematite

are seen. Some of the ore-beds are two feet thick between the jasper partings. Fifty feet of similar ore are exposed on the shore of the northeast bay, about 2 miles from its head.

At the outlet of the Menihék lakes, large blocks of jasper ore are scattered about, and they appear to rest horizontally on beds of trap. Here the magnetite and jasper are arranged in distinct layers, and the jasper is not broken as in all the other exposures where the rocks have been disturbed. This ore on analysis gave:-

| | |
|------------------|-------|
| | % |
| Metallic iron | 40.72 |
| Insoluble matter | 29.90 |
| Titanic acid | none |

These were all the outcrops met with by A.P. Low on the waters of the Hamilton river, but in his opinion they are sufficient to show that the deposits are wide-spread and that the ores will be found in practically inexhaustible quantity.

Throughout the great anorthosite areas, ilmenite or titanite iron ore is always found in more or less abundance, varying from small grains to masses several tons in weight. The banks of the rivers passing through these areas usually have thick beds of black iron-sands scattered at intervals along them, these iron-sands being derived from the disintegration of the anorthosite rocks.

Copper

Davies, who was in charge of the Northwest River post in 1840, reported: "A specimen of native copper was procured from the natives to the north of Esquimaux bay (Hamilton inlet)--it was part of a large piece found by Esquimaux on the beach about 15 miles south of Hopedale; it was very much water-worn."²

* Davies, W.H.A., "Notes on Esquimaux Bay and the Surrounding Country", Trans. Lit. and Hist. Soc. Quebec, Vol. IV, Feb., 1843, p. 83.

Robert Bell records having received good specimens of copper pyrites from Indian island off the entrance to Hamilton inlet.*

About 1880 a man from Nova Scotia had been engaged with two others in mining copper and lead ores on Deadman's island, which is situated a few miles north of Hamilton inlet. These ores occurred in a vein between a granite-like rock and a kind of sandstone or quartzite.

A local prospector obtained specimens of (1) Chalcocite, associated with quartz, from near Muni (Monis or Mouni) rapid on the Hamilton river. They had some greenish stains and were thinly coated here and there with malachite. (2) Biotite-gneiss bearing considerable rusty pyrrhotite with traces of pyrite and chalcopyrite. The pyrrhotite contained nickel in appreciable amount. The specimens came from 'somewhere in the Naskaupi (Northwest) river area'. (3) Peridotite, rich in much-altered pyroxene, from Muskrat lake on the Hamilton river. The olivine had altered to serpentine, the pyroxenes to bastite and chlorite.

Copper ore (chalcopyrite) is said to occur near Makkovik, which is to be expected, for the basic eruptive sheets and volcanics of the Muford series are somewhat similar to those in the Lake Superior district.

Mica

Large crystals of mica often occur in the massive pegmatite dykes met with everywhere throughout the Archaean rocks, but those seen by Low were either broken or not in quantity to ensure profitable operations. Some excellent crystals were seen in a large dyke near the head of lake Winokapu.

* Bell, Robt., "The Labrador Peninsula", Scot. Geog. Mag., vol. XI, 1895, p. 355

Bell was informed that some men had been mining mica on the shore of Chateau bay and had brought out 1 ton of the mineral to St. John's. The plates did not exceed three by six inches and were rather dark in colour.

Soapstone

Soapstone is found in a number of places in masses large enough for Eskimo lamps, but it is doubtful whether it could be worked profitably. In the vicinity of Skynner's cove (on the north side of Nachvak fiord and a few miles from its entrance) the soapstone occurring there was used for making pots in days when the Eskimos were unable to procure the metal product.

Graphite

According to Daly, graphite occurs abundantly in gneiss and schist at the west end of Nachvak, and a "rounded piece of pure graphite measuring 4 by 5 inches was found at the foot of the talus near the great alluvial fan".[†] Coleman's work[‡] has shown that graphitic gneiss or schist is widely distributed in that region and for 14 or 15 miles to the west. Much of it is in the form of disseminated shales, but pieces of amorphous-looking graphite were found in a zone of crushing near a creek coming in on the north side of the fiord 6 miles east of the end where Daly reports the mineral. Whether graphitic rock of a workable kind occurs has not been determined.

Ochres

Red and yellow ochres are said to occur on Hebron bay, the former, boiled with seal oil, having been used locally as a roof-paint of good colour and weathering qualities.

† Newfoundland and Labrador Pilot, 1907, p. 234.

‡ Coleman, A.P., Geol. Sur., Can., Mem., 124, p. 51.

Anthraxolite

Anthraxolite is found at Petitsikapau and Menihok lakes. The largest amount was seen in loose blocks at the former lake. The mineral probably occurs as a vein from 6 to 8 inches wide, with quartz lining the vein. A specimen gave on analysis 86.83 per cent of fixed carbon.

Labradorite and Ornamental Stone

Labradorite (plagioclase feldspar) occurs in abundance. Enormous boulders (some of them 15 to 20 feet in diameter) of this mineral encumber the shore line on the south side of lake Melville, west of Long point, at the foot of the mountain slopes from which they have evidently been derived. It lacks however the fine colouring shown by the best specimens from Nain.

Labradorite is the essential mineral of the anorthosite which covers many square miles in the Paul island-Nain region, but in many places it has little or none of the schillerization or chatoyancy which makes it valuable as an attractive semi-precious stone. In a few places the stone shows a variety of brilliant colours, including green, yellow, orange, and red, and at the proper angle has a gorgeous effect. The crystals vary greatly in size and in the coarser-grained masses suggestive of pegmatite they may be several inches or a foot or more on cleavage surfaces, according to Coleman.

The best specimens of the gem variety of labradorite have come, according to Daly, from a quarry that had been opened on Napotulagatsuk* island, some 12 miles south of Nain, between Paul island (Pownal island is perhaps the more correct name) and the mainland. Although quarrying operations were evidently not a commercial

* Often known as Taber island, after its first owner. Geog. J., Sept. 1933, p. 198.

success^{*}, this beautiful stone had been widely sold to museums. If got out unfractured on a large scale and sawn into slabs, schillerised labradorite ought to make an excellent ornamental stone. Some samples were sent to Tiffany and Company of New York for experimental purposes, but they could not be sawn satisfactorily.

The precious variety of labradorite also occurs on the northeast side of lake Mishikamau, where large and beautiful crystals are seen along the shore for more than 10 miles. The play of colour in these large masses when placed below the surface of the water is particularly splendid, the opalescent hues varying from deep cobalt-blue to green and bronze-yellow. On some of the faces the lines of growth of the crystal are distinctly marked by the different colours arranged in concentric bands. Among other localities where this type of labradorite is found are the islands in lake Ossokmanuan.

On the Hamilton river, near the outlet of Dyke lake, the jasper conglomerate is in places formed of small pebbles cemented with white quartz, and it can take a high even polish.

Gold

In 1931 and 1932 a number of gold-mining claims were staked in the Lake Wabushkatsao area, and in view of the publicity a certain section of the United States press was giving to the reported occurrence of gold on some of these concessions, Hon. W.J. Walsh, Newfoundland Minister of Agriculture and Mines, visited the area in 1933, accompanied by A.K. Snelgrove, geologist, and F.W. Foote, mining engineer. As a result, it was shown, according to the Northern Miner of September 21, 1933, that the types of mineralization so far discovered in the area were:

- (1) Quartz lodes containing sulphides in metamorphosed sediments within one and a half miles of the contact of an intrusive granite mass.

* Bull. Mus. Comp. Zool., Harvard, Geol. Sur. vol. 5, No. 5, pp. 216-17.

The sulphides consist chiefly of pyrrhotite, with some chalcopyrite and pyrite. Some of the quartz lodes are of large dimensions, the largest having an indicated length of 900 feet and a width of 200 feet. The highest yield of gold from samples taken by engineers during the season of 1933 was only 40 cents per ton.

(2) Disseminated sulphide deposits in limestone adjacent to small intrusions of granite. This find had not been thoroughly investigated.

(3) Iron in 'iron formation' composed of iron oxides and carbonate in a siliceous matrix. Though of wide-spread occurrence, most of this 'iron formation' is not sufficiently rich in iron to constitute ore even under favourable transportation conditions.

Despite the lack of success in the search thus far for gold in paying quantities, it was stated that, by comparison with the gold-producing regions of the Precambrian Shield, the Wabushkatsao area appears to be geologically not unfavourable to the occurrence of gold.

Building Materials

Should building stones ever be required in Labrador, many of the limestones would answer the purpose admirably, as also would the hornblende-granites. Specimens of very pure crystalline limestone have been seen, which were obtained by prospectors from somewhere along the Hamilton river above Maskrat falls.

The fine-grained chert beds in the limestones of the upper Hamilton river (in the vicinity of Birch lake, Dyke lake, etc.) would make good hone-stones.

The slabs of felsitic slate used as flag stones at Nain came from Ramah, where there was said to be an abundance of rock in situ in Nallataktok bay.

Clays which have the appearance of being good brick-clays occur abundantly on the south side of lake Melville, west of Long point, and elsewhere.

WATER POWERS

Outstanding among those waters of Labrador that could be made to yield hydroelectric energy in large quantity are those of the Hamilton river, two sites on which, namely those at Grand (Hamilton) falls and Muskrat falls, A.P. Low refers to in part as given below. Estimates (no detailed hydrometric survey appears to have been made) of the continuous power which these sites could together furnish range all the way from 500,000 h.p. to more than 4,000,000 h.p., depending upon the extent to which advantage is taken of the excellent water-storage facilities afforded by a number of nearby lakes.

There are many rivers in Labrador which have extensive water-power possibilities that have not even been considered, let alone measured. For example, entering lake Melville are rivers and streams (exclusive of the Hamilton river) descending in the course of a few miles 1,000 feet or more; there are the Silver falls of Nachvak, which jump 400 feet into the sea; and the falls entering the great lake at the head of Nain inlet.

Grand Falls (about 235 miles from tidewater)

Eight miles in a straight line north-northwest of the mouth of Bodwoin canyon, the main branch of the Hamilton river issues from a small lake-expansion, almost on a level with the surrounding surface of the table-land, and begins one of the greatest and wildest descents of any river in eastern America. A large number of barometric readings taken in the vicinity, in conjunction with regular readings at the Hudson's Bay Company's post, at Northwest River, give the height of the river as it issues from the lake as 1,630 feet above sea-level, and as 900 feet at the canyon's mouth. Consequently in 12 miles as measured

by the river, the total fall is 730 feet. Such a fall would be nothing extraordinary for a small stream, in a mountainous country, but is phenomenal in a great river like the Hamilton, which has been estimated to discharge at this point about 50,000 cubic feet per second.*

For 300 yards immediately prior to the sheer fall the river runs down a very steep grade, where the confined waters rush in a swirling mass, thrown into enormous, long surging waves, at least twenty feet from crest to hollow, the deafening noise of which completely drowns the heavy boom of the great falls immediately below. After a final great wave, the pent up mass of water is shot down a very steep incline of rock for 100 feet, where it breaks into a mass of foam, and plunges another 202 feet into a circular basin below, the momentum acquired during the first part of the fall being sufficient to carry it well out from the perpendicular wall of rock at the bottom, leaving almost a free passage between the foot of the cliff and the falling water. The total fall from the crest of the incline to the basin below is 302 feet. The shape and character of this fall resembles closely, though on a gigantic scale, that of a small stream flowing down a V-shaped trough, inclined at a high angle, and issuing freely from its lower end. The circular basin into which the river precipitates itself, is about 200 yards in diameter. It is surrounded on all sides by nearly perpendicular rocky walls 500 feet high, except at the narrow cut at the head of the falls, and where the river leaves the basin by the narrow canyon (Bedwein) at right angles to the falls.

From the falls to the mouth of this canyon the distance in a straight line is not above 4 miles, but by the river it is over

* In the World's Work, Sept. 1927, p. 530, Varick Frissel says, "When I visited the spot (Grand Falls) in July, 1925, the discharge was about 80,000, and by damming the lakes and a certain "pirate" river farther upstream, the flow could probably be brought to well over 100,000 cubic feet per second."

twice as far. At the top, the width rarely exceeds one hundred yards; while at the bottom the river is seldom over 100 feet wide, and often measures less than half that width. The fall of the river from the basin to the mouth of the canyon is 260 feet, and, as this is accomplished without any heavy drops, the magnitude and grandeur of the rush of water at the bottom of the gorge may be imagined.*

Muskrat Falls
(about 30 miles from tidewater)

For three miles above Muskrat island, the river narrows to less than a third of a mile, with a narrow island obstructing the channel in the upper mile. Above this narrow, the channel widens out into a nearly circular basin about 2 miles across, into the west side of which the river pours with a chute of 20 feet called Muskrat Fall. Above this chute is a heavy rapid 400 yards long, with a chute of 25 feet at its head, the total fall being 70 feet. At the chutes, where it rushes over ledges of gneiss, the river is only about 100 yards wide.

* Varick Frissell's examination of Grand Falls and vicinity and his statements in respect of the position and source given by A.P. Low to Valley river (v. map in Annual Report, Geol. Sur. of Canada, 1895) can be read in the April, 1927, and Sept. 1927, issues of the Geographic Journal, pp. 332-40 and pp. 287-289 respectively.

A P P E N D I X

Finances and Trade of Newfoundland

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Newfoundland

Short statement regarding public finances

Looking back over the twenty year period 1912-13 to 1931-32 we find that Newfoundland has had a surplus of current revenue over current expenditure for eight years and a deficit for twelve years. The net deficit over this period was \$10,355,398. Of the eight years in which there was a surplus only two have been since 1920 and in those years the surplus was small in comparison with that of other years.

In each of the twenty years there have been large expenditures from loans, resulting in a rapidly increasing public debt, from \$29,670,060 in 1912-13 to \$97,638,772 in 1931-32. This has further resulted in an increasingly heavy burden of interest on public debt which in the year 1931-32 amounted to almost 60% of the current revenue.

Following are a few graphs and statements intended to give a fair picture of the financial position of Newfoundland.

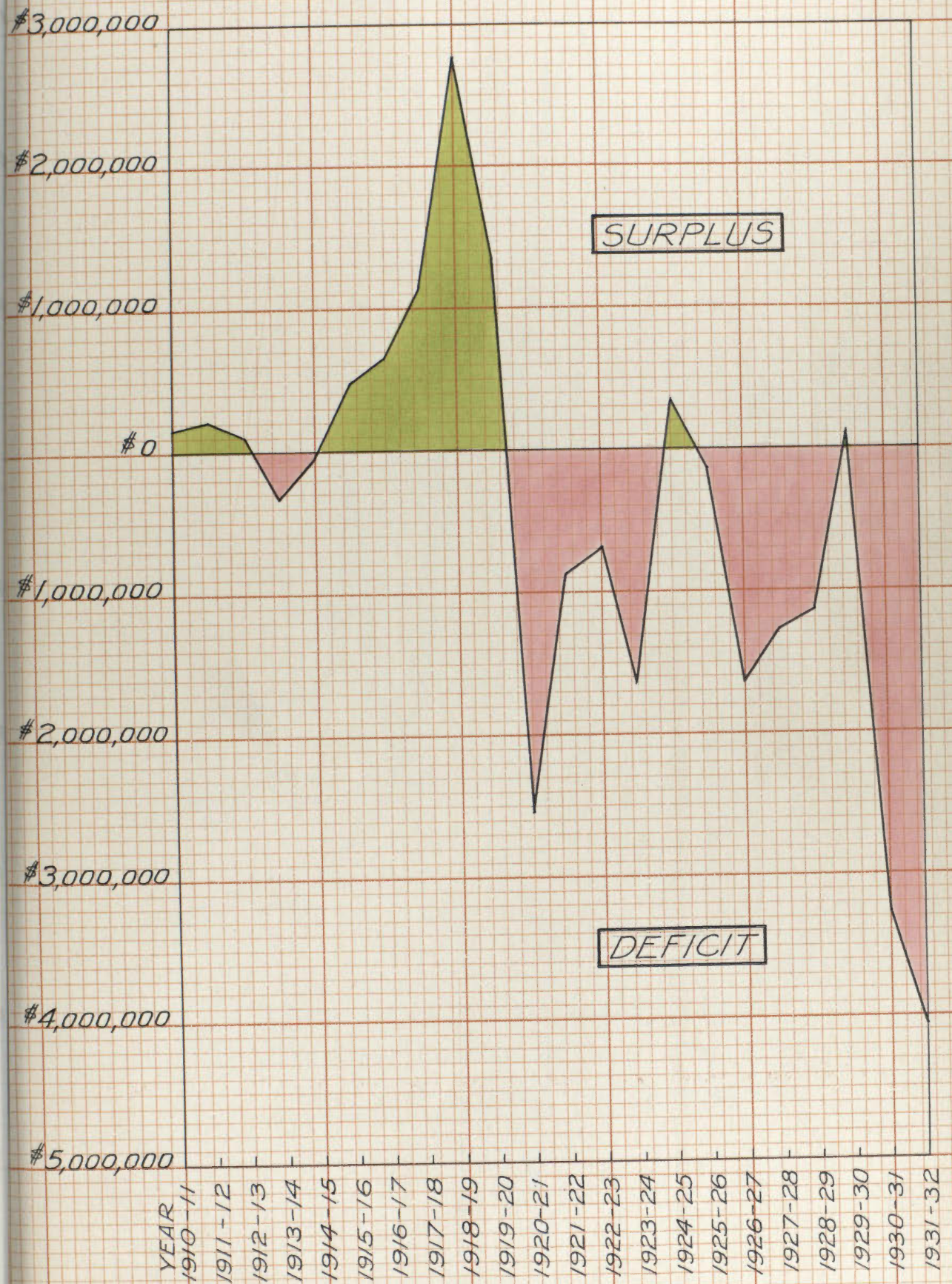
— PUBLIC FINANCES —

— NEWFOUNDLAND —

— SURPLUS AND DEFICIT —

(based on current revenue
and expenditure)

— 1911 - 1932 —



PUBLIC FINANCES
NEWFOUNDLAND

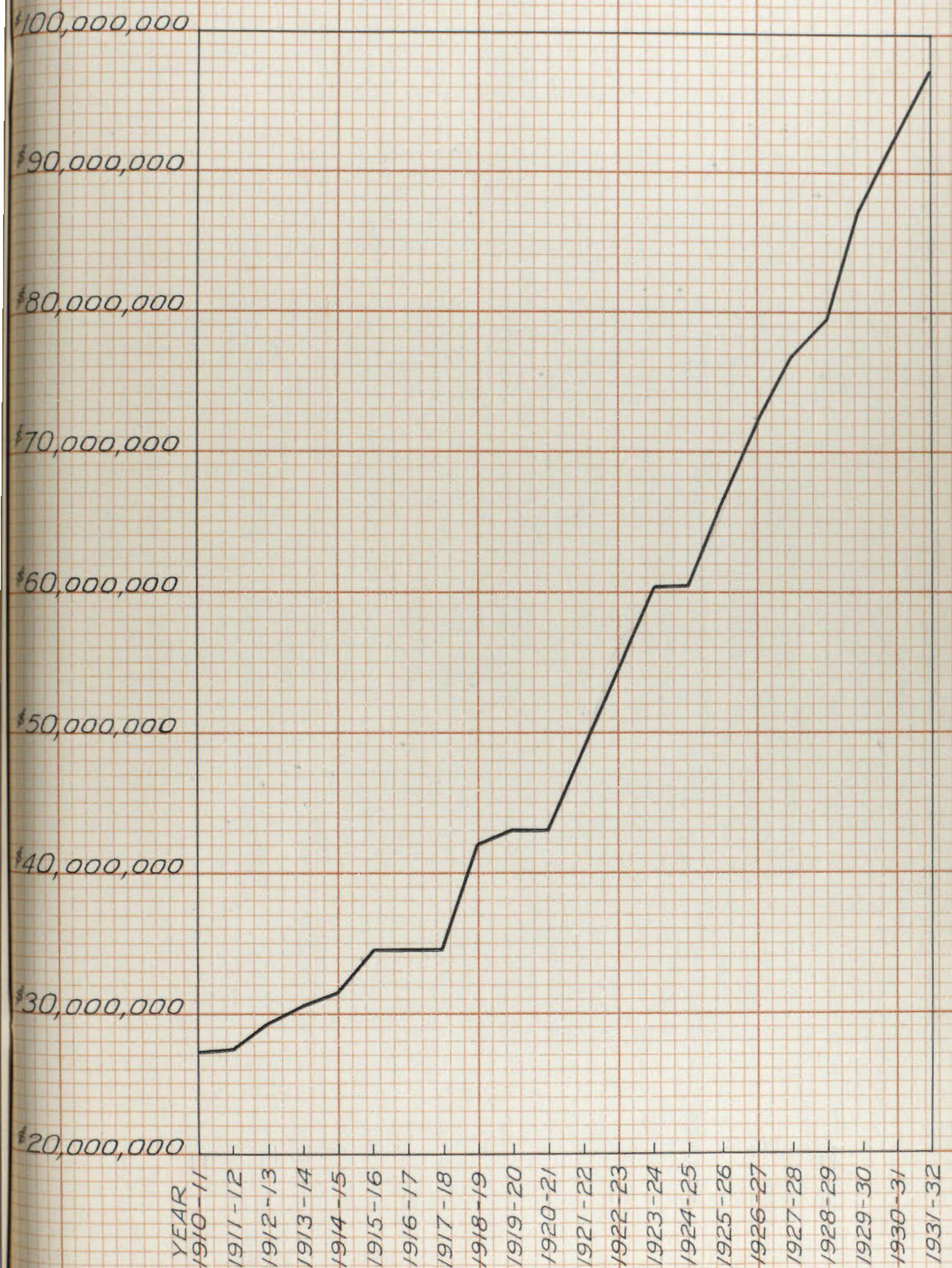
REVENUE AND EXPENDITURE
1911-1932



CURRENT REVENUE shown in GREEN
 CURRENT EXPENDITURE " " RED
 TOTAL EXPENDITURE " " BLACK
 (Current expenditure + loans expended)

PUBLIC FINANCES
NEWFOUNDLAND

PUBLIC DEBT
1911-1932



PUBLIC FINANCES: NEWFOUNDLAND

1910-1932

Note: Fiscal Year ends June 30th

| <u>Year</u> <u>July 1 to June 30</u> | <u>Current</u> <u>Revenue</u> | <u>Current</u> <u>Expenditure</u> | <u>Surplus</u> | <u>Deficit</u> | <u>Loans</u> <u>Expended</u> | <u>Total</u> <u>Expenditure</u> | <u>Public</u> <u>Debt</u> | <u>Interest on</u> <u>Public Debt</u> |
|---|----------------------------------|--------------------------------------|----------------|----------------|---------------------------------|------------------------------------|------------------------------|--|
| 1910-1911 | 3,527,126 | 3,354,746 | 172,379 | -- | 2,025,000 | 5,379,746 | 27,176,280 | 1,025,302 |
| 1911-1912 | 3,736,465 | 3,524,652 | 211,803 | -- | 1,274,375 | 4,799,027 | 27,489,956 | 1,036,399 |
| 1912-1913 | 3,919,040 | 3,803,561 | 115,479 | -- | 1,442,459 | 5,246,020 | 29,670,060 | 1,105,996 |
| 1913-1914 | 3,618,329 | 3,920,178 | -- | 301,849 | 1,613,228 | 5,533,406 | 30,450,765 | 1,115,384 |
| 1914-1915 | 3,950,790 | 4,008,622 | -- | 57,832 | 1,393,596 | 5,402,218 | 31,454,678 | 1,173,385 |
| 1915-1916 | 4,600,271 | 4,110,885 | 490,286 | -- | 5,687,713 | 9,798,598 | 34,489,665 | 1,258,912 |
| 1916-1917 | 5,206,647 | 4,554,890 | 651,756 | -- | 1,293,528 | 5,848,418 | 34,489,765 | 1,338,916 |
| 1917-1918 | 6,540,082 | 5,369,454 | 1,170,627 | -- | 1,074,309 | 6,443,763 | 34,489,955 | 1,490,127 |
| 1918-1919 | 9,535,725 | 6,766,430 | 2,769,294 | -- | 6,634,511 | 13,400,941 | 42,032,785 | 1,951,508 |
| 1919-1920 | 10,597,561 | 9,247,006 | 1,350,555 | -- | 1,657,856 | 10,904,862 | 43,033,035 | 2,148,795 |
| 1920-1921 | 8,438,039 | 10,951,488 | -- | 2,513,449 | 197,283 | 11,148,771 | 43,032,785 | 2,012,791 |
| 1921-1922 | 8,269,680 | 9,127,542 | -- | 857,861 | 7,832,675 | 16,960,217 | 49,033,035 | 2,492,207 |
| 1922-1923 | 8,876,772 | 9,552,301 | -- | 675,529 | 5,915,492 | 15,467,793 | 55,033,035 | 2,748,892 |
| 1923-1924 | 8,401,669 | 10,022,137 | -- | 1,620,468 | 2,298,477 | 12,320,614 | 60,451,754 | 3,016,257 |
| 1924-1925 | 9,783,188 | 9,436,185 | 347,003 | -- | 2,875,176 | 12,311,361 | 60,457,765 | 3,128,224 |
| 1925-1926 | 9,752,551 | 9,865,167 | -- | 112,616 | 4,236,560 | 14,101,727 | 67,018,405 | 3,381,706 |
| 1926-1927 | 8,932,435 | 10,533,408 | -- | 1,600,973 | 4,160,323 | 14,693,731 | 72,017,932 | 3,538,785 |
| 1927-1928 | 9,466,005 | 10,740,925 | -- | 1,274,919 | 3,866,061 | 14,606,986 | 77,017,932 | 3,841,922 |
| 1928-1929 | 10,025,649 | 11,132,822 | -- | 1,107,173 | 2,520,598 | 13,653,420 | 79,477,478 | 3,894,939 |
| 1929-1930 | 11,579,214 | 11,434,312 | 144,902 | -- | 5,735,527 | 17,169,839 | 87,592,105 | 4,159,800 |
| 1930-1931 | 9,655,640 | 12,898,933 | -- | 3,243,292 | 2,527,126 | 15,426,059 | 92,638,772 | 4,328,128 |
| 1931-1932 | 7,931,047 | 11,960,386 | -- | 4,029,339 | 1,523,310 | 13,483,696 | 97,638,772 | 4,731,571 |

Note: The above statement covers the figures up to June 30, 1932. The Public Debt figures accordingly do not include the temporary loans from H.M. Govt's in U.K. and Canada, nor do they take into account deductions in the way of Sinking Fund payments against the loan of 1905.

| | |
|---------------------------------|---------------------|
| Public Debt on June 30, 1932 | \$97,638,772 |
| Add U.K. and Canada Loan | 1,250,000 |
| Add Western Marine Railway Loan | 31,000 |
| | <u>\$98,919,772</u> |
| Less Sinking Fund | 2,315,906 |
| Public Debt January 1, 1933 | <u>\$96,603,866</u> |

APPENDIX C

GOVERNMENT OF NEWFOUNDLAND

LOANS OUTSTANDING IN ORDER OF MATURITY - 1st JANUARY, 1933

| <u>MATURITY</u> | <u>INTEREST RATE</u> | <u>WHEN RAISED</u> | <u>INTEREST PAYABLE IN</u> | <u>AMOUNT</u> |
|-----------------|----------------------|--------------------|----------------------------|------------------------|
| Not fixed | 4% | 1893 | Nfld. Funds | 602.30 |
| 1st July, 1935 | 4% | 1895 | Sterling | \$2,676,666.66* |
| 30th June, 1936 | 6 1/2% | 1921 | Gold | 6,000,000.00 |
| 31st Dec., 1936 | 4% | 1896 | Sterling | 973,333.33 |
| 9th May, 1938 | 4% | 1888 | " | 60,000.00 |
| 9th May, 1938 | 4% | 1889 | " | 480,000.00 |
| 9th May, 1938 | 4% | 1889 | " | 320,000.00 |
| 9th May, 1938 | 4% | 1890 | " | 50,000.00 |
| 9th May, 1938 | 4% | 1890 | " | 218,000.00 |
| 9th May, 1938 | 4% | 1891 | " | 408,000.00 |
| 1st July, 1939 | 5 1/2% | 1919 | Gold | 6,000,000.00 |
| 1st Jan., 1941 | 3 1/2% | 1893 | Sterling | 3,384,473.35 |
| 1st July, 1942 | 5 1/2% | 1922 | Gold | 6,000,000.00 |
| 1st July, 1943 | 5% | 1923 | Sterling | 2,061,033.33 |
| 1st July, 1943 | 5 1/2% | 1923 | Gold | 3,500,000.00 |
| 1943 to 1948 | 3 1/2% | 1893 to 1898 | Sterling | 456,980.00 |
| 1943 to 1948 | 3 1/2% | 1893 to 1898 | " | 351,373.33 |
| Sept., 1945 | 3 1/2% | 1905 | " | 1,900,433.33 |
| 1st Jan., 1947 | 3% | 1897 | " | 1,581,666.66 |
| 1st Jan., 1947 | 3 1/2% | 1893 | " | 4,708,800.00 |
| 30th June, 1947 | 5 1/2% | 1932 | Canadian Funds | 2,500,000.00 |
| 1st July, 1949 | 5% | 1924 | Gold | 4,000,400.00 |
| 1st July, 1949 | 5% | 1925 | " | 2,500,493.33 |
| July, 1950 | 3 1/2% | 1910 | Sterling | 3,893,333.33 |
| Oct., 1951 | 3 1/2% | 1901 | " | 2,263,000.00 |
| 31st Dec., 1951 | 5% | 1926 | Gold | 4,999,526.66 |
| July, 1952 | 3 1/2% | 1912 | Sterling | 1,946,666.66 |
| 31st Dec., 1952 | 5% | 1927 | Gold | 5,000,000.00 |
| 31st Dec., 1953 | 5% | 1928 | " | 10,002,946.66 |
| 31st Dec., 1954 | 5% | 1929 | " | 5,999,626.66 |
| 30th June, 1955 | 5% | 1930 | " | 5,000,000.00 |
| 1959 | 4% | 1909 | Nfld. Funds | 380,000.00 |
| 1st July, 1961 | 4% | 1910 | " " | 90,000.00 |
| 1st July, 1961 | 4% | 1911 | " " | 384,750.00 |
| | | | | <u>\$90,092,105.59</u> |

Note:

From this must be taken the amount of Bonds of Loan 1895 redeemed under the operations of the Sinking Fund \$1,867,897.80
 and
 Treasury Bills and Cash held by Glyn Mills & Co. for further redemption of the same Loan 448,009.01 .. \$ 2,315,906.81

Making Net Funded Debt Outstanding \$87,776,198.78

The following must be added:

Temporary Loan from H.M. Government in the United Kingdom for war purposes (1917), £400,000 1,946,666.66

Temporary Loans obtained from local Banks 5,631,000.00

Temporary Loans obtained from H.M. Governments in the United Kingdom and Canada (Dec. 1932) 1,250,000.00

Loans outstanding \$96,603,865.44

Included in above is the sum of \$1,648,904.54 due by the City of St. John's.

NEWFOUNDLAND FINANCES

ANALYSIS OF THE PURPOSES FOR WHICH THE LOANS SET OUT IN
STATEMENT WERE RAISED (APPROX. FIGURES ONLY)

| | |
|---|-------------------|
| Railways | \$34,570,000 |
| War Purposes | 12,950,000 |
| Roads | 10,500,000 |
| Dock and Marine Works | 3,235,000 |
| Telegraphs and Telephones | 2,572,000 |
| Public Buildings | 2,050,000 |
| Lighthouses | 715,000 |
| Rebuilding of St. John's, Carbonear, and Harbour Grace | 947,000 |
| Encouragement of Fisheries | 905,000 |
| School Buildings | 800,000 |
| Able-bodied Relief | 1,795,000 |
| Encouragement of Agriculture | 360,000 |
| Labrador Boundary | 175,000 |
| Dredge | 50,000 |
| Workingmen's dwellings | 62,000 |
| Newfoundland Hotel | 635,000 |
| West Cornerbrook Water Co. | 10,000 |
| Harbour Grace Water Co. | 13,000 |
| St. Johns Municipal Council | 1,649,000 |
| Deficits on Current Account including Railway | <u>22,610,000</u> |
| | 96,603,000 |

PUBLIC DEBT OF NEWFOUNDLAND

Apportioned as to Dominion, Provincial, and Municipal responsibility on Canadian basis (approximate apportionment only)

| Purpose for which debt was incurred | Total | Apportionment | | |
|--|-------------------|-------------------|------------------|------------------|
| | | Dominion | Provincial | Municipal |
| Railways | 34,570,000 | 30,000,000 | 4,570,000 | |
| War Purposes | 12,950,000 | 12,950,000 | | |
| Roads | 10,500,000 | | 10,500,000 | |
| Dock and Marine Works | 3,235,000 | 3,235,000 | | |
| Telegraphs and Telephones | 2,572,000 | | 2,572,000 | |
| Public Bldgs. | 2,050,000 | 750,000 | 1,300,000 | |
| Lighthouses | 715,000 | 715,000 | | |
| Rebuilding of St. John's, etc. | 947,000 | | | 947,000 |
| Fisheries | 905,000 | 905,000 | | |
| School Bldgs. | 800,000 | | 800,000 | |
| Able Bodied Relief | 1,795,000 | 600,000 | 600,000 | 595,000 |
| Agriculture | 360,000 | 200,000 | 160,000 | |
| Labrador Bdy. | 175,000 | 175,000 | | |
| Dredging | 50,000 | 50,000 | | |
| Dwellings (Workmen's) | 62,000 | | 62,000 | |
| Mfld. Hotel | 635,000 | 300,000 | | 335,000 |
| West Cornerbrook Water Co. | 10,000 | | | 10,000 |
| Harbour Grace Water Co. | 13,000 | | | 13,000 |
| St. John's Municipal Council | 1,649,000 | | | 1,649,000 |
| Deficits on Public Accts., Railways etc. | <u>22,610,000</u> | <u>15,000,000</u> | <u>7,000,000</u> | <u>610,000</u> |
| | 96,603,000 | 64,880,000 | 27,564,000 | <u>4,159,000</u> |

Summary

| | | |
|------------|-------------------|----------------|
| Dominion | \$64,880,000 | = 67.1% |
| Provincial | 27,564,000 | = 28.5% |
| Municipal | <u>4,159,000</u> | = <u>4.3%</u> |
| | <u>96,603,000</u> | = <u>99.9%</u> |

DEBT PER CAPITA
1931

1. Net Provincial Debt as at October 31, 1931
= \$23,942,170.00
= per capita on basis of
1931 population

Debt per capita

| | |
|---------------------------------------|----------|
| Newfoundland | \$348.75 |
| Nova Scotia (1) | 396.83 |
| New Brunswick (1) | 421.25 |
| Total Public Debt of Canada (2) | 447.41 |

1. Includes provincial debt, bonded municipal debt and share of Dominion debt based on 1931 population.
2. Includes Dominion, provincial and bonded municipal debts.

Total Public Debt of the
Province of New Brunswick, 1931

2. Dominion Debt - New Brunswick share proportional
to population held

= \$206,700,000
= per capita of 1931 population

Total of Public Debt of the
Province of New Brunswick in this issue
of the Dominion Debt

Compare with Newfoundland's net debt not including provincial
debt but which is included in the Dominion Debt

PUBLIC DEBT CHARGEABLE TO THE
PROVINCE OF NEW BRUNSWICK

Population in 1931 - 408,219

1. Net Provincial Debt as at October 31, 1932

= \$45,942,178.53

= per capita on basis of

1931 population - \$112.54

2. Bonded Municipal Debt in the province as in 1931

= \$21,477,521 (from D.B.S. not yet published)

= per capita of 1931 population - \$ 52.61

3A. Dominion Net Debt. New Brunswick's share as at
March 31, 1933 (from Budget Speech) based on the
province's share of national wealth (average for
1928-29)

= \$70,664,236.87

= per capita of 1931 population \$173.14

Total per capita Public Debt \$138.29

3B. Dominion Net Debt - New Brunswick share proportioned
on population basis

= \$104,544,886

= per capita of 1931 population \$256.10

Total per capita Public Debt of the
people of New Brunswick on this basis
of distributing Dominion Debt \$421.25

Compare with Newfoundland's Net Debt not including municipal debts
other than those appearing in the Dominion figures.

Population estimated 1931 - 277,000

Net Debt as at June 30, 1932, \$96,603,866

= per capita - \$348.75

PUBLIC DEBT CHARGEABLE
TO THE PROVINCE OF NOVA SCOTIA

Population 1931 - 512,846

| | | |
|-------|---|-----------------|
| 1. | Net Provincial Debt as at Sept. 30, 1932. | |
| | = \$40,762,468.11 | |
| | = per capita on basis of | |
| | 1931 population | \$79.53 |
| 2. | Bonded Municipal Debt as in 1931 | |
| | = \$31,386,025 (from D.B.S.) | |
| | = per capita of 1931 population | 61.20 |
| 3A. | Dominion Net Debt, Nova Scotia's share as at | |
| | March 31, 1933 (from Budget Speech) based on | |
| | the province's share of national wealth (average | |
| | 1928-29 = 3%) | |
| | = \$79,497,266.48 | |
| | = per capita of 1931 population | <u>155.01</u> |
| | <u>Total per capita public debt</u> | <u>\$295.74</u> |
| <hr/> | | |
| 3B. | Dominion Net Debt apportioned on basis of popu- | |
| | lation. Nova Scotia's share = \$131,399,860 | |
| | = per capita of 1931 population | <u>\$256.10</u> |
| | <u>Total per capita Public Debt of the people</u> | |
| | <u>of Nova Scotia on this basis of distributing</u> | |
| | <u>National Debt</u> | <u>\$396.83</u> |
| <hr/> | | |

Compare with Newfoundland's Net Debt not including municipal debts other than those included in the Dominion figures.

Population estimated - 277,000

Net Debt as at June 30, 1932 - \$96,603,866

= Per capita - 348.75

TOTAL PUBLIC DEBT OF CANADA

| | |
|------------------------------|-----------------------|
| Dominion, March 31, 1933 | \$2,649,908,882.13 |
| Bonded Municipal Debts, 1930 | 1,209,645,181.00 |
| Provincial Net Debts (1932) | <u>781,872,960.78</u> |
| Total Public Debt | \$4,641,427,023.91 |

Population in 1931 - 10,374,196

Total Public Debt of Canada per capita of 1931

population = \$447.41

(Note: This is subject to additions but not to subtractions. Also it does not include revenue-producing provincial debts when such can be readily separated).

Compare with Newfoundland's per capita public Debt of \$348.75

APPORTIONMENT OF PUBLIC DEBT

1. New Brunswick

A. Province's share of Federal Debt based on wealth

| | |
|------------|--------------|
| Federal | 51.5% |
| Provincial | 33.5% |
| Municipal | <u>15.0%</u> |
| | 100.0% |

B. Province's share of Federal Debt based on Population

| | |
|------------|--------------|
| Federal | 61.1% |
| Provincial | 26.8% |
| Municipal | <u>12.1%</u> |
| | 100.0 |

2. Nova Scotia

A. Province's share of Federal Debt based on wealth

| | |
|------------|--------------|
| Federal | 52.8% |
| Provincial | 27.1% |
| Municipal | <u>20.1%</u> |
| | 100.0 |

B. Province's share of Federal Debt based on population

| | |
|------------|--------------|
| Federal | 64.8% |
| Provincial | 20.2% |
| Municipal | <u>15.0%</u> |
| | 100.0 |

NEWFOUNDLAND FINANCES

Loans outstanding Jan. 1, 1933

Classified as to manner of payment of interest.

(Presumably Principal is also paid accordingly)

| Nfld. Funds \$ | Gold \$ | Sterling \$ | Canadian \$ |
|-------------------|----------------------|----------------------|------------------|
| 602.30 | 6,000,000 | * 360,759.85 | 2,500,000 |
| 380,000 | 6,000,000 | 973,333.33 | |
| 90,000 | 6,000,000 | 60,000.00 | |
| 384,750 | 3,500,000 | 480,000.00 | |
| | 4,000,000 | 320,000.00 | |
| | 2,500,493.33 | 50,000.00 | |
| | 4,999,526.66 | 218,000.00 | |
| | 5,000,000 | 408,000.00 | |
| | 10,002,946.66 | 3,384,473.35 | |
| | 5,999,626.66 | 2,061,033.33 | |
| | 5,000,000 | 456,980.00 | |
| | | 351,373.33 | |
| | | 1,900,433.33 | |
| | | 1,581,666.66 | |
| | | 4,708,800.00 | |
| | | 3,893,333.33 | |
| | | 2,263,000.00 | |
| | | <u>1,946,666.66</u> | |
| <u>855,352.30</u> | <u>59,002,593.31</u> | <u>25,417,853.17</u> | <u>2,500,000</u> |

* Loan - \$2,676,666.66 from which must be deducted bonds redeemed under sinking fund and credits available for further redemption amounting in all to \$2,315,906.81 or a net debt on loan of \$360,759.85

| | | |
|-------------------------------|---|---------------------|
| Totals - | Nfld. Funds | 855,352.30 |
| | Gold | 59,002,593.31 |
| | Sterling | 25,417,853.17 |
| | Canadian Funds | <u>2,500,000.00</u> |
| | Net funded debt outstanding | 87,775,798.78 |
| The following must be added - | | |
| | Temp. loan from U.K. Govt for war purposes 1917 | 1,946,666.66 |
| | Temp. loans from banks | 5,631,000.00 |
| | " " Govts. of U.K. & Canada, 1932 | <u>1,250,000.00</u> |
| | Outstanding loans | 96,603,465.44 |

Included in the above is the sum of \$1,648,904.54 due by the City of St. John's.

COST OF GREAT WAR TO NEWFOUNDLAND

MADE UP TO JUNE 30, 1932

1. Principal

| | |
|---|------------------|
| (a) Loan 1918 (now part of 1928 Loan) | 7,543,400 |
| (b) Loans 1918 & 1919 (covering advances 1914-1918) | <u>5,400,000</u> |
| Included in Public Debt | \$12,943,400 |
| (c) Temporary Loan (£400,000) from H.M. Govt. in U.K. 1917 not at present included in public debt figures | 1,946,666 |
| (d) Advances from various surpluses on current account 1914-1918 | <u>1,300,000</u> |
| <u>Principal</u> | \$16,190,000 |

2. Interest paid on above:

| | | |
|--------------------------------------|------------------|--------------|
| 7,543,400 - 6½% for 10 years - | 4,903,210 | |
| " - 5% " 4 " - | 1,508,680 | |
| 5,400,000 - 5½% " 16 " - | 4,752,000 | |
| 1,946,666 - 5% " 13 " - | <u>1,265,333</u> | \$12,429,223 |

3. War Pensions paid to June 30, 1932 8,445,000

Total Cost to June 30, 1932 \$37,064,289

Sums borne by Current Account yearly to Carry War Costs

Financial Year 1932-33

| | |
|---------------------------------|------------------|
| Interest on Loan 7,543,400 @ 5% | \$377,170 |
| " " " 5,400,000 @ 5½% | 297,000 |
| " " " 1,946,666 @ 5% | 97,333# |
| War Pensions Dept. | <u>550,000 *</u> |
| Total | \$ 1,321,503 |

Interest on this loan has not been paid for the last two years.

* In Sept. 1932 reductions amounting to some \$100,000 a year were made in war pensions of which account is taken in this figure.

Statement prepared March 1, 1933.

Current Revenue

Like most countries Newfoundland's revenue has decreased in the last few years, dropping from \$9,655,640 in 1930-31 to \$7,931,047 in 1931-32, a decrease of \$1,724,593 --the decrease being greatest in customs revenue and liquor profits.

The main items of current revenue for the year 1931-32 are as follows:

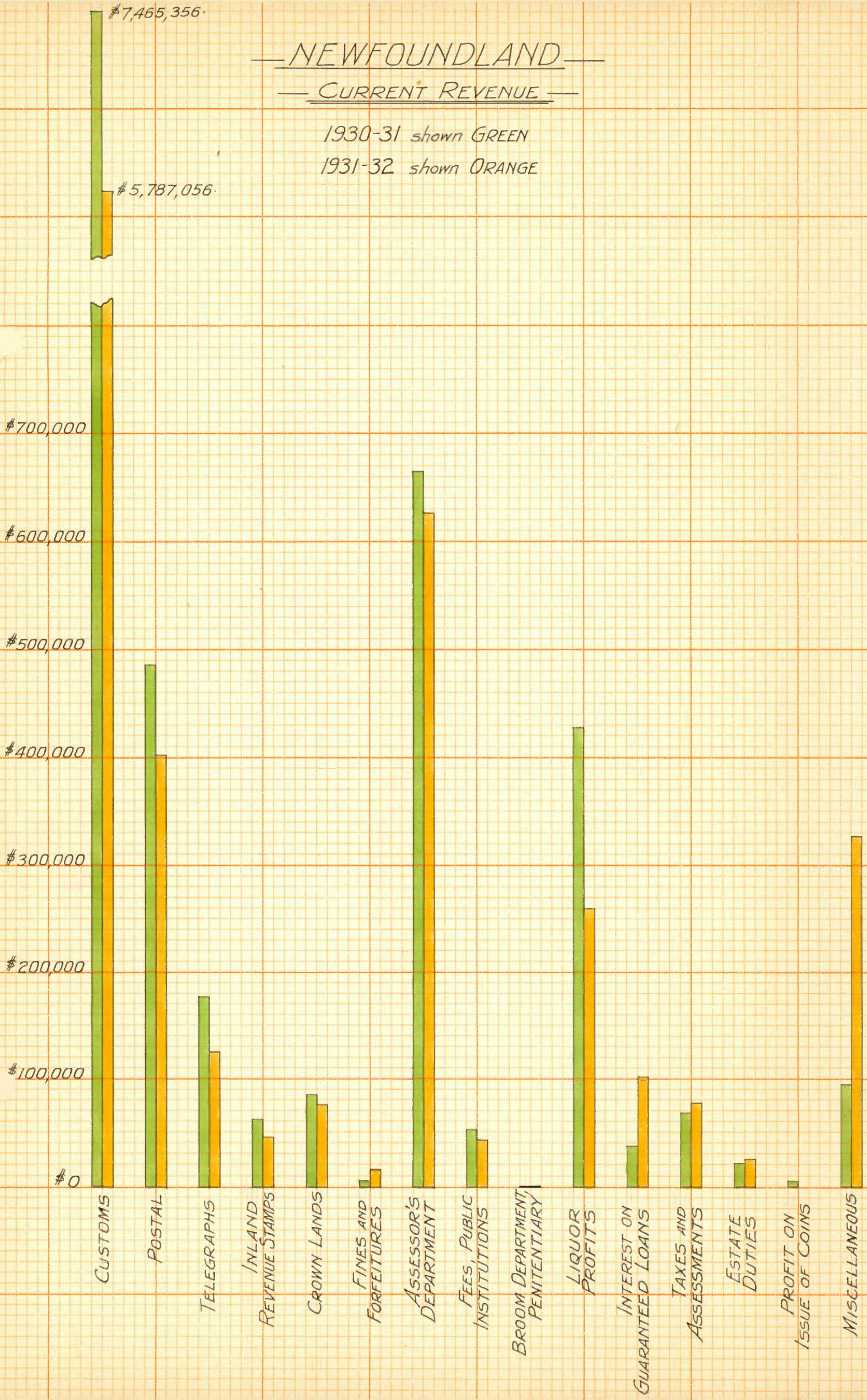
| | \$ | % |
|----------------------------------|---------------------|------------|
| Customs | 5,787,056.33 | 72 |
| Assessor's Dept. (Income tax) | 629,082.97 | 8 |
| Postal | 408,075.85 | 5 |
| Liquor profits | 260,000.00 | 3.5 |
| Telegraphs | 125,998.20 | 1.5 |
| Other revenue | 720,834.06 | 9. |
| | <u>7,931,047.41</u> | <u>100</u> |

NEWFOUNDLAND

CURRENT REVENUE

1930-31 shown GREEN

1931-32 shown ORANGE



NEWFOUNDLAND

CURRENT REVENUE FOR FISCAL YEARS 1930-31

AND 1931-32

| | 1930-31 | 1931-32 | Increase | Decrease |
|--|-----------------------|-------------------|-------------------|-----------------------|
| Customs..... | \$7,465,356.08 | \$5,787,056.33 | ..... | \$1,678,299.75 |
| Postal..... | 485,320.56 | 408,075.85 | ..... | 77,244.71 |
| Telegraphs..... | 178,836.24 | 125,998.20 | ..... | 52,838.04 |
| Inland Revenue Stamps.... | 62,712.20 | 47,797.30 | ..... | 14,914.90 |
| Crown Lands..... | 85,131.18 | 76,716.51 | ..... | 8,414.67 |
| Fines and Forfeitures.... | 5,287.59 | 17,051.76 | \$ 11,764.17 | ..... |
| Assessor's Department.... | 662,875.27 | 629,082.97 | ..... | 33,792.30 |
| Fees Public Institutions. | 51,966.79 | 43,512.63 | ..... | 8,454.16 |
| Broom Department, Penitent- iary..... | 1,304.28 | 1,346.98 | 42.70 | ..... |
| Liquor Profits..... | 429,000.00 | 260,000.00 | ..... | 169,000.00 |
| Interest on Guaranteed Loans..... | 38,212.14 | 103,433.49 | 65,221.35 | ..... |
| Taxes and Assessments.... | 68,367.17 | 77,573.79 | 9,206.62 | ..... |
| Estate Duties..... | 20,592.87 | 24,829.09 | 4,236.22 | ..... |
| Profit on Issue of Coins. | 5,000.00 | ..... | ..... | 5,000.00 |
| Miscellaneous..... | <u>95,678.34</u> | <u>328,572.51</u> | <u>232,894.17</u> | <u>.....</u> |
| | \$9,655,640.71 | \$7,931,047.41 | \$323,365.23 | \$2,047,958.53 |
| | <u>7,931,047.41</u> | ----- | ----- | <u>323,365.23</u> |
| Current year decrease of | <u>\$1,724,593.30</u> | | | <u>\$1,724,593.30</u> |

Public Expenditure

The chief items of Newfoundland's expenditure during the past few years are interest on public debt and relief, these two items amounting to 57 per cent of the total expenditure of \$11,960,383 in the fiscal year 1931-32.

A comparison of the expenditure for the last two years available follows:

| | <u>1930-31</u> | <u>1931-32</u> |
|--------------------|-----------------|-----------------|
| Total expenditure | \$12,898,933.45 | \$11,960,386.63 |
| Interest on debt | 33.5% | 40% |
| Relief | 18 | 17 |
| Postal | 11.5 | 9 |
| Education | 8 | 6 |
| Pensions | 7 | 7 |
| Civil Government | 5 | 5 |
| Customs | 5 | 4 |
| Justice | 4 | 4 |
| Marine & Fisheries | 3.5 | 3 |
| 4 other items | <u>4.5</u> | <u>5</u> |
| | 100.0 | 100 |

—NEWFOUNDLAND—

—PUBLIC EXPENDITURES—

\$5,000,000

1930-31 shown in GREEN

1931-32 shown in ORANGE

\$4,500,000

\$4,000,000

\$3,500,000

\$3,000,000

\$2,500,000

\$2,000,000

\$1,500,000

\$1,000,000

\$500,000

\$0

INTEREST ON PUBLIC DEBT,
SINKING FUND, ETC.

CIVIL GOVERNMENT

CIVIL, MILITARY, NAVAL,
AND OLD AGE PENSIONS

ADMINISTRATION
OF JUSTICE

LEGISLATION

EDUCATION

PUBLIC CHARITIES

AGRICULTURE
AND MINES

MARINE
AND FISHERIES

ROADS
AND BRIDGES

CUSTOMS

GENERAL
CONTINGENCIES

ELECTIONS

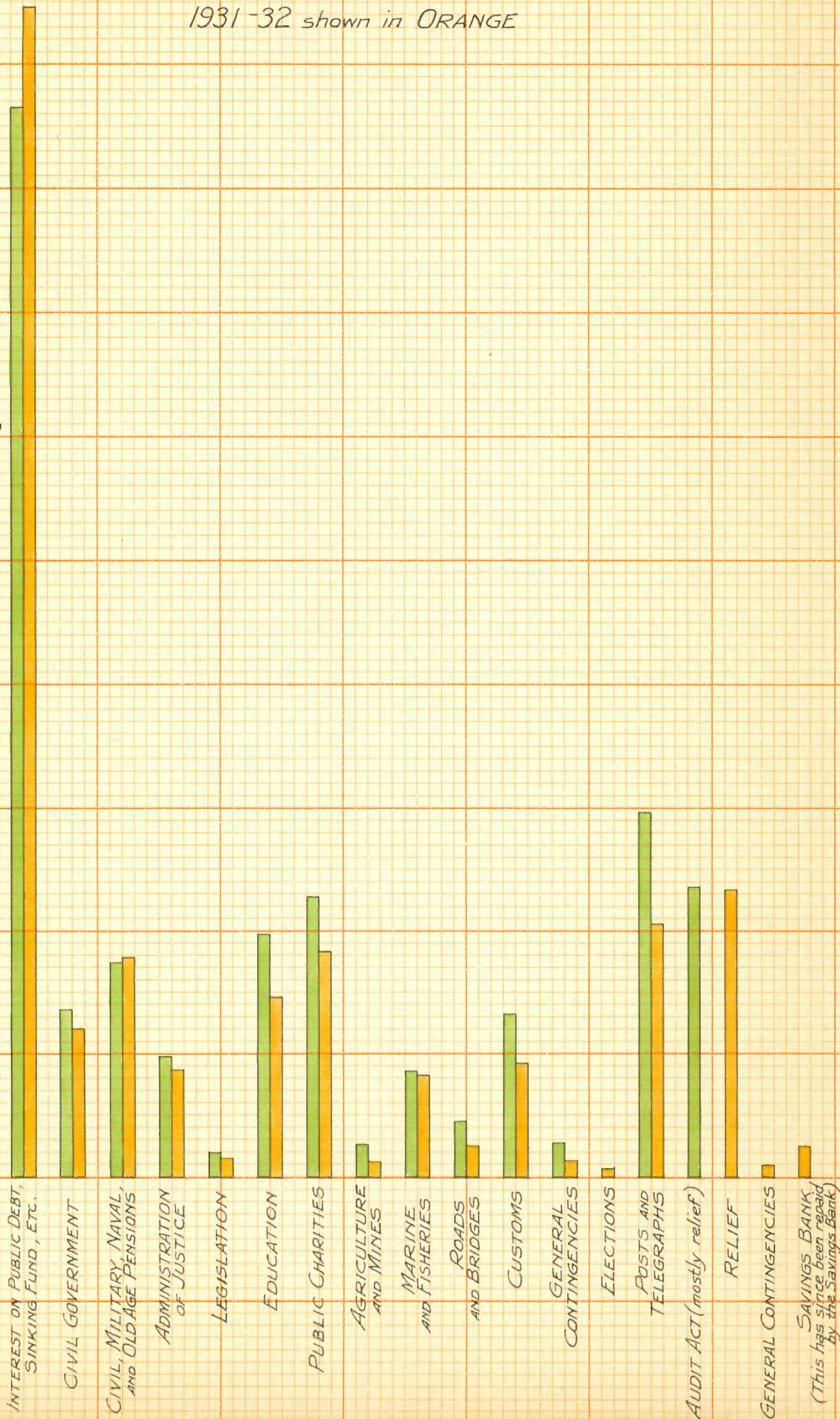
POSTS AND
TELEGRAPHS

AUDIT ACT (mostly relief)

RELIEF

GENERAL CONTINGENCIES

SAVINGS BANK
(This has since been repaid
by the Savings Bank)



NEWFOUNDLAND

PUBLIC EXPENDITURES FOR FISCAL YEARS 1930-31

AND 1931-32

(not including \$8,000 received for interest from Debentures held for Old Age Pensions Fund)

| <u>Item</u> | <u>Year 1930-31</u> | <u>Year 1931-32</u> |
|---|----------------------|---------------------|
| | \$ | \$ |
| 1. Interest on Public Debt, Sinking Fund, etc. | 4,328,128.66 | 4,731,571.79 |
| 2. Civil Government | 673,902.02 | 600,496.25 |
| 3. Civil, Military, Naval, and Old Age Pensions | 876,922.59 | 894,994.02 |
| 4. Administration of Justice | 489,855.95 | 443,995.13 |
| 5. Legislation | 100,064.05 | 70,311.98 |
| 6. Education | 989,591.89 | 735,553.36 |
| 7. Public Charities | 1,145,179.67 | 921,392.05 |
| 8. Agriculture & Mines | 141,495.55 | 65,235.59 |
| 9. Marine and Fisheries | 444,018.86 | 413,337.72 |
| 10. Roads and Bridges | 222,448.79 | 124,604.37 |
| 11. Customs | 663,711.90 | 466,403.83 |
| 12. General Contingencies | 147,230.28 | 69,176.39 |
| 13. Elections | -- | 37,113.95 |
| 14. Posts & Telegraphs | 1,491,463.49 | 1,036,200.20 |
| 15. Audit Act (mostly relief) | 1,184,919.75 | -- |
| 16. Relief | -- | 1,170,000.00 |
| 17. General Contingencies | -- | 50,000.00 |
| 18. Savings Bank | -- | * 130,000.00 |
| Total 1930-31 | \$ 12,898,933.45 | \$11,960,386.63 |
| " 1931-32 | <u>11,960,386.63</u> | |
| Decrease | 938,546.82 | |

* This has since been repaid by the Savings Bank.

COMPARISON OF ANNUAL PER CAPITA PUBLIC
EXPENDITURES OF THE PEOPLE OF NEWFOUNDLAND AND NOVA SCOTIA

1. Nova Scotia Population 1931 - 512,846

A. Federal

Year ending March 31, 1932. Nova Scotia's share in Federal expenditures based on her share of Canada's national wealth (average for 1928-29 = 2.99% say 3%)

= 3% of \$440,057,904

= \$13,201,737.12

= per capita of 1931 pop. - \$25.74

B. Provincial

Total expenditures for year ending

Sept. 30, 1932 - \$7,858,238.69

Deduct Subsidies grants

etc., from Dominion 1,530,246.63

Net Expenditures from

Provincial taxes \$6,327,992.06

= per capita of 1931 pop. - \$12.34

C. Municipal

Total expenditure of Municipalities

including cities, towns, etc., 1932

= \$14,019,411.20*

= per capita of 1931 pop. - \$27.33

Total per capita public expenditure

by the people of Nova Scotia \$65.41

2. Newfoundland Population approx. 277,000

Public Expenditure for year ending June 30,

1932 = \$11,960,383.63

= per capita - \$43.17

* This figure received by telephone from Dominion Bureau of Statistics - and probably includes educational and other grants from provinces covered by Provincial Expenditures.

COMPARISON OF ANNUAL PER CAPITA PUBLIC EXPENDITURES
OF THE PEOPLE OF NEWFOUNDLAND AND NEW BRUNSWICK

| | |
|--|-----------------------------|
| 1. <u>New Brunswick</u> | Pop. 1931 - 408,219. |
| A. <u>Federal</u> | |
| Year ending March 31, 1932. | |
| New Brunswick's share in Federal Expenditures based on National Wealth (Average 1928-29) of 2 2/3% of Dom. | |
| Expenditure of \$440,057,904 | |
| = \$11,734,877.44 | |
| = per capita of 1931 pop. | = \$28.74 |
| B. <u>Provincial</u> | |
| Total Expenditure for year ending Oct. 31, 1932 | |
| | = \$6,360,893.40 |
| Deduct subsidies, grants, etc., | |
| from Dominion | <u>1,308,229.01</u> |
| Net Expenditure from Provincial | |
| taxation | \$5,352,664.39 |
| = per capita = | 13.11 |
| C. <u>Municipal</u> | |
| Total Expenditures for year 1932 | ?) |
| Deduct grants from Province for Education, etc. | ?) <u>15.00 ± ?</u> |
| <u>Total per capita Public Expenditure of</u> | |
| <u>the people of New Brunswick</u> | |
| | <u>56.85</u> |
| 2. <u>Newfoundland</u> | Pop. 277,000 approx. |
| Public Expenditure for year ending June 30th, | |
| 1932 - \$11,960,386.63 = <u>per capita</u> | = <u>\$43.17</u> |

* Figures are not available for all municipalities. Per capita municipal expenditure for N.S. is \$27.33. Assume that for N.B. to be at least \$15.00

Trade

Newfoundland has had a favourable balance of trade for a number of years. This favourable balance increased from \$5,025,986 in the fiscal year 1926-27 to \$8,553,844 in 1931-32.

The chief items of export are paper, which formed 52 per cent of the total exports for 1931-32; dried codfish 23.5 per cent; iron ore 8 per cent and lead concentrates 3 per cent.

The chief items of import are meats, flour, machinery, and coal, none of which amount to 9 per cent of the total imports.

Most of Newfoundland's trade is with Canada, the United States and the United Kingdom. In the fiscal year 1931-32 out of total exports of \$26,689,476 Canada took \$1,317,036 or 5 per cent; United States took \$10,106,116 or 38 per cent and the United Kingdom \$7,898,759 or 29 per cent. Of Newfoundland's total imports of \$18,135,631, Canada supplied \$8,351,188 or 46 per cent; the United States supplied \$5,714,939 or 31.5 per cent and the United Kingdom \$3,182,625 or 17.5 per cent. These three countries supplied 95 per cent of Newfoundland's imports.

NEWFOUNDLAND'S
TRADE

IMPORTS AND EXPORTS
1921-1932



— NEWFOUNDLAND —

— BALANCE OF TRADE —

— 1921 - 1932 —

CANADA - BLACK
UNITED STATES - RED
UNITED KINGDOM - GREEN



\$11,000,000

\$10,000,000

\$9,000,000

\$8,000,000

\$7,000,000

\$6,000,000

\$5,000,000

\$4,000,000

\$3,000,000

\$2,000,000

\$1,000,000

\$0

NEWFOUNDLAND'S
TRADE
 with principal countries
 for fiscal year ending
 June 30, 1931.



IMPORTS

EXPORTS

NEWFOUNDLAND'S TRADE

By Value for the twelve fiscal years ending June 30, 1932

| Year | Imports | Exports | Balance of Trade | |
|---------|------------|------------|------------------|--------------|
| | | | Favourable | Unfavourable |
| | \$ | \$ | \$ | \$ |
| 1920-21 | 28,909,727 | 22,441,267 | -- | 6,468,460 |
| 1921-22 | 18,209,853 | 19,478,417 | 1,268,564 | -- |
| 1922-23 | 19,321,824 | 20,956,863 | 1,635,039 | -- |
| 1923-24 | 27,676,319 | 21,071,460 | -- | 6,604,859 |
| 1924-25 | 36,475,832 | 23,590,186 | -- | 12,885,646 |
| 1925-26 | 27,552,315 | 27,563,211 | 10,896 | -- |
| 1926-27 | 25,813,873 | 30,839,859 | 5,025,986 | -- |
| 1927-28 | 27,637,136 | 33,644,619 | 6,007,483 | -- |
| 1928-29 | 29,237,381 | 36,797,703 | 7,560,322 | -- |
| 1929-30 | 31,871,151 | 40,051,959 | 8,180,808 | -- |
| 1930-31 | 25,261,701 | 33,537,569 | 8,275,868 | -- |
| 1931-32 | 18,135,631 | 26,689,475 | 8,553,844 | -- |

CANADA'S SHARE OF NEWFOUNDLAND'S TRADE

| Year | Newfoundland's Imports | | | Newfoundland's Exports | | |
|---------|------------------------|-------------|------|------------------------|-----------|-----|
| | Total | From Canada | % | Total | To Canada | % |
| | \$ | \$ | | \$ | \$ | |
| 1920-21 | 28,909,727 | 14,841,561 | 51.3 | 22,441,267 | 1,976,032 | 8.8 |
| 1921-22 | 18,209,853 | 9,077,168 | 49.7 | 19,478,417 | 1,260,225 | 6.5 |
| 1922-23 | 19,321,824 | 8,251,715 | 42.7 | 20,956,863 | 1,679,678 | 8. |
| 1923-24 | 27,676,319 | 18,569,434 | 41.8 | 21,071,460 | 2,031,756 | 9.6 |
| 1924-25 | 36,475,832 | 13,759,788 | 37.8 | 23,590,186 | 1,682,804 | 7.1 |
| 1925-26 | 27,552,315 | 11,826,406 | 42.9 | 27,563,211 | 1,987,541 | 7.2 |
| 1926-27 | 25,813,873 | 11,635,110 | 45.0 | 30,839,859 | 2,087,496 | 6.8 |
| 1927-28 | 27,637,136 | 12,141,574 | 43.9 | 33,644,619 | 2,639,834 | 8.1 |
| 1928-29 | 29,237,381 | 11,832,415 | 40.5 | 36,797,703 | 3,046,802 | 8.3 |
| 1929-30 | 31,871,151 | 12,992,600 | 40.7 | 40,051,959 | 3,968,479 | 9.9 |
| 1930-31 | 25,261,701 | 10,675,348 | 42.2 | 33,537,569 | 2,327,020 | 6.9 |
| 1931-32 | 18,135,631 | 8,351,188 | 46.0 | 26,689,475 | 1,317,036 | 4.9 |

NEWFOUNDLAND - CANADA TRADE

Fiscal Years 1920-21 to 1931-32

| Year | Newfoundland Buys from Canada Goods to Value of | Newfoundland Sells to Canada Goods to Value of | Newfoundland's Unfavourable Balance of Trade with Canada |
|---------|---|--|---|
| 1920-21 | 14,841,561 | 1,976,032 | 12,865,529 |
| 1921-22 | 9,077,168 | 1,260,225 | 7,816,943 |
| 1922-23 | 8,251,715 | 1,679,678 | 6,572,037 |
| 1923-24 | 18,569,434 | 2,031,756 | 16,537,678 |
| 1924-25 | 13,759,788 | 1,682,804 | 12,076,984 |
| 1925-26 | 11,826,406 | 1,987,541 | 9,838,865 |
| 1926-27 | 11,635,110 | 2,087,496 | 9,547,614 |
| 1927-28 | 12,141,574 | 2,639,834 | 9,501,740 |
| 1928-29 | 11,832,415 | 3,046,802 | 8,785,613 |
| 1929-30 | 12,992,600 | 3,968,479 | 9,024,121 |
| 1930-31 | 10,675,348 | 2,327,020 | 8,348,328 |
| 1931-32 | 8,351,188 | 1,317,036 | 7,034,152 |

NEWFOUNDLAND - UNITED STATES TRADE

Fiscal Years 1920-21 to 1931-32

| Year | Value of Im- ports from U.S.A. | Value of Exports to U.S.A. | Balance of Trade ± Favourable to Nfld. - Unfavourable to " |
|---------|--------------------------------------|----------------------------------|--|
| 1920-21 | \$ 9,556,244 | \$ 854,101 | - 8,702,143 |
| 1921-22 | 6,127,958 | 1,911,749 | - 4,216,209 |
| 1922-23 | 7,001,069 | 1,859,863 | - 5,141,206 |
| 1923-24 | 8,589,290 | 1,901,293 | - 6,687,997 |
| 1924-25 | 9,976,292 | 2,704,606 | - 7,271,686 |
| 1925-26 | 8,861,819 | 4,865,640 | - 3,996,179 |
| 1926-27 | 8,553,567 | 9,420,037 | ± 866,470 |
| 1927-28 | 9,330,697 | 9,833,446 | ± 502,749 |
| 1928-29 | 9,880,431 | 11,596,643 | ± 1,716,212 |
| 1929-30 | 12,101,752 | 11,432,918 | - 668,834 |
| 1930-31 | 9,266,133 | 10,986,135 | ± 1,720,002 |
| 1931-32 | 5,714,939 | 10,106,116 | ± 4,391,177 |

NEWFOUNDLAND - U.K. TRADE

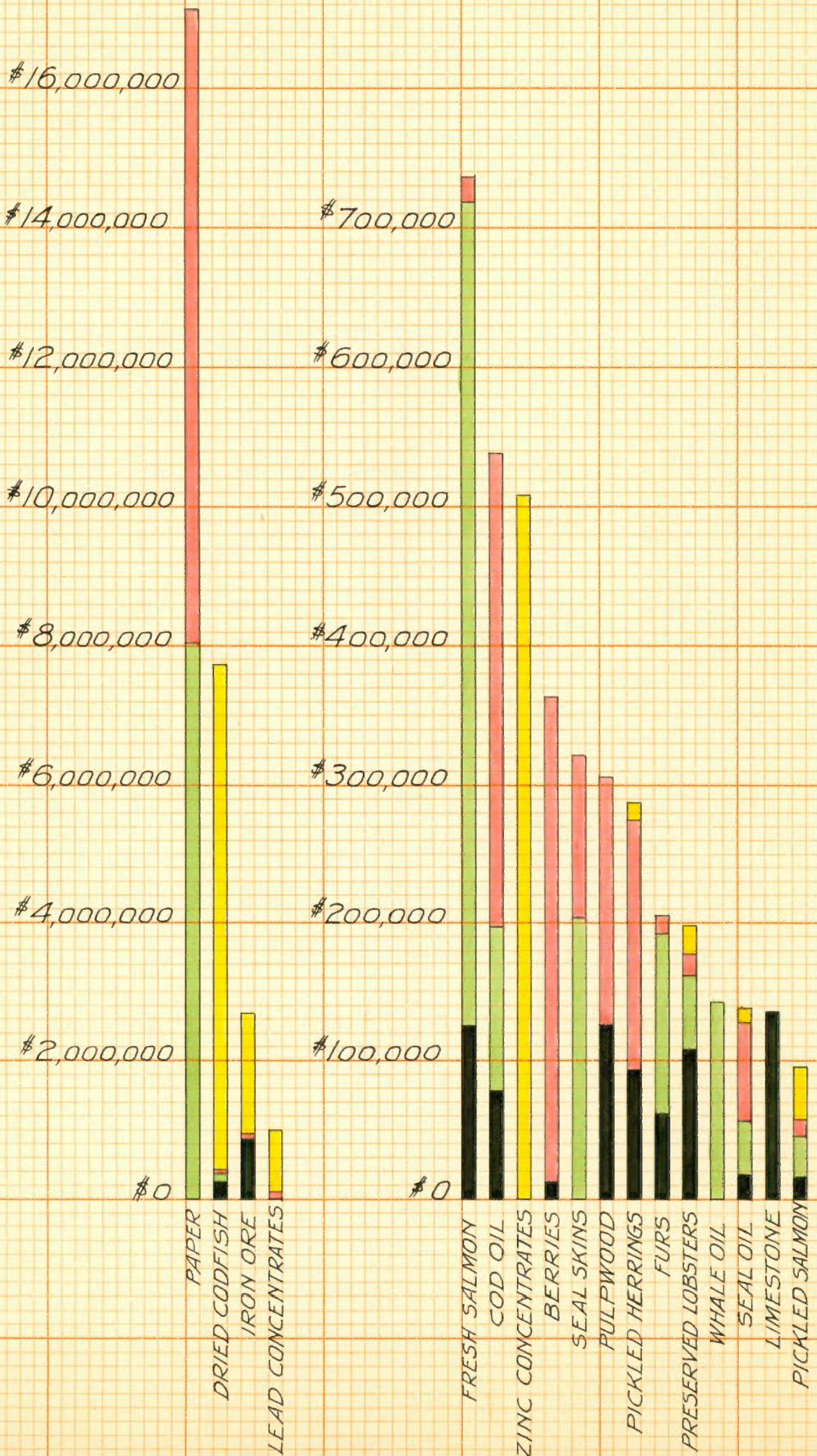
Fiscal Years 1920-21 to 1931-32

| Year | Value of Imports from U.K. \$ | Value of Exports to U.K. \$ | Balance of Trade \$ |
|---------|-------------------------------------|-----------------------------------|---------------------------|
| 1920-21 | 3,230,305 | 6,275,098 | ± 3,044,793 |
| 1921-22 | 2,036,218 | 4,866,821 | ± 2,830,603 |
| 1922-23 | 3,130,605 | 6,961,491 | ± 3,830,886 |
| 1923-24 | 6,250,360 | 7,615,069 | ± 1,364,709 |
| 1924-25 | 11,357,585 | 7,146,320 | - 4,211,265 |
| 1925-26 | 5,785,093 | 6,460,197 | ± 675,104 |
| 1926-27 | 4,527,533 | 6,273,344 | ± 1,745,811 |
| 1927-28 | 4,986,838 | 7,597,378 | ± 2,611,540 |
| 1928-29 | 6,211,906 | 7,578,190 | ± 1,366,284 |
| 1929-30 | 5,527,575 | 8,647,948 | ± 3,120,373 |
| 1930-31 | 4,192,300 | 9,491,661 | ± 5,299,361 |
| 1931-32 | 3,182,625 | 7,898,759 | ± 4,716,134 |

— NEWFOUNDLAND'S TRADE —

— PRINCIPAL EXPORTS FOR —
— FISCAL YEAR ENDING JUNE 30, 1931. —

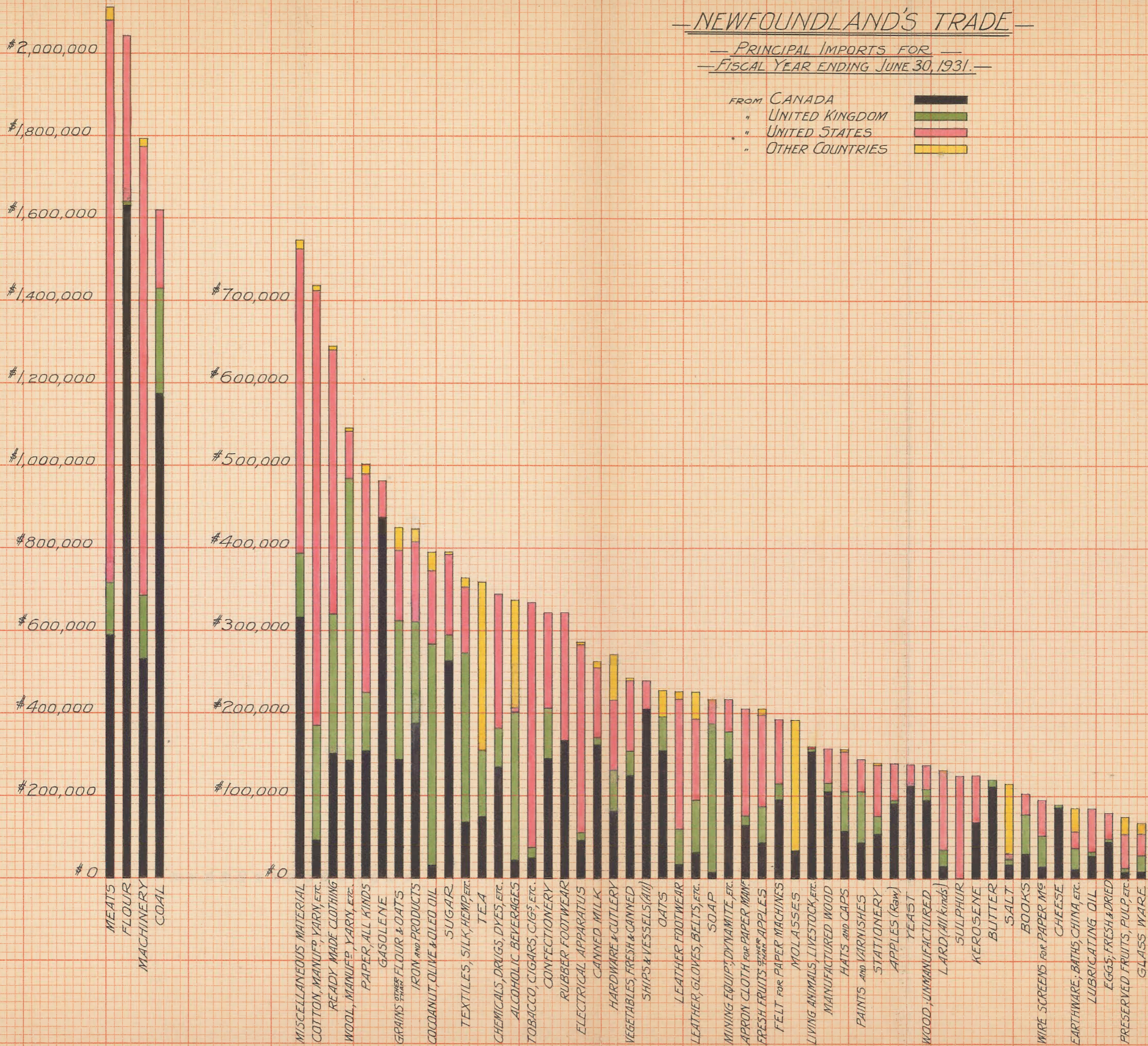
| | |
|-------------------|--|
| TO CANADA | |
| " UNITED KINGDOM | |
| " UNITED STATES | |
| " OTHER COUNTRIES | |



— NEWFOUNDLAND'S TRADE —

— PRINCIPAL IMPORTS FOR —
— FISCAL YEAR ENDING JUNE 30, 1931. —

| | |
|-------------------|--|
| FROM CANADA | |
| " UNITED KINGDOM | |
| " UNITED STATES | |
| " OTHER COUNTRIES | |



NEWFOUNDLAND'S PRINCIPAL IMPORTS, WITH VALUES IMPORTED FROM CANADA,
UNITED KINGDOM, AND UNITED STATES FOR FISCAL YEAR ENDING JUNE 30, 1931.

| Commodity | Total Value Imported | From Canada | From United Kingdom | From United States |
|---|----------------------|----------------|---------------------|--------------------|
| 1. Meats: | | | | |
| Salted Beef | 774,443 | 32,959 | 61,111 | 680,241 |
| Salt Pork | 439,656 | 45,404 | 3,419 | 390,811 |
| Fresh Meats | 354,426 | 297,327 | 47,594 | 9,490 |
| Other | 542,182 | 211,880 | 18,611 | 285,777 |
| Total | 2,110,707 | 587,570 | 130,735 | 1,366,319 |
| 2. Flour | 2,043,583 | 1,634,023 | 7,600 | 401,615 |
| 3. Machinery | 1,792,760 | 536,172 | 147,440 | 1,089,540 |
| 4. Coal | 1,628,360 | 1,174,668 | 259,899 | 188,499 |
| 5. Miscellaneous material for various duty-favoured companies. | 772,729 | 310,737 | 81,765 | 368,714 |
| 6. Cotton: Piece goods, yarns, twist, waste, and cotton manufactures, n.e.p. | 719,170 | 45,590 | 139,586 | 528,118 |
| 7. Ready-made Clothing | 644,371 | 150,845 | 169,875 | 320,382 |
| 8. Wool: Manufactured, Piece goods, Yarn, etc. | 544,331 | 143,476 | 341,745 | 55,904 |
| 9. Paper: All kinds including parchment for fish packing | 502,379 | 154,736 | 71,383 | 264,502 |
| 10. Gasoline | 481,713 | 439,086 | --- | 42,587 |
| 11. Grains and farinaceous products other than flour and oats | 424,784 | 144,772 | 167,608 | 88,664 |
| 12. Iron and Products: | 423,622 | 187,722 | 125,669 | 93,812 |
| 13. Coconut, Olive, and Oleo oil for manufacture of Butterine | 394,437 | 17,810 | 265,610 | 87,127 |
| 14. Sugar | 394,302 | 263,767 | 31,807 | 96,281 |
| 15. Textiles: Haberdashery, silks, hemp, yarn, etc. | 365,661 | 69,932 | 203,301 | 79,140 |
| 16. Tea | 359,215 | 76,377 | 77,601 | 732 |
| 17. Chemicals: Drugs, dyes, medicines, etc. | 346,939 | 130,660 | 50,501 | 164,029 |
| 18. Alcoholic Beverages | 339,367 | 21,215 | 178,706 | 5,702 |
| 19. Tobacco: Cigarettes, cigars, etc. | 331,639 | 24,511 | 14,501 | 275,205 |
| 20. Confectionery | 326,970 | 146,759 | 61,384 | 113,075 |
| 21. Rubber Footwear | 320,633 | 167,432 | 500 | 152,679 |
| 22. Electrical Apparatus | 286,531 | 47,917 | 8,462 | 227,264 |
| 23. Canned milk | 263,384 | 161,571 | 9,088 | 83,647 |
| 24. Hardware and Cutlery | 270,263 | 80,369 | 50,490 | 101,362 |
| 25. Vegetables, Fresh and Canned | 243,070 | 126,852 | 26,989 | 87,636 |
| 26. Ships and Vessels (All) | 240,717 | 206,973 | 159 | 33,143 |
| 27. Oats | 228,558 | 157,594 | 39,189 | 104 |
| 28. Leather Footwear | 227,050 | 19,916 | 40,221 | 157,558 |
| 29. Leather, Leather gloves, belting, etc. | 225,526 | 31,148 | 63,780 | 96,376 |

| Commodity | Total Value Imported | From Canada | From United Kingdom | From United States |
|---|-------------------------|------------------|------------------------|-----------------------|
| 30. Soap | 218,378 | 8,405 | 179,667 | 28,258 |
| 31. Mining Equipment, Dynamite, etc. | 217,423 | 145,317 | 33,292 | 38,814 |
| 32. Apron Cloth for Paper Manufacture | 207,022 | 63,087 | 13,715 | 128,943 |
| 33. Fresh Fruit other than Apples | 206,643 | 46,199 | 40,789 | 111,280 |
| 34. Felt for Paper Machines | 191,807 | 96,690 | 18,713 | 76,404 |
| 35. Molasses | 191,128 | 34,747 | --- | 12 |
| 36. Living Animals: Livestock, etc. | 159,852 | 153,701 | 3,783 | 2,331 |
| 37. Manufactured Wood | 159,385 | 106,184 | 9,794 | 42,343 |
| 38. Hats and Caps | 156,947 | 59,679 | 46,421 | 47,766 |
| 39. Paints and Varnishes | 145,009 | 45,631 | 59,127 | 40,018 |
| 40. Stationery | 140,839 | 52,779 | 26,646 | 59,967 |
| 41. Apples (raw) | 140,657 | 93,769 | 2,751 | 44,123 |
| 42. Yeast | 139,408 | 111,860 | 135 | 27,395 |
| 43. Wood: Unmanufactured | 138,412 | 96,305 | 12,776 | 29,148 |
| 44. Lard (all kinds) | 131,421 | 16,455 | 18,969 | 95,685 |
| 45. Sulphur | 125,796 | --- | --- | 125,796 |
| 46. Kerosene | 125,275 | 68,267 | --- | 56,955 |
| 47. Butter | 121,356 | 111,578 | 8,175 | 647 |
| 48. Salt | 116,849 | 17,999 | 5,992 | 6,388 |
| 49. Books | 101,356 | 29,680 | 48,299 | 23,171 |
| 50. Wire screens for paper making | 94,242 | 13,495 | 38,035 | 42,712 |
| 51. Cheese | 90,700 | 86,547 | 3,132 | 113 |
| 52. Earthenware: Baths, Chinaware, drain pipes, etc. | 84,982 | 10,813 | 26,109 | 21,116 |
| 53. Lubricating Oil | 83,460 | 29,279 | 3,429 | 50,714 |
| 54. Eggs, Dried and in the shell | 80,758 | 45,259 | 2,593 | 32,062 |
| 55. Preserved Fruits, juices and pulp | 75,578 | 8,485 | 4,771 | 43,380 |
| 56. Glass and Glassware | 68,986 | 8,678 | 20,803 | 25,813 |
| 57. Other | 3,519,367 | 1,184,894 | 798,770 | 1,501,856 |
| <u>Total</u> | <u>24,485,808</u> | <u>9,905,982</u> | <u>4,192,300</u> | <u>9,265,906</u> |

NEWFOUNDLAND'S PRINCIPAL DOMESTIC EXPORTS, WITH VALUES EXPORTED TO CANADA,
UNITED KINGDOM, AND UNITED STATES DURING THE FISCAL YEAR ENDING JUNE 30, 1931.

| <u>Commodity</u> | <u>Total Value Exported</u> | <u>To Canada</u> | <u>To United Kingdom</u> | <u>To United States</u> |
|--|---------------------------------|----------------------|------------------------------|-----------------------------|
| 1. Paper | 17,134,801 | -- | 8,004,557 | 9,130,244 |
| 2. Dried Godfish | 7,724,830 | 256,021 | 118,386 | 31,476 |
| 3. Iron Ore | 2,688,764 | 845,602 | -- | 116,596 |
| 4. Lead Concentrates | 1,038,026 | -- | -- | 122,429 |
| 5. Fresh Salmon | 735,151 | 125,446 | 593,281 | 16,350 |
| 6. Cod Oil (Cod liver oil, Refined and other Cod Oil) | 539,416 | 79,942 | 117,389 | 341,109 |
| 7. Zinc Concentrates | 508,885 | -- | -- | -- |
| 8. Berries | 363,742 | 11,772 | 54 | 351,867 |
| 9. Seal Skins | 321,942 | 6 | 203,700 | 118,111 |
| 10. Pulpwood | 305,196 | 126,439 | -- | 178,757 |
| 11. Pickled Herrings | 288,056 | 93,263 | 355 | 180,751 |
| 12. Furs | 207,369 | 61,761 | 130,037 | 14,986 |
| 13. Preserved Lobsters | 198,472 | 109,329 | 52,451 | 16,591 |
| 14. Whale Oil | 142,357 | 758 | 141,259 | 340 |
| 15. Seal Oil | 139,683 | 18,579 | 39,195 | 70,259 |
| 16. Limestone | 135,603 | 135,603 | -- | -- |
| 17. Pickled Salmon | 95,665 | 16,494 | 28,472 | 13,159 |
| 18. Other | 340,756 | 140,576 | 19,161 | 149,855 |
| 19. Total Exports 1930-31 | 32,908,714 | 2,021,582 | 9,448,297 | 10,852,880 |

Newfoundland Government Railway

The railway, completed in 1898, was operated by the Reid Newfoundland Company until August 1920 when a joint Government and Railway Commission was appointed to carry on its operation. On July 1st, 1923, the railway, steamship and dockyard were entirely taken over from the Reid Company, in a very much run down condition, and operated as the Newfoundland Government Railway.

Since being taken over by the Government there have been continued deficits in the railway's operation (\$709,608 in 1930-31 and \$339,032 in 1931-32) but large sums have been expended yearly in re-conditioning the road, building bridges, new equipment and generally placing the railway and steamship service in an efficient condition.

It is reported that the expenditures for railway improvement during the past number of years have tended to greatly reduce the cost of operation.

NEWFOUNDLAND RAILWAY

Statement of Amounts Advanced by the Newfoundland Government
on Account of the Newfoundland Railway between July 1, 1920
and March 31, 1933.

| YEAR | ON OPERATION ACCOUNT | ON CAPITAL EXPENDITURE ACCOUNT | TOTAL | |
|-----------|-----------------------------|--------------------------------------|------------------------|-------------------|
| 1920-1921 | \$1,888,589.07 | \$1,024,616.15 | \$2,913,205.22 | } Dual Control |
| 1921-1922 | 1,249,993.00 | 235,081.13 | 1,485,074.13 | |
| 1922-1923 | 814,345.59 | 192,214.32 | 1,006,559.91 | |
| 1923-1924 | 200,000.00 | 293,815.97 | 493,815.97 | |
| 1924-1925 | 290,000.00 | 440,738.91 | 730,738.91 | |
| 1925-1926 | 630,000.00 | 1,464,319.48 | 2,094,319.48 | |
| 1926-1927 | 365,000.00 | 975,070.44 | 1,340,070.44 | |
| 1927-1928 | 617,675.56 | 385,186.21 | 1,002,861.77 | |
| 1928-1929 | 300,000.00 | 1,348,191.39 | 1,648,191.39 | |
| 1929-1930 | 534,161.59 | 1,053,850.48 | 1,588,012.07 | |
| 1930-1931 | 495,000.00 | 400,812.50 | 895,812.50 | |
| 1931-1932 | 600,000.00 | 169,355.89 | 769,355.89 | |
| 1932-1933 | <u> </u> | <u>20,875.44</u> | <u>20,875.44</u> | |
| | <u>\$7,984,764.81</u> | <u>\$8,004,128.31</u> | <u>\$15,988,893.12</u> | |

NEWFOUNDLAND RAILWAY

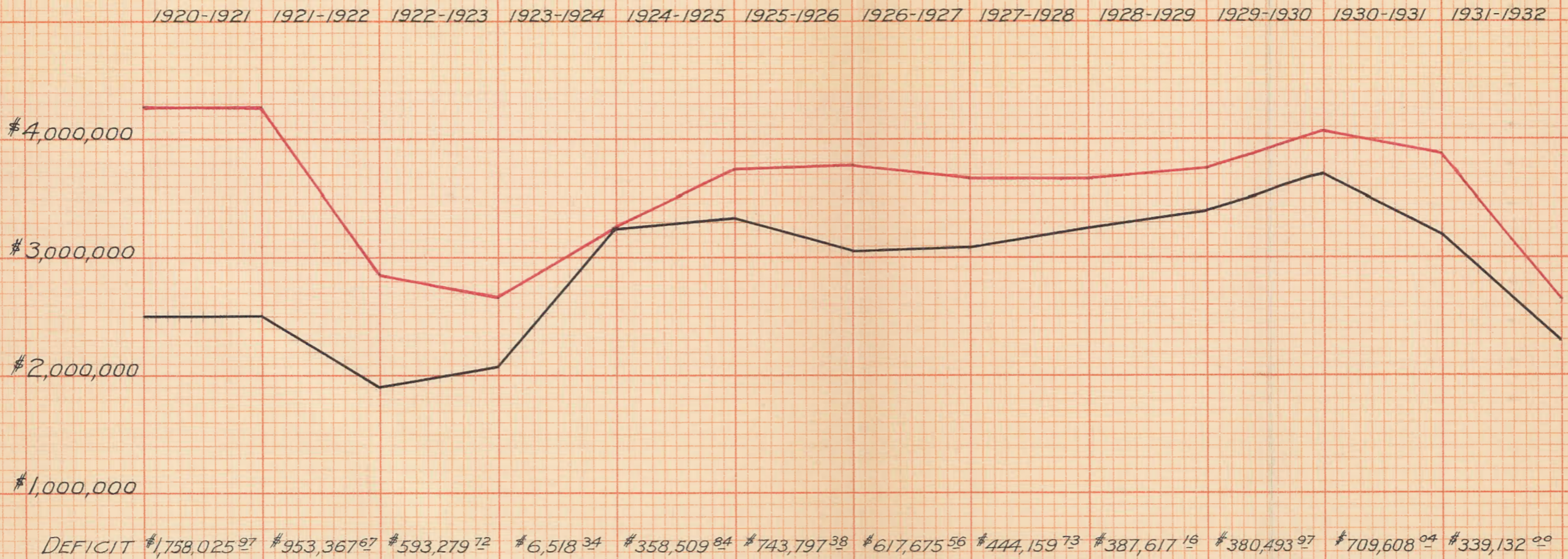
Statement Showing the Cost to the Government of Newfoundland of the Various Properties Now Included in the Newfoundland Railway System, Covering the Period of Years 1875 to 1926.

| | |
|---|------------------------|
| Fleming Survey | \$ 42,600.00 |
| Newfoundland Railway | 2,043,677.24 |
| Placentia Railway | 554,944.27 |
| Northern & Western Railway | 8,094,010.75 |
| Shore Lines | 583,245.00 |
| Lewisporte Branch | 195,202.00 |
| West End Branch | 165,014.07 |
| Re-railing Branches | 111,750.00 |
| Municipal Basin | 250,000.00 |
| Railway Reversion and Awards | 2,254,423.52 |
| Railway Connecting Roads | 103,600.00 |
| Branch Lines, including Discount on Loans | 7,448,234.37 |
| Land Grants | 1,392,475.00 |
| Purchase of Lease and other Assets from Reid Newfoundland Company, including Discount & Adjustments | 2,433,328.11 |
| Proportion of Discount on Loans 1921 - 1928 | 148,851.00 |
| Construction of New Dry Dock, etc. | <u>1,947,324.10</u> |
| | <u>\$27,768,679.43</u> |

Note: This statement is based on figures compiled by the Auditor General of the Colony which were, for the most part, quoted in the Budget Speech made by the Minister of Finance and Customs at the House of Assembly on May 13th, 1929.

NEWFOUNDLAND RAILWAY
STATEMENT OF EARNINGS, EXPENSES AND LOSSES
 — SINCE —
RAILWAY TAKEN OVER BY GOVERNMENT
FROM REID NEWFOUNDLAND COMPANY

RED - EXPENSES
 BLACK - EARNINGS



Deficit in 1923-24 was small mainly
 by increased earnings from construction
 of the Corner Brook paper mill.

The Newfoundland Hotel

Built in 1925-1926 by T.E. Rousseau and Company of Quebec under contract with Newfoundland Hotel Facilities Ltd. Opened on July 1st, 1926.

Contract price for building and equipment \$707,000. Extras, etc., brought the total cost to over \$1,000,000.

Site was furnished free by the Government.

Part of the financing of the company was the issue of \$450,000 in first mortgage 6% bonds, guaranteed as to principal and interest by the Government of Newfoundland. The Facilities Company paid a total amount of \$3,500 as interest and sinking fund on the bonds, the Government being called upon to make good the deficits, as the payments became due.

The Rousseau Company went into insolvency in 1927 and the Royal Bank of Canada who held the Company's bonds as security for advances made to Rousseau called upon the Government to make good their guarantee.

In November 1930 the Montreal Trust Company started foreclosure proceedings and the Facilities Company went into liquidation. The Government subsequently bought the hotel as a going concern to protect their interest, and it passed into complete control of the Government on November 30th, 1931.

During the period the Liquidator was in charge (November 1930 to November 1931) business was excellent, chiefly due to the Canadian Army and Navy Sweepstake Organization using the hotel as their headquarters. This organization left the hotel in November 1931 and since then there has been a continuous deficit in operating account.

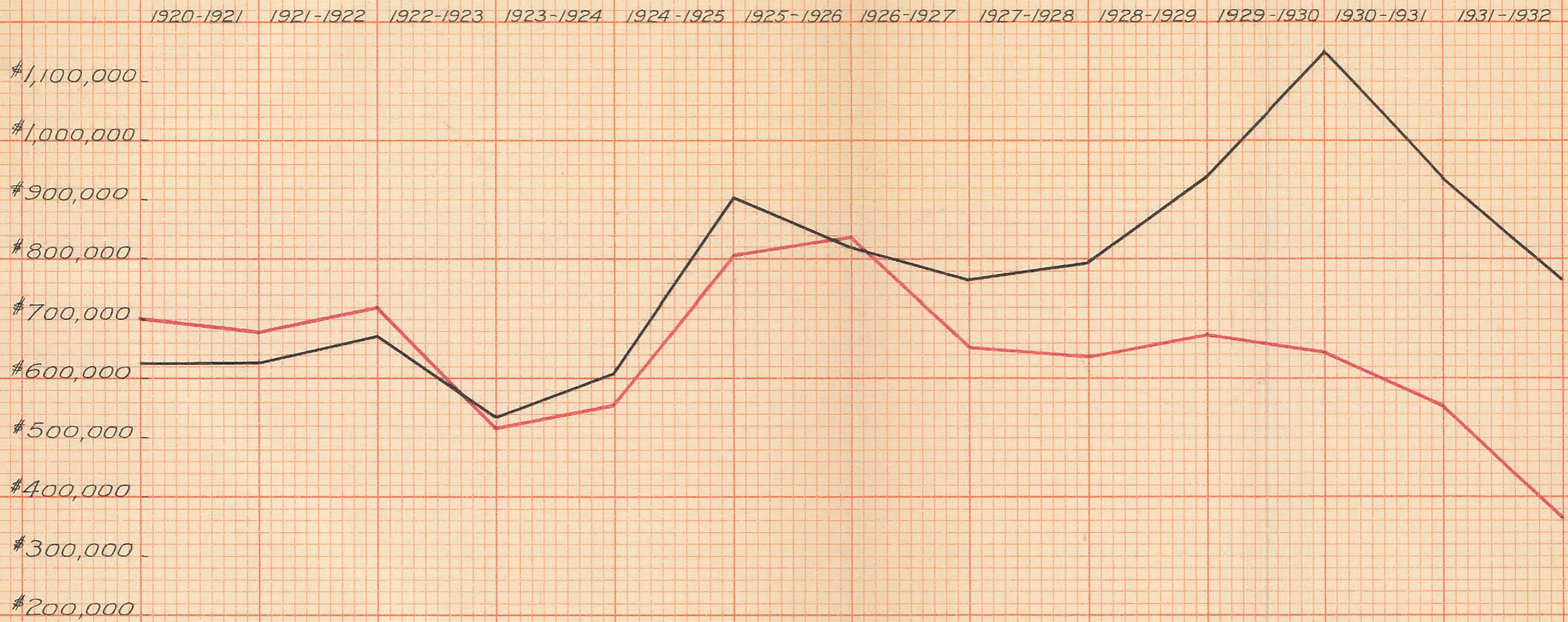
The hotel is in need of repair and some equipment requires replacement. A considerable sum of money will be required to put the hotel in good condition.

NEWFOUNDLAND RAILWAY

OPERATIONS

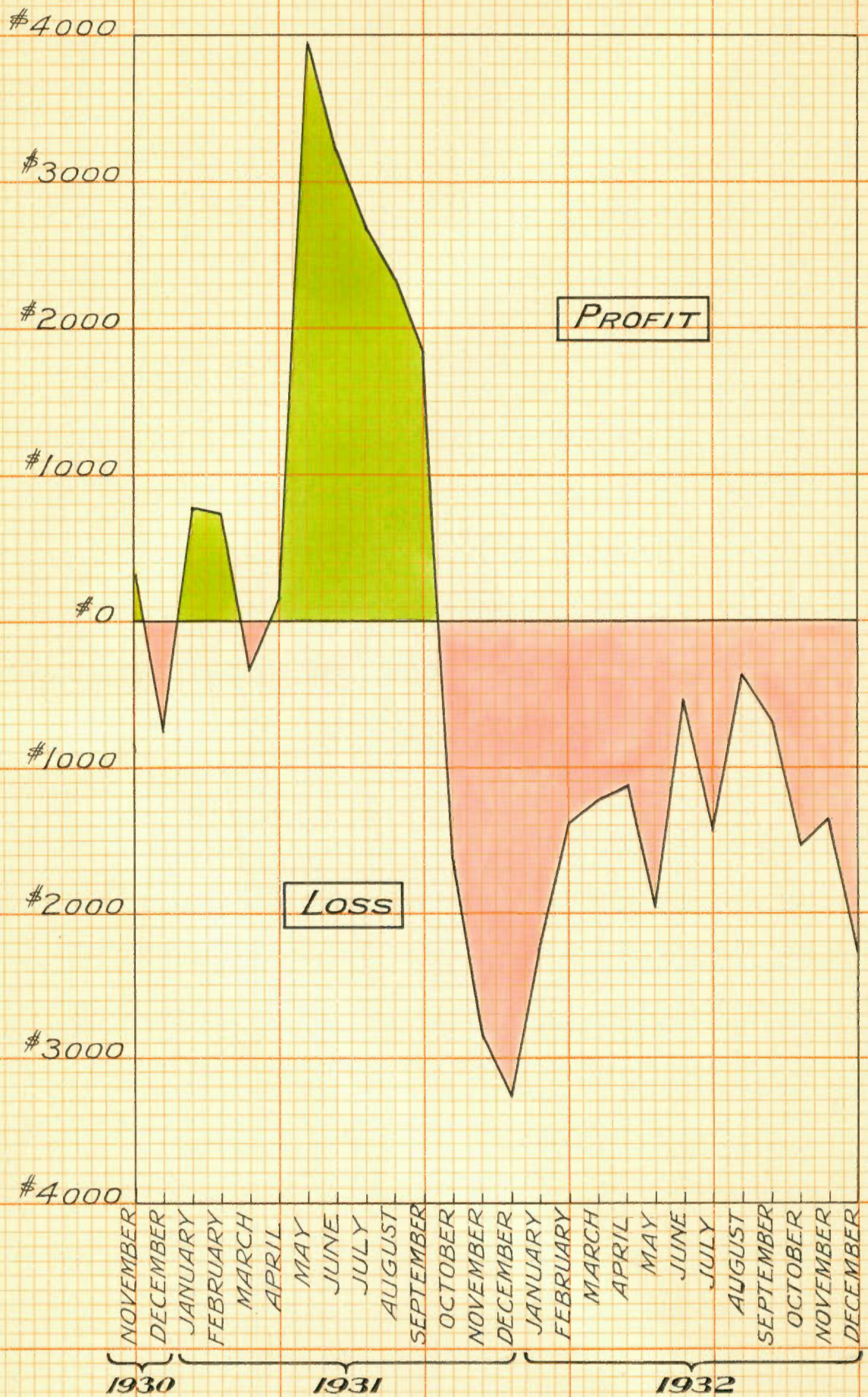
TREND OF PASSENGER AND FREIGHT EARNINGS

FREIGHT - BLACK
PASSENGER - RED



THE NEWFOUNDLAND HOTEL

PROFITS AND LOSSES SINCE LIQUIDATION



The profitable operation of the Hotel during periods of 1930 and 1931 was chiefly due to the Canadian Army and Navy Sweepstake organization using the Hotel as their headquarters.