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DEPARTMENT OF TRANSPORT

GENERAL AND SPECIAL REGULATIONS
FOR THE GOVERNMENT OF PUBLIC
HARBOURS IN CANADA

(Printed in The Canada Gazette of the 27th March, 1937, under Order
in Council 154 of the 26th January, 1927)



OTTAWA
J. O. PATENAUDE, I.S.O.
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1937

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Printed in the Dominion of Canada by the Queen's Printer, Ottawa
in conformity with the Statute in that behalf made.



[154]

AT THE GOVERNMENT HOUSE AT OTTAWA

Tuesday the 26th day of January, 1937.

PRESENT:

HIS EXCELLENCY THE GOVERNOR GENERAL IN COUNCIL:

WHEREAS by Order in Council P.C. 2505, of December 22, 1923, general and special regulations for the government of Public Harbours in Canada were established under the provisions of the former Canada Shipping Act;

AND WHEREAS the Minister of Transport reports that owing to the enactment of a new Shipping Act, Chapter 44 of the Statutes of 1934 (as amended by Chapter 23 of the Statutes of 1936) it is desirable to establish harbour regulations prepared in conformity therewith.

THEREFORE, His Excellency the Governor General in Council, on the recommendation of the Minister of Transport, is pleased to order as follows:—

The general regulations for the government of Public Harbours in Canada, established by Order in Council P.C. 2505, of December 22, 1923, are hereby cancelled as on and from the first day of April, 1937.

The annexed general regulations, together with the special regulations presently existing, copies of which are attached hereto, are hereby approved and established as the General and Special Regulations for the government of Public Harbours in Canada, effective April 1st, 1937.

E. J. LEMAIRE,
Clerk of the Privy Council.

REGULATIONS FOR THE GOVERNMENT OF PUBLIC HARBOURS IN CANADA

- Definitions. Sec. 1. In these Regulations, unless the context otherwise requires:—
- “ Minister.” (a) “ Minister ” means the Minister of Transport;
- “ Harbour Master.” (b) “ Harbour Master ” means the Harbour Master duly appointed by the Minister, and shall include the Deputy of the Harbour Master;
- “ Vessel.” (c) “ Vessel ” includes any raft or boom of logs, or logs bound together in any manner so that they may be navigated whether with self-propelling devices or in tow; or any other floating property so constructed as to be capable of being navigated, propelled or towed from place to place by water;
- “ Power vessel.” (d) “ Power vessel ” means and includes any kind of vessel used in navigation equipped with machinery to attain the propulsion of such vessel.

Application of regulations. Sec. 2. The following general regulations shall apply to each and every harbour that has been or may hereafter be proclaimed a public harbour pursuant to the provisions of the legislation enacted for that purpose, in addition to any special regulations which have been or may hereafter be approved for individual harbours and which are herein or may hereafter be embodied under the heading “ Special Regulations ”; and wherein any of the general regulations herein may conflict with or be contradictory to any provision of any special regulation, then such special regulation shall be held to apply.

HARBOUR DUES

Remuneration of Harbour Master. Sec. 3. Each Harbour Master shall receive for his services such amount as may be fixed by the Governor in Council out of the harbour dues collected by him as hereinafter provided.

HARBOUR MASTERS' FEES AND CHARGES

Scale of charges. Sec. 4. The master, owner or person in charge of every vessel liable to pay harbour dues under the provisions of this regulation shall pay to the Harbour Master, or other person in charge of a public harbour, the following dues, namely:—

Classification Zone 1. (1) On vessels entering any public harbour in Canada from any port or place in North America, Newfoundland, or any British possession in or bordering on the North Atlantic ocean or Caribbean sea:—

- (a) If such vessel be registered, two cents per ton on her net registered tonnage—with a minimum charge of fifty cents;

- (b) If such vessel be unregistered, the charge shall be calculated as follows:—

The area in square feet of a parallelogram, one side of which shall be the length of the vessel and the other side of which shall be the greatest breadth of such vessel, shall be computed and one-half the result thereof multiplied by one-half cent ($\frac{1}{2}$ c.) per square foot, and the product thereof, in cents, shall be the amount payable on such vessel as harbour dues. Method of computation.

- (2) On vessels entering a public harbour from any other port or place than as specified in subsection one of this Section:— Classification Zone 2.

- (a) If such vessel be registered, four cents per ton on her net registered tonnage—with a minimum charge of two dollars;

- (b) If such vessel be unregistered, the charge shall be calculated as follows:—

The area in square feet of a parallelogram, one side of which shall be the length of the vessel and the other side of which shall be the greatest breadth of such vessel, shall be computed and the result thereof multiplied by one cent (1c.) per square foot, and the product thereof, in cents, shall be the amount payable on such vessel as harbour dues. Method of computation.

- (3) The dues provided for by this regulation shall be paid by every vessel not more than twice in each calendar year at her first and second entries to any public harbour inward or outward, as the case may be, provided that payment of harbour charges or dues in a harbour under the administration of a harbour commission shall not count as a payment at a public harbour proclaimed as such under the Canada Shipping Act, and the payments to be made under the provisions hereof shall be in addition to payments made to any harbour commission in respect of harbour dues. Limitation of payments.

- (4) Vessels belonging to His Majesty or to any government, or ships engaged solely in fishing, other than trawlers or steamships trading in fish, and ships exempted by treaty or regulation thereunder, shall not be liable to pay harbour dues.

CHARGE FOR LAYING UP VESSELS IN HARBOUR

Sec. 5. The master, owner or person in charge of any vessel, which is not in commission and is moored or anchored or otherwise occupies any portion of any public harbour for thirty consecutive days, as provided in section 602 of the Canada Shipping Act, shall pay to the Harbour Master or other person in charge of a public harbour, a charge to be computed as follows: Sec. 5.

The area in square feet of a parallelogram of the length and greatest breadth of the vessel shall be computed and one-half the result thereof multiplied by one-half cent per square foot and the product thereof in cents shall be the amount of the charge to be paid for the first period of thirty days she remains in the harbour, with a similar charge for every succeeding period of thirty days or part thereof.

(2) The master, owner or person in charge of any vessel may make arrangements with the Harbour Master for the wintering of his vessel in such portion of the harbour as the latter may deem proper and expedient, by paying a charge therefor, determined in accordance with the provisions of subsection one hereof.

Sec. 6. On the payment of any of the above prescribed fees to the Harbour Master, the latter shall issue to the party paying an official numbered harbour master's receipt which shall be made out in triplicate, and the original and duplicate shall be delivered to the party making payment, while the triplicate shall be retained by the Harbour Master. When the master, owner or person in charge desires to remove his vessel after payment of the prescribed dues, from the harbour, he shall apply to the nearest Customs Officer for a clearance for said vessel from the harbour and shall exhibit to him the receipts for the payment of said dues and deliver to him the duplicate copy of same, which the Customs Officer shall take up from the payee and forward to the Headquarters of the Department of Transport, at Ottawa, in official addressed envelopes which will be supplied him either from the Harbour Master or direct from the Department mentioned, on application. (Vide official Customs Circular No. 252-C.)

Sec. 7. No vessel shall leave the harbour until the master, owner or person in charge thereof has reported to and received a clearance from the nearest Officer of Customs to the port and shall have deposited with him the duplicate of the harbour master's receipt delivered to him for payment of such dues, under the penalty hereinafter provided for. In case an officer of Customs is not available at a reasonable distance from the harbour, the master, owner or person in charge of the vessel desiring to clear from the harbour shall report to the Harbour Master, advise him that he had not obtained clearance from the Customs Officer and request from him an official permit or let-pass to leave the harbour, and shall at the same time deposit with him the duplicate of the receipt for dues previously obtained from the Harbour Master, which the latter shall at once forward to the Department of Transport, at Ottawa. The Harbour Master shall have authority to issue the permit or let-pass referred to at all harbours for which there is no Customs Officer

appointed. The receipt of the harbour master's let-pass, however, shall not relieve the person in charge, nor the vessel, from compliance with any of the provisions or requirements of the Customs Act.

Sec. 8. The Harbour Master at the close of navigation in the harbour, or immediately at the end of the calendar year, shall make a return on official forms to be supplied him by the Minister, of the particulars of all vessels, either registered or unregistered, subject to payment of the harbour charges herein provided for that may enter the harbour during the calendar year, together with the amount of the fees collected from each and shall certify to the correctness of such return before a Commissioner or other person qualified to take sworn declarations; and shall forward same to the Department of Transport promptly thereafter.

Sec. 9. All power vessels while operating within the limits of a public harbour shall be equipped with an effective exhaust muffler of accepted stock pattern and such exhaust muffler shall not be cut out when the vessel is within one-half mile of any residence, school, church or other public building, under the penalty for infringement hereof hereinafter provided.

Power vessels to be equipped with exhaust mufflers.

Sec. 10. No power vessel within the limits of any public harbour shall be operated at a speed greater than ten miles an hour over the ground when passing other vessels and/or tows or floating works or works under construction and when within 400 feet of any wharf, float, mooring jetty or basin or floating plant or property, her speed shall be reduced to not more than eight miles an hour, under penalty for violation hereof hereinafter provided.

Power vessels speed limits.

Sec. 11. The "International Rule of the Road" shall apply and be strictly observed by all vessels in the public harbours on the Atlantic and Pacific Coasts of Canada within the limits fixed therein for the application of such rules and the Rule of the Road for the Great Lakes shall similarly apply in all the harbours of the Great Lakes.

International Rule of Road to apply.

ARRIVING VESSELS

Sec. 12. No vessel shall take a berth or tie up at any wharf, quay wall, pier or other landing place, in any harbour, unless assigned thereto by the Harbour Master, under the penalty for any violation of this regulation hereinafter provided.

Harbour Master to assign berths.

Sec. 13. The place for mooring at or fastening to any wharf or pier, or for the anchoring of any vessel, in any harbour, shall be fixed and determined by the Harbour Master, as in his opinion shall best promote the interests of those doing business in or about the said harbour.

Harbour Master to determine mooring places.

Small commercial vessels and pleasure craft berthing.

Sec. 14. Small commercial vessels and pleasure craft shall not take up any berth in a public harbour without the consent of the Harbour Master and shall not be moored to wharves or dolphins or any other fixed objects in a harbour in such a manner or location as to encumber the harbour channels or the berths at the wharves or impede navigation of other vessels under the penalty for violation hereof hereinafter provided for.

Vessels suspected of infectious or contagious diseases.

Sec. 15. When there is cause to apprehend the presence of any infectious or contagious disease on board any vessel arriving in any public harbour, or when such vessel has come from any locality where such infectious or contagious disease is known to be prevalent or epidemic, the harbour master may designate and set apart some anchorage or berth where such vessel shall go and remain for inspection until proper sanitary precautions have been taken to the satisfaction of the nearest official health officer and if the latter is not satisfied with the precautions taken, he shall require the harbour master to report to the Minister by telegraph and request instructions as to further precautionary procedure.

Berths at private wharf.

Sec. 16. It shall be the duty of the Harbour Master, when desired by the owner or consignee, to assign a berth in the harbour at any privately owned wharf or pier, to vessels, owned, possessed or chartered by, or consigned to, proprietors of said wharf or pier, and no other vessel shall be assigned a berth at such wharf or pier, except with the permission in writing of, or upon instructions in writing from, the owners of such wharf or pier.

Vessels at private wharves subject to regulations.

(2) Such vessels so assigned to any private wharf or pier, in any harbour, shall be subject to all the provisions of the regulations in force for said harbour, and shall be under the supervision of the Harbour Master with regard to conformance to such regulations.

Vessels on arrival to anchor and report.

Sec. 17. The person in charge of any vessel coming into any harbour, to whom a berth has not already been assigned by the Harbour Master; or the person in charge of any vessel hauling or towing, into a harbour any floating property of any kind or nature not actually assigned any berth, shall, on arriving in such harbour:

Vessels towing floating property—tow line to be shortened.

(a) Anchor such vessel and floating property, temporarily, in a safe place, in such a manner as not to impede the free navigation of the harbour or obstruct or prevent the safe docking or undocking of any vessel; nor to be unsafe or dangerous to any other vessel previously lying at anchor in the harbour or moored or fastened to any wharf or pier. The property in tow, if any, shall remain attached to the towing vessel by the tow

line and the latter shall be shortened to bring the property attached to within twenty feet of the stern of the tow vessel.

(b) Report forthwith to the Harbour Master;

Report to
Harbour
Master.

(c) Wait the direction of the Harbour Master as to the place for mooring, anchoring or fastening such vessel or floating property before proceeding to any wharf or pier, under the penalty for violation hereof hereinafter provided.

Sec. 18. If any such vessel so arriving and anchoring or mooring temporarily shall be so placed, anchored or moored as to be unsafe or dangerous to any other vessel previously at anchor in the harbour, or moored or fastened; or as to prevent or obstruct the docking or undocking of any other vessel; or in any way impede the navigation in the harbour, the Harbour Master is authorized and required forthwith to order and direct the situation of such vessel, so arriving and temporarily anchored or moored as aforesaid, to be altered in such a manner as to prevent such insecurity, danger, obstruction or impediment; and the person having charge of such vessel shall comply with the orders and directions of the Harbour Master in this respect, under penalty for violation hereof hereinafter provided.

Removal of
vessels
temporarily
anchored if
obstructing
navigation.

Sec. 19. On report, as required by Section 17 (b), being so made to him by the person in charge of any such vessel so arriving, it shall be the duty of the Harbour Master forthwith to fix, determine and assign the position which the said vessel shall occupy in the harbour and the place at which she shall be loaded or unloaded, and to direct the manner in which she shall be so loaded or unloaded.

Loading and
unloading.

(2) Immediately after such place and position is so fixed, determined and assigned by the Harbour Master, said vessel shall proceed thereto and take her berth.

Vessels to
take berth
assigned
forthwith.

MOVEMENT OF VESSELS AFTER BERTHING

Sec. 20. The Harbour Master shall have power to order the removal of any vessel, whenever he deems it necessary to do so to best promote the interests of those doing business in or about the harbour, from any one location to any other location of the said harbour.

Removal of
any vessel.

Sec. 21. Should it be necessary for any vessel so directed by the Harbour Master to lie alongside of, or moor or make fast to, any other vessel or vessels, it shall be lawful for the officers and crew of the outside vessel and others having business with them to work over the deck of the inside vessel or vessels in the loading or unloading of such outside vessel without obstruction or interference from the officers or crew of such inside vessel or vessels, provided the inside vessel or vessels shall not be

Vessels lying
alongside
other vessels.

injured or obstructed thereby, under the penalty, for any person on board any such vessels so lying alongside or mooring or making fast to each other so interfering and obstructing, hereinafter provided.

Vessels not to change berth without permission.

Sec. 22. No vessel shall move from the berth assigned her to any other berth in the harbour without having been authorized to do so by the Harbour Master. The person in charge of any vessel violating this section shall be liable to the penalty hereinafter provided.

Harbour Master to go on board vessel on arrival.

Sec. 23. Within twelve hours after the arrival of any vessel of a registered tonnage of twenty tons or upwards, at her assigned berth in any harbour—not including vessels engaged exclusively in fishing—it shall be the duty of the Harbour Master to visit the said vessel to see and ascertain that she is moored, anchored or fastened in accordance with the provisions of these regulations at the location fixed and determined by him, and only in such a position as has been assigned to her, pursuant to these regulations.

Vessels to be moved when ordered.

Sec. 24. Whenever any vessel, whether temporarily or otherwise anchored or moored, or lying at berth or alongside of or fastened to any wharf or pier, in any part of the harbour, is directed by the Harbour Master to move to any other part of said harbour and is short of hands so that she cannot be removed according to orders received, the person in charge of said vessel shall procure, either through the Harbour Master or any other person, the help required and shall make such removal within the limit of time fixed by the Harbour Master for effecting same, under the penalty for violation hereof hereinafter provided.

Harbour Master to procure help to remove vessel.
Refusal to remove vessel.

Sec. 25. It shall be the duty of the Harbour Master, whenever requested by the person in charge of a vessel in cases mentioned in the preceding section, to procure the latter the help required to make the removal directed.

(2) In case the person in charge of a vessel refuses or neglects to procure the help required to make the removal as directed within the time so fixed, according to section 24 above, or neglects or refuses to make any removal ordered according to the present regulations, or in case no person can be found in charge of such vessel, such removal may be made by the Harbour Master; and the person in charge of any such vessel refusing to allow, or opposing or obstructing, or any person so opposing or obstructing the said removal shall be liable to the penalty for violation hereof hereinafter provided.

Vessels in harbour to be rigged.

Sec. 26. The person in charge of a schooner, square-rigged vessel, scow, steamer, or any other vessel, lying in the harbour or at any of the piers or wharves, shall top its lower

yards or brace them fore and aft, also rig in its jib-booms, spanker-booms, davits and anchors, under penalty for violation hereof hereinafter provided.

CONDITIONS TO BE OBSERVED BY VESSELS WHILE LYING IN HARBOUR

Sec. 27. Whenever the Harbour Master shall find any vessel at the wharves with the jib or spanker-booms rigged or yards braced so as to incommode other vessels, it shall be his duty to direct such booms to be rigged and such yards to be braced or cockbilled in such a manner as not to incommode such other vessels, and the person in charge of any such vessel so incommoding shall obey the directions so given by the Harbour Master under penalty for violation hereof hereinafter provided.

Rigging not to incommode other vessels.

Sec. 28. The person in charge of any vessel lying at anchor in the harbour shall exhibit in the forepart of such vessel, from sunset to sunrise, at all times from the opening to the complete closing of the season of navigation, a bright white light, visible all round the horizon, at a height not exceeding twenty feet, under the penalty for violation hereof hereinafter provided.

Lights on vessels at anchor.

Sec. 29. The person in charge of any vessel lying at any wharf in the harbour shall exhibit a white light at each end of such vessel at a height not exceeding six feet above the deck, under the penalty for violation hereof hereinafter provided.

Lights on vessels at wharves.

Sec. 30. Any raft or boom of logs in tow shall exhibit, from sunset to sunrise, a bright white light at each corner of the stern end, at a height of not more than six feet, visible all round the horizon, under the penalty for violation hereof hereinafter provided.

Lights on rafts or logs in tow.

Sec. 31. Any raft or boom of logs anchored in a harbour shall exhibit from sunset to sunrise, at all times from the beginning to the complete close of navigation, a bright white light at each corner, at a height of not more than six feet, visible all round the horizon, under the penalty for violation hereof hereinafter provided.

Lights on rafts or logs at anchor.

Sec. 32. The person in charge of any vessel having a fire on board during the day shall have a watch kept during the night, and, in default of such watch being kept or if a watchman be found asleep, such person in charge of such vessel shall be liable to the penalty for violation hereof hereinafter provided.

Vessels having a fire on board to employ watchman.

Sec. 33. No steam or electric whistles or horns, or any other device for the production of sound for purposes of signalling, shall be unnecessarily sounded in the harbour but only for giving of such obligatory warning or alarm signals as any existing recognized navigation regulation may provide for; under the penalty for violation hereof hereinafter provided.

Unnecessary whistle sounding prohibited.

OBSTRUCTING OTHER VESSELS

Vessels not to be in front of ferry-landings.

Sec. 34. No vessel shall lie in front of any ferry-landing or other public slip, or use any rope, chain or shore-fast extending over or across any ferry-landing or public slip, or the entrance thereto, or in any manner prevent the free ingress or egress thereto or therefrom; or be anchored or moored so as to obstruct the track of the ferry steamers; under the penalty for violation hereof hereinafter provided.

Tow-lines not to be made fast to wharves.

Sec. 35. No vessel lying in the harbour shall have any tow-line, hawser or other thing made fast to any wharf or to the shore except for the purpose of hauling in and out, without the permission of the Harbour Master, under the penalty for violation hereof hereinafter provided.

DISPUTES BETWEEN VESSELS

Settlement of disputes.

Sec. 36. In case of any dispute arising between masters, owners or other persons engaged in hauling vessels in or out of any of the docks or wharves, it shall be the duty of the Harbour Master, if called upon, to give such directions as he may think fit in respect of the same; and persons having the charge or command of any such vessels shall comply with the directions of the Harbour Master in these respects, under the penalty for violation hereof hereinafter provided.

PROTECTION OF BUOYS AND BEACONS

Vessels not to be moored to any beacon or public buoy.

Sec. 37. No vessel shall be moored or fastened to any beacon or public buoy in any harbour; under the penalty for violation hereof to the person in charge of said vessel, hereinafter provided.

Interference with beacons.

Sec. 38. Any person injuring, altering or changing in any manner any beacon or public buoy in any harbour shall be liable to the penalty in case of violation hereinafter provided.

Employment of watchman.

Sec. 39. No vessel shall be left without some person to take care of her by night and day, when anchored in the harbour, at all times from the beginning to the complete close of navigation; but this section does not apply to booms of logs properly moored, in the place assigned by the Harbour Master, in conformity with these regulations and with the instructions given by the said Harbour Master, nor to vessels for which wintering arrangements have been made with the Harbour Master.

GENERAL SAFETY PROVISIONS

Speed. General.

Sec. 40. Every large vessel when passing booms in tow, small vessels or open boats, in the harbour, shall reduce its speed consistent with safety of the smaller vessels; under the penalty for violation hereof hereinafter provided.

Sec. 41. Any vessel when in harbour shall navigate with Navigation. caution, having due regard to life and property; under the penalty for violation hereof hereinafter provided; to be paid by the person in charge of said vessel in fault.

Sec. 42. The persons in charge of a vessel hauling, or towing, into a harbour any logs or other floating property of any kind or nature shall, upon making the report to the Harbour Master, as required by Section 17 (b) above, supply the said Harbour Master with a statement in writing, duly dated and signed by him, specifying the name of the vessel so hauling or towing, the approximate number of logs or the nature of such floating property so hauled or towed, together with the names of the consignor and consignee thereof; under the penalty for violation hereof hereinafter provided. Information to be given Harbour Master about tows.

(a) The person in charge of any such vessel so hauling or towing into a harbour any such logs or floating property shall be deemed, in the application of these Regulations (General or Special) to be the person in charge of said logs or floating property until he has the same properly moored at the place and in the manner directed by the Harbour Master. Person in charge of tow.

(b) The person in charge of any logs in any harbour shall furnish to the Harbour Master, at any time, upon his request, any information in writing with reference to such logs which the Harbour Master may require in the carrying out of his duties; under the penalty for violation hereof hereinafter provided. Information about logs.

Sec. 43. Every vessel while lying at any berth at any wharf, dock or quay wall, or any pier, assigned her by the Harbour Master, at all times between the opening to the complete closing of any season of navigation, shall be provided with a gangway railed on both sides, in order to prevent accidents, under the penalty for violation hereof hereinafter provided; and, during the night, there shall be kept burning, at the head of such gangway, at least four feet above the deck, a clear bright light, from sunset until sunrise, under the penalty for violation hereof hereinafter provided, to be paid by the person in charge of the vessel so contravening. Gangways. Lights.

Sec. 44. Any person or persons who hinder, oppose, molest or obstruct the Harbour Master or any of his assistants in the discharge of his or their duty, shall incur the penalty for violation hereof hereinafter provided. Obstructing Harbour Master.

Sec. 45. It shall be unlawful for any vessel coming from any port where bubonic plague is present or is suspected of being present, and entering any public harbour in Canada, to be docked or moored in still waters at a less distance from any wharf than six feet, and where owing to the strength of the current such distance from a wharf cannot be maintained, then Vessels from port where bubonic plague is present or suspected.

the distance shall be as near to six feet as in the opinion of the Harbour Master circumstances permit, under the penalty for violation hereof hereinafter provided.

Gangway if attached to wharf must be guarded.

(2) It shall be unlawful for any vessel coming from any port where bubonic plague is present or is suspected of being present, and entering any public harbour in Canada, to be connected with any wharf by a gangway which is not guarded by some person there for the purpose of preventing rats from leaving such vessel by such gangway, and all gangways shall be lifted when not in use, under the penalty for violation hereof hereinafter provided.

ABANDONMENT IN HARBOUR

Vessels not to be abandoned in harbour.

Sec. 46. No vessel shall be left, or abandoned, and out of commission, by the master, owner or person in charge thereof, within the limits of any public harbour, without the consent of the Minister in writing first obtained, under the penalty in case of contravention of this regulation hereinafter provided, and it shall be the duty of the Harbour Master to obtain and enter in his register the name of the master or person in charge, and if possible the name and address of her registered owner, of any vessel not having exhibited such permit which may be lying in or occupying any part of the harbour and not in commission within ten days after her entry therein, and report same to the Minister within thirty days of her entry, to receive such instructions as the latter may deem desirable in relation thereto.

LOADING OR DISCHARGING

Canvas or tarpaulin protectors.

Sec. 47. Any vessel loading or discharging coal, ballast and such materials, shall have a sufficient canvas or tarpaulin or other protection so placed as to prevent any portion of the cargo of such vessel from falling into the waters of the harbour; under the penalty for violation hereof hereafter provided.

REMOVAL OF MATERIALS FROM CROWN PROPERTY

Movement of materials from Crown property without permission prohibited.

Sec. 48. It shall be the duty of the Harbour Master to prohibit the removal of the stone, sand or gravel, or any other material, from any part of the public beach or shore of the harbour under his charge, except on written authority of the Minister permitting such removal, and when and if such permit is exhibited to him he shall see that the material is removed from the locality specified in the permit, and shall keep tally of the number of loads removed in accordance with the provisions of the said permit, and shall make a report to the Minister at such times as he is required to of the number of loads and the quantity of material removed under each permit. Any person or persons removing any such material without having first

obtained authority as above stipulated shall be liable to the penalty for contravention of this regulation hereinafter provided.

POLLUTION OR ENCUMBRANCE OF SHORES OR BOTTOM

Sec. 49. No ballast, stone, gravel, earth, cinders, ashes or any other material or rubbish, shall be unladen, discharged, deposited, laid, cast or emptied out or thrown from any vessel or in any other manner, or by any person from any wharf or from any part of the beach or shore, into any part of the harbour, or upon the beach or shore thereof, except at the places set apart for that purpose and specified in writing by the Harbour Master and under his direction, under the penalty for violation hereof hereinafter provided, to be paid by the person having the charge of the vessel from which any such matter as aforesaid shall have been so discharged, unladen, deposited, laid, cast or emptied out or thrown; or by any other person or persons violating this Regulation.

Ballast grounds.

Sec. 50. In places so set apart and specified in writing by the Harbour Master for the deposit of material mentioned in the preceding section, no such materials shall be unladen, discharged, deposited, laid, cast or emptied out or thrown, before sunrise or after sunset, under the penalty, for the person in charge of a vessel contravening, or any other person or persons violating this Regulation, hereinafter provided.

Ballast not to be unladen at certain times.

Sec. 51. The Harbour Master is empowered to condemn any ballast wharf or wharves not sufficiently protected to prevent ballast falling into the harbour; and to prohibit the use of same; and said wharf or wharves shall not be further used until so protected to his satisfaction, under the penalty for violation hereof hereinafter provided.

Condemned ballast wharves.

Sec. 52. No timber, saw-logs, log-ends, piles, edgings, slabs, rinds, bark, chips, sawdust, mill refuse, fish refuse, or refuse or rubbish of any description, kind or nature, not governed by Section 49 above, shall be unladen, discharged, deposited, laid, cast or emptied out or thrown, or allowed to go adrift from any vessel or in any other manner, or by any person from any wharf or from any part of the beach or shore, into any part of the harbour, or upon the beach or shore thereof below highwater mark, under the penalty for violation hereof hereinafter provided, to be paid by the person having the charge of a vessel or the works from which any such matter as aforesaid shall have been so discharged, unladen, deposited, laid, cast or emptied out, thrown or allowed to go adrift, or by any other person or persons violating this Regulation.

Refuse or rubbish.

Pollution of waters with oil, etc.

Sec. 53. No oil, oil or acid polluted water, oil sludge, or any other form of oil alone or in combination with any other substance; or any inflammable or dangerous substance; shall be allowed to drain, or be pumped, thrown or discharged in any manner from any vessel, oil tank, oil refinery, or other receptacle, into the waters of any port or harbour in Canada, and any person in charge of or owning any vessel, manufactory, works, tanks, or other premises, violating the provisions of this Regulation shall be liable to a penalty for violation hereof hereinafter provided.

Pilot responsible for illegal deposit of rubbish.

Sec. 54. Any pilot who sanctions or allows any of the matters or materials, mentioned in Sections 49, 52 and 53 above, to be unladen, discharged, deposited, laid, cast or emptied out, or thrown or allowed to go adrift from any vessel under his command or direction in contravention to the present regulations, or who, knowing the same to have been done, does not forthwith report the same to the Harbour Master upon his first arrival in the port or harbour, commits an offence and shall be liable to the penalty for violation hereof hereinafter provided.

Rubbish not to be deposited on the ice.

Sec. 55. None of the materials or matters mentioned in sections 49, 52 and 53 above shall be deposited on the ice within the limits of any harbour; under the penalty for violation hereof hereinafter provided.

EXPLOSIVE OR DANGEROUS CARGO

Explosives.

Sec. 56. No explosive material of any kind or nature shall be landed in any harbour by any vessel (the vessels belonging to or employed by His Majesty and the Government of the Dominion of Canada excepted) except with the knowledge and approval in writing of the Harbour Master, and in such quantities and at such places as shall be determined and mentioned in writing by him, under the penalty for violation hereof hereinafter provided, to be paid by the person in charge of the vessel from which explosive materials shall have been landed in contravention of this Regulation.

Permission to land.

Sec. 57. No explosive, highly inflammable or dangerous material or substance of any kind or nature intended to be shipped by any person on board any vessel, in any harbour, shall be brought to or placed upon any wharf or pier, or in any place within the limits of said harbour, without the written consent having been first obtained to that effect from the Harbour Master, by the person or persons intending to ship the same; under the penalty for violation hereof hereinafter provided, to be paid by any person or persons violating this regulation.

Sec. 58. No explosive, highly inflammable or dangerous material or substance of any kind or nature shall be taken or received on board any vessel, in any harbour (the vessels be-

longing to or employed by His Majesty and the Government of the Dominion of Canada excepted) without the written authorization of the Harbour Master to that effect;

(2) No said material or substance of any kind or nature, so authorized to be taken or received on board any such vessel (vessels belonging to or employed by His Majesty and the Government of the Dominion of Canada excepted) shall be so taken or received on board such vessel until she shall have been cleared at the Customs House and ready for sea, except with the written consent of the Harbour Master, in which case as soon as such explosives material is on board she shall be removed to the stream (wind and weather permitting) under the penalty for violation hereof hereinafter provided, to be paid by the master or person in charge of the vessel violating this Regulation.

Conditions for loading and clearance of explosives.

(3) The Harbour Master shall have power to direct where any vessel loaded in whole or in part with explosives or inflammable or dangerous goods shall anchor or be moored, and to order the removal of such vessel from any part of the port or harbour to any other part of the port or harbour; and shall also, subject to any regulations heretofore or hereafter passed, have power to direct where vessels may load or unload such explosive, inflammable or dangerous goods, and the precautions to be observed in and during such loading or unloading; and the person in charge of any vessel contravening the directions of the Harbour Master in these respects shall be liable to the penalty for violation hereof hereinafter provided.

Harbour Master to direct where explosives may be loaded or unloaded.

(4) The Harbour Master shall have the power to decide whether any particular goods are explosive, highly inflammable or dangerous, subject to appeal to the Minister, by any person interested therein and dissatisfied with the Harbour Master's decision; but shall be governed by the terms of subsection 2 (g) of Section one of the Special Regulations hereinafter set out (p.) governing the loading and handling of explosives, in deciding what goods are to be classed as explosives.

Harbour Master shall decide as to what cargo shall be classed as "explosives."

Sec. 59. Disobedience of any lawful orders or directions of the Harbour Master, or the Deputy Harbour Master, made or issued under any of the clauses of the authorized general or special harbour Regulations, or any violation or contravention of any authorized harbour regulation, shall subject the offender to the imposition of a fine not exceeding in any case one thousand dollars (\$1,000). If any such violation continues for more than twenty-four hours, every additional twenty-four hours during which it may continue, shall be deemed to be an additional offence and subject to an additional penalty.

Penalty.

Continuing penalty.

SPECIAL REGULATIONS

REGULATIONS FOR THE LOADING AND HANDLING OF EXPLOSIVES
IN HARBOURS IN CANADA*(First published under Order in Council of the 25th June, 1919)*

1. These Regulations shall apply to all public harbours to which the provisions of Part X of the Canada Shipping Act apply, and to all other public harbours in so far as the same are not inconsistent with regulations already or hereafter made applicable.

2. In these regulations, unless the context otherwise requires,
- (a) the expression "port warden" shall mean the port warden or deputy port warden;
 - (b) the expression "Harbour Master" shall mean the harbour master or deputy harbour master;
 - (c) the expression "ship" shall mean every description of vessel used in sea navigation, whether propelled by oars or otherwise;
 - (d) the expression "boat" shall mean every vessel not being a ship, which is used in navigation of any inland water or harbour, whether propelled by oars or otherwise;
 - (e) the expression "vessel" shall include a ship or boat;
 - (f) the expression "ship's ammunition" shall mean any gun powder, shells, rockets or other explosives necessary for the vessel's safety and defence;
 - (g) the expression "explosives" shall mean all substances included in Appendix I of these regulations; but shall not include ship's ammunition;
 - (h) the expression "loading berth" shall mean the area set aside for the purpose of loading or discharging explosives in any harbour;

3. The harbour master shall designate a suitable area in the harbour to be used as a loading berth.

4. The following regulations shall be observed in the employment of every vessel carrying explosives:—

- (a) The space or spaces in any vessel in which it is intended to carry explosives must, before loading is commenced, be properly prepared as a magazine, in which all iron must be covered with wood or other material or substance, provided the same is not liable, through coming in contact with water or otherwise, to cause spontaneous combustion or ignition.
- (b) No explosives shall be carried on any vessel unless they are completely covered with tarpaulins or other suitable material to prevent the communication of fire.

- (c) No vessel carrying explosives shall have any matches on board other than safety matches for use on the vessel, and such safety matches shall be kept in a safe place apart from the explosives.
- (d) No baggage shall be carried in the hold of any vessel containing explosives.
- (e) All vessels carrying explosives shall be fitted with lightning conductors at the main mast and an additional conductor, if especially ordered by the port warden. The foregoing provision shall not apply to barges or bateaux not propelled by steam or other motive power.

In the stowing of explosives every precaution shall be taken by means of partitions or otherwise to protect the same from contact with any article or substance which is liable to cause fire or an explosion.

- (f) The hatches of any vessel having explosives on board shall be kept closed except during the loading or unloading of the same, and when so closed shall be covered with tarpaulins securely battened.
- (g) All electric light wires must be disconnected in the holds containing explosives before the loading of explosives shall be commenced, and the same shall remain disconnected until such explosives are unloaded from such hold or holds.
- (h) It shall be the duty of port wardens to examine vessels which carry explosives and see that these regulations are obeyed. In the absence of a port warden it shall be the duty of the harbour master to examine vessels which carry explosives.

5. The following regulations shall be observed in connection with the loading, unloading and handling of explosives in any harbour in Canada:—

- (a) No explosives shall be loaded from or discharged at any freight shed, quay, jetty, wharf or other place within a harbour other than the loading berth.
- (b) No vessel having any explosives on board shall tie up or lie alongside of any quay, wharf, jetty, or other place, other than at the loading berth in any harbour in Canada, and in so far as is practicable she shall remain at such loading berth only during the time necessary for the actual loading or unloading of explosives.
- (c) No explosives shall be loaded on, discharged from or handled upon any vessel, except under the supervision of a competent officer of such vessel specially charged with such work.

- (d) No explosives shall be loaded, unloaded or handled except between sunrise and sunset.
- (e) No person engaged in the loading, unloading or handling of explosives shall wear boots or shoes with iron of any kind exposed.
- (f) No person engaged in loading, unloading or handling explosives shall carry about his person any fuses, matches or other combustibles, and he shall not, while so engaged, smoke any tobacco or other substances.
- (g) Spark arresters shall be placed on the top of funnels and smokestacks while explosives are being loaded or unloaded, or while the ship's hatches are uncovered.
- (h) No person under the influence of liquor shall be allowed on board any vessel during the time that explosives are being loaded or unloaded, unless such person is under restraint.
- (i) Any explosive which may escape from the package in which it is contained, or be spilt, shall immediately be rendered harmless.
- (j) No fires or lights shall be allowed at or near the place, or on any vessel, where explosives are being loaded, unloaded or handled, other than those which may be authorized by the harbour master.
- (k) A pudding fender or cushion properly stuffed with oakum covered with leather or canvas, shall be used for shipping or landing every explosive on, either in the hold of any vessel or upon any warehouse, wharf or other place.
- (l) Whenever any explosives are to be loaded on or discharged from any vessel, the hold so far as may be practicable, and the gangways and decks of such vessel shall be carefully cleaned and swept.
- (m) While the loading, unloading or conveyance of explosives is going on, all persons engaged in such loading, unloading or conveyance shall observe all due precautions for the prevention of accidents by fire or explosive and for preventing unauthorized persons having access to the explosives so being loaded, unloaded or conveyed, and shall abstain from any act whatsoever which tends to cause fire or explosions, and is not reasonably necessary for the purpose of the loading, unloading or conveyance of such explosives, and for preventing any other person from committing any such act, and any such other person who, after being warned, commits any such act, shall be deemed to commit a breach of this by-law.
- (n) It shall be the duty of the owner and master to see that the provisions of these regulations are observed.

6. The following regulations shall be observed by vessels carrying explosives navigating within harbours:—

- (a) Every person having charge of or acting as master or mate of any boat used in carrying explosives to and from the shore or for transshipment, shall obtain a licence from the harbour master, which shall only be obtained on written application setting out age, nationality and occupation for the three years preceding the application. Every such application must be accompanied by a certificate from the applicant's present or last employer as to character, together with a certificate as to sobriety, character, and steadiness from a clergyman or justice of the peace. Every such licence shall expire at the close of navigation each year and may be cancelled or suspended for cause by the harbour master at any time. Every person in charge of any boat containing explosives shall produce his licence whenever required to do so by the harbour master or any police officer.
- (b) Every boat having on board explosives shall have a sufficient crew to manoeuvre and navigate her and at least two members of the crew shall remain on such boat until the explosives are discharged;
- (c) No passenger shall be carried on any vessel wholly or partly laden with explosives;
- (d) Every vessel having on board any explosives shall by day fly a red flag of not less than four feet square, and by night a red light at her foremast head;
- (e) No vessel having on board explosives shall navigate in any harbour between sunset and sunrise;
- (f) No quantity of explosives exceeding 250 tons shall be loaded into, discharged from or carried in any boat at any time;
- (g) No other cargo of any kind shall be carried in any boat carrying explosives;
- (h) No boat used in carrying explosives shall have motor, steam or other power for propulsion on board, but shall at all times while having explosives on board, be in charge of a tug or tugs.
- (i) Every vessel having explosives on board and every vehicle containing explosives shall be constantly watched by some competent person appointed by the harbour master or by the master of the vessel, and every person so appointed to watch any such vessel shall keep a good lookout at the bridge or deck;

7. Every person shall be guilty of an offence punishable under Part XV of the Criminal Code who, in whatever capacity he is acting, fails or neglects to comply with, or in any way contravenes any of these regulations, or is the owner, master, pilot

or person in charge of any vessel, in the conduct or management of which such offence is committed.

8. Any person committing an offence against these regulations shall be liable to a penalty not exceeding \$100, or in the case of a continuing offence to a further penalty not exceeding \$10 for every 12 hours during which such offence continues.

APPENDIX

1. The stowage of the various kinds of explosives in the holds of the vessel should be in accordance with the requirements laid down in the accompanying tables I, II and III.

2. Holds containing coal: No explosive should be carried in a hold containing coal nor in a 'tween decks over a hold containing coal except safety cartridges, safety fuse caps, percussion and fog signals.

TABLE I
Stowage of Explosives
To be stowed in Hold "A"

Group	Division	Stores	Remarks as to separate magazines	General
<i>Explosives</i>				
II.	IA.	Ballistite..... Cannon Cartridges filled with ballistite cordite or sonite except Q.F. cartridges, but including all cordite or sonite charges for Q.F., cartridges. Charges, impulse, torpedo, cordite...	*In one magazine.	A cool position is to be selected for all magazines.
		Cordite in bulk..... Cordite cylinders without igniters..... Cordite cylinders fitted with igniters..		
III.	IIIA.	Cartridges, impulse, Torpedo (Cordite), Q.F. cartridges, fitted with electric primers or adapters and filled with cordite..... Magazine for all nitre compounds (except wet guncotton, picric acid and trinitrotoluene) and chlorate mixtures must not be less than four feet from the ship's side.		
<i>Explosives</i>				
I.	LL.	Blasting gelatine..... Composition, exploding..... Dynamite..... Explosives, filled for lyddite shell..... Gelnite..... Picric powder..... Tonite..... Sonite..... Dry guncotton.....	*In one magazine.	
<i>Explosives</i>				
III.	IIA.	Filled cordite Q.F..... Cartridges containing a cap or percussion primer.....	In a magazine by themselves	
II.	LB.	Cartridges, signal, "Very's Rockets," (except war and life saving)..... Service lights of sorts, stars, incendiary	In a magazine by themselves	In one magazine.

Group	Division	Stores	Remarks as to separate magazines	General
II.	IA.	Caps, percussion Cartridges, small arm " machine gun " aiming tube (which are safety cartridges.) Cases, Cartridges, Q.F. capped and empty Composition, priming fuse, safety Fuses, time " percussion " time and percussion " electric Igniters, torpedo Match, slow Portfires Primers, light, G.S., and portfires, life saving Primers, electric " percussion " shrapnel shell " vent Tubes, electric " friction " percussion Magazine for all nitro compounds (except wet guncotton, picric acid, and trinitrotoluene) and chlorate mixtures must not be less than four feet from the ship's side.	In one magazine.	
II.	II.	Mines and countermines containing wet guncotton only	In a magazine by themselves.	
II.	IIIA.	Gunpowder wetted		
		Grenades, hand, filled, but without detonators. Rockets, war and life-saving	In one magazine.	
	IIIA. and IIIB.	Shell, filled, fused or not fused		
III.	I.	Guncotton—wet (except in mines)	In a magazine by itself.	
		<i>Explosives</i>		
III.	IIIB.	Filled Q.F. cartridges (powder) containing a cap or percussion primer.	In a magazine by themselves.	
III.	IIIB.	Cartridges, impulse torpedo (powder) Q.F. cartridges fitted with electric primers or adapters and filled with gunpowder	In one magazine, may also be stowed in same magazine as Group I, Div. IB.	
		<i>Explosives</i>		
I.	IB.	Bags, primer, filled		
		Cannon cartridges, filled with gunpowder, except Q.F. cartridges, but including all gunpowder charges for Q.F. cartridges	In one magazine G. III. D. IIIB. may also be stowed in same magazine.	
		Fuse, instantaneous		
		Gunpowder, except that which has been wetted		
		Igniters, powder		
		Puffs, powder		
		Quick match		
I.	LLL.	Picric acid	In a magazine by themselves.	
		Trinitrotoluene		

TABLE II

To be stowed in Hold "B"

Group	Division	Stores	Remarks as to separate magazines	General
II.	IV.	<i>Explosives</i> Detonators.....	In a magazine by themselves.	These must be stowed in a separate hold "B" in which no other explosives are placed except safety cartridges, caps, percussion and fog signals.

TABLE III

To be stowed in Hold "C"

		<i>Fireworks</i>	To be stowed in a separate hold by themselves, away from all other explosives, except safety cartridges, safety fuse, caps, percussion and fog signals.	
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NOTE.—Private explosives are to be stowed in separate magazines from Government explosives.

Specification for Portable Magazines for any Quantities up to Two Tons

(Size in accordance with the dimensions of the packages to go into it.)

3. A frame is to be made of 2-inch by 3-inch quartering floored and boarded up with $1\frac{1}{4}$ -inch boarding. Lid to be fitted with cleats on the inside to keep it in its place when shipped, and fastened with hasp, staples and a strong hanging lock of brass or galvanized iron.

Special Regulations for the Government of Certain Public Harbours in the Province of Nova Scotia

BRIDGEWATER

Channel
to be left.

Sec. 1. It shall be the duty of the Harbour Master at the port of Bridgewater to see that those persons, engaged in lumbering and rafting logs, have their buoys, piers and booms so placed and arranged as to leave at all times a clear passage, in main channel, of not less than two hundred feet for ships and vessels to navigate; and any buoys, piers and booms that are not so placed and arranged shall be removed by the person or persons who placed or caused the same to be placed there,

or by the representatives in ownership or possession of the property, on account of which such buoys, piers or booms were so placed under a penalty of fifty dollars for any violation of this regulation, and, in case of a continuing violation, a further penalty of ten dollars for every twelve hours during which said violation continues, to be paid by any of the above persons so violating this regulation. And, in case of failure so to do within fifteen days after notice given, it shall be the duty of the Harbour Master to advise the Department of Transport of the fact.

LITTLE GLACE BAY

Sec. 2. At the port of Little Glace Bay, vessels immediately on arriving in the harbour shall have both anchors hanging at the hawser-pipe and shall have the yards cockbilled.

Anchors
and yards.

LUNENBURG

Sec. 3. No vessel within the limits of the port of Lunenburg shall be anchored so as to swing at her anchors nearer to any wharf than one hundred and fifty yards, excepting for the purpose of coming to or leaving a wharf, or in removing from one wharf to another, and then not to remain any longer than necessary for such purpose, unless from stress of weather or other unavoidable cause, to be judged of by the Harbour Master.

Anchorage.

Sec. 4. All vessels anchored for the purpose of being laid up on the western side of the harbour of said port of Lunenburg must be so anchored as not to swing to the eastward of an imaginary line from the point of Selig's Head to the western corner of Lindsay's wharf, and all vessels anchored for the purpose of being laid up on the eastern side of the harbour must be so anchored as not to swing to the westward of an imaginary line from the willow trees on Battery Point to the eastern corner of Finck's wharf.

Laying up
on west side
and on
east side.

Special Regulations for the Government of Certain Public Harbours in the Province of New Brunswick

ST. STEPHENS

Sec. 1. All vessels are to be moored, after casting anchor at the *Ledge of St. Stephens*, within twelve hours, off and on shore as near as possible.

Mooring.

Special Regulations for the Government of Certain Public Harbours in the Province of Ontario

AMHERSTBURG

Sec. 1. *Definition.* The Lower Detroit river for the purposes hereof shall include all the limits of the port of Amherstburg as proclaimed in the *Canada Gazette* of the 12th January, 1907.

Definition.

Authority.

Sec. 2. The port of *Amherstburg* shall be in charge of the Harbour Master thereof. His deputy at the locality shall be the Captain of the patrol boat, who shall receive his orders and instructions from the Harbour Master but, in cases of emergency, shall have authority to take such steps as may be immediately necessary without waiting for specified instructions from the Harbour Master, and shall see to the enforcement of the following rules:—

Down freight boats.

Sec. 3. No freight boat bound down shall pass or approach another freight boat bound in the same direction nearer than one-quarter of a mile between the north limit of the port and the lower end of Bois Blanc Island.

Down passenger boats.

Sec. 4. No passenger boat bound down shall pass another boat bound down between the south gas buoy No. 2, Ballard Reef Channel and the head of Bois Blanc Island.

Passing at Lime Kiln Crossing.

Sec. 5. No vessel, freight or passenger, shall pass another going in the same direction or in the opposite direction, in the narrow portion of the channel at Lime Kiln Crossing, during the progress of the work of widening the channel at this locality.

Slowing down.

Sec. 6. All vessels, both freight and passenger, bound up or down, when signalled to do so, shall slow down in passing any part of the plant engaged on channel improvements.

Signal to slow down.

Sec. 7. Three distinct blasts of the steam whistle, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given is proceeding at too high a rate of speed, and such vessel must immediately moderate her speed accordingly.

Signal to stop.

Sec. 8. Three long blasts of the steam whistle followed by two short blasts, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given must stop until further orders from the patrolling vessel.

Signal to proceed.

Sec. 9. One long blast followed by four short blasts, when sounded from the patrolling vessel, will indicate that the vessel to which such signal is given may proceed on her course.

Orders.

Sec. 10. While in the performance of his duties, all orders given by the Harbour Master or his deputy shall be obeyed.

Obstruction to navigation.

Sec. 11. In the event of a stranding occurring, causing partial or total obstruction of the channel, the Harbour Master or his deputy, in addition to the authority herein given, shall have full power to stop all vessels and direct their anchorage until the channel is cleared, and to designate the order in which all vessels shall proceed after the channel is opened, and to do all other things necessary and proper to expedite the passage of vessels.

Sec. 12. In the event of any such partial or total obstruction of the channel the Harbour Master or his deputy, under the immediate authority and direction of the Minister of Transport, shall have power to remove the same and clear the channel. Removal of obstruction.

Sec. 13. The penalty for violation of the provisions of any of the above special regulations for the government of the port of Amherstburg, and for disobeying the lawful orders or directions of the Harbour Master or the Deputy Harbour Master in respect to any provisions of the same, shall be one hundred dollars to be imposed upon the person in charge of the vessel not conforming to the particular requirements.

RULES AND REGULATIONS FOR NAVIGATING THE LOWER DETROIT RIVER

Approved by P.C. 1916, 4th August, 1936.

DEFINITIONS

The Lower Detroit River is that portion of the Detroit River between the Mamajuda Light and Lake Erie.

Speed under these rules shall in all cases be speed over the bottom.

These rules shall replace all rules and regulations heretofore published for navigating the Lower Detroit River.

REGULATIONS

Rule 1.—No vessel of 100 gross tons or over shall navigate the Livingstone Channel at a rate of speed greater than twelve statute miles per hour between its junction with the Amherstburg Channel at Ballards Reef and the Bar Point Vessel; nor the Amherstburg Channel at a rate of speed greater than twelve statute miles per hour between the south end of Bois Blanc Island and the north gas buoys at Ballards Reef, and where the width of this channel is restricted by improvements in progress, through such restricted width of channel the speed shall not exceed eight statute miles per hour.

Rule 2.—Downbound freight vessels shall pass through the Livingstone Channel as far as the Detroit River Light. Deep laden vessels shall then enter Lake Erie through the 1,200 foot channel passing east of the lighthouse, while light draft vessels and moderately laden vessels may enter Lake Erie through the old downward channel west of the light.

All upbound vessels shall enter the Detroit River via the channel east of the Detroit River Lighthouse and pass through the Amherstburg Channel.

Vessels under 100 gross tons, and vessels making local stops along these routes, are exempt from this rule.

Rule 3.—Passenger vessels may use the Amherstburg Channel downbound, but should they pass down through the Livingstone Channel they shall be subject to the rules governing that channel.

Rule 4.—All upbound light-draft vessels and all passenger vessels using the Amherstburg Channel shall pass through the auxiliary channel to the eastward of the improved channel at Ballards Reef. This auxiliary channel is 280 feet wide and 14.5 feet deep at low water datum. * * *

Rule 5.—No vessel shall pass another vessel bound in the same direction in that portion of Livingstone Channel between its junction with Amherstburg Channel at Ballards Reef and Bar Point Light Vessel, nor at any other portion of either channel where the width of the channel is restricted by improvements in progress. Between any two downbound vessels entering or navigating that portion of Livingstone Channel between its junction with the Amherstburg Channel at Ballards Reef and Bar Point Light Vessel there shall be a time interval of not less than five minutes.

Tugs without tows and vessels under 100 gross tons are exempt from this rule.

Rule 6.—Any vessel approaching a tug with a tow moving in the same direction may pass such tow by giving a signal indicating upon which side the vessel desires to pass, and it shall be the duty of the pilot of the tug to sheer clear of the side of the channel indicated and give the passing vessel all possible room.

Rule 7.—No vessel shall anchor within the limits of either channel except in distress or under stress of weather. Any vessel so anchored shall be moved as quickly as possible to such anchorage as will leave the channel clear for the passage of vessels.

Rule 8.—No vessel shall tow another through any of the improved channels unless such vessel moves the tow at least five miles per hour over the bottom; and no vessel of ten gross tons or over shall navigate the improved channels under sail power alone.

Rule 9.—All vessels passing dredges, drill scows, derrick scows, or other stationary plant engaged on improvements to the channels are required to slacken their speed when given a signal by three distinct blasts of the steam whistle.

Rule 10.—No vessel shall pass or attempt to pass another vessel or vessels moving in the same or opposite directions at any place in Lower Detroit River, in such a position that more than two vessels will be abreast when passing.

Rule 11.—Three long blasts of the steam whistle, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given is proceeding at too high a rate of speed, and such vessel must immediately moderate her speed accordingly.

Rule 12.—Four long blasts of the steam whistle, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given must stop until further orders from the patrolling vessel.

Rule 13.—One long blast followed by four short blasts, when sounded from a patrolling vessel, will indicate that the vessel to which such signal is given may proceed on her course.

Rule 14.—A vessel aground in or near a channel, or a vessel which from any accident is not under command, shall show from sunset to sunrise, at a height of not less than twenty feet nor more than forty feet above the hull, two lights in a vertical line one above the other and not less than six feet apart and so fixed as to be visible to both up and down bound vessels. The upper of these lights shall be red. If the nature of the accident is such that the channel is closed, the lower of these lights shall also be red. But if the nature of the accident is such that vessels can pass in safety, the lower of these lights shall be white.

Such vessels shall not show the lights required for a vessel at anchor.

Such vessel shall, if the accident has closed the channel, sound a signal of several short and rapid blasts of the steam whistle to any approaching vessel, whereupon the approaching vessel shall stop and repeat this signal to any vessel coming up astern of her.

But if the accident has not rendered passing unsafe, such vessel shall sound a signal of three distinct blasts to any approaching vessel, whereupon the approaching vessel shall answer with the same signal of three distinct blasts and shall reduce her speed and pass with caution.

Such vessel shall in no case give or answer a passing signal without first giving several short and rapid blasts of the steam whistle.

It shall be the duty of the master of the first vessel passing such vessel to report the place and nature of the accident to the next marine reporting station or patrol boat.

Rule 15.—Whenever vessels collect in any part of the river by reason of fog, smoke, ice, or the obstruction of any of the channels, their anchorage and movements in such channels shall be under the direction and control of the officer in whose jurisdiction such vessels have collected. Regular scheduled boats carrying passengers or mail may be advanced in order, and any vessel not ready to move when directed shall lose her position. The masters of all vessels are required to yield prompt obedience to the orders of the proper authorities.

Rule 16.—While in the performance of their duties, all orders of the officers in charge of traffic on the lower Detroit River as above indicated shall be obeyed. Any violation of such orders and any violation of the above rules and regulations shall subject the offender to the penalties made and provided by the

laws of the countries interested. Any such violation to be immediately reported by the officer noting the same to his immediate superior for transmission in the proper way. The report should state on which side of the boundary the violation occurred.

With a view to facilitating traffic and to avoid a dispute as to jurisdiction of traffic within the limits of the Lower Detroit River, boats shall carry out the orders of the representative of either Government in the absence of the representative of the other, and the two officers in charge shall make such local arrangements as will avoid any possibility of conflict of authority.

Rule 17.—In the case of any vessel, boat, water craft, raft, or other similar obstruction sinking or grounding or being unnecessarily delayed in any navigable waters in such a manner as to stop, seriously interfere with, or specially endanger navigation in the opinion of either or both of the officers in charge of navigation in the Lower Detroit River, these officers shall, in addition to any authority otherwise granted by their respective Governments, have full power to stop all vessels and direct their anchorage, clear the channel, designate the order in which all vessels shall proceed after the channel is opened, and shall do all other things necessary and proper to expedite the passage of vessels.

Rule 18.—In all cases where the foregoing rules are not applicable the attention of masters is directed to the Pilot Rules for the Great Lakes and their connecting and tributary waters.

Complaints arising under these rules are to be addressed to the United States Engineer in Charge, Room 605, Federal Building, Detroit, Michigan, or to the Harbour Master at Amherstburg, Ontario.

FORT WILLIAM

Sec. 14. Vessels exceeding 100 tons gross are prohibited from steaming in Fort William Harbour at a faster rate of speed than four miles an hour.

Sec. 15. Steam vessels not exceeding 200 tons gross may turn in any part of the Kaministikwia river, McKellar channel or the Mission channel, under their own power, excepting in the immediate vicinity of any bridge crossing said river or channels.

Steam vessels exceeding 200 tons gross are prohibited from turning in the local harbour, excepting at the turning basins constructed for that purpose at West Fort above the G.T.P. railway bridge, at the confluence of the Kaministikwia river with Mission channel, at the confluence of the Kaministikwia river with McKellar channel; and at the G.T.P. turning basin near the mouth of Mission channel; provided however, that steam vessels exceeding 200 tons gross, but not exceeding 330 feet in length, may turn in that section of the Kaministikwia river lying between the bend above the C.P.R. elevator "D," and

the westerly limit of the G.T.P. rail dock and in that section of said river lying between C.P.R. slip No. 1 and elevator "C" but the turning of such vessels in the said sections of this river shall not take place without the use of a tug, unless sanctioned by the harbour master.

GEORGIAN BAY

Sec. 16. No logs in bags, exceeding twenty thousand (20,000) pieces, shall be towed through any of the ports in Georgian Bay, and any person in charge of any bag of logs violating this regulation shall be subject to a penalty of one hundred dollars (\$100) for each such violation.

PARRY SOUND

Sec. 17. No person engaged in towing logs, booms or other descriptions of timber in the port of *Parry Sound* shall be allowed to use what is known as South channel entrance to the said port, without having such logs, booms or other timbers properly rafted in cribs, not more than thirty-two feet in width, not more than one hundred feet in length; and no tug shall at any time be allowed to take more than five of such cribs into the Seven-Mile Narrows or into the Two-mile Narrows of the said South channel, under a penalty of twenty dollars for any violation of this regulation, to be paid by the person in charge of said vessel.

Sec. 18. All persons towing logs, booms or other timber in the South channel of *Parry Sound* shall take due care to keep the said Seven-mile Narrows free from obstructions at such hours of the day as the mail or regular passenger steamers are expected, under a penalty of twenty dollars for any violation of this regulation.

SARNIA

Sec. 19. All through-bound vessels in passing through the St. Clair River in the vicinity of the St. Clair middle grounds, and of Stag Island, in the harbour of Sarnia, shall keep to the right, that is to say, all up-bound boats shall pass through the eastern channel, and all down-bound boats shall pass through the western channel; under a penalty of twenty dollars for any violation of this regulation, to be paid by the person in charge of vessel contravening. (This rule shall apply to through-bound vessels only, and not to vessels running between local points on the river, which vessels may take either channel, conforming to the ordinary rules of the road for the Great Lakes.)

Navigation
in St. Clair
river.

Sec. 20. The speed of steam vessels, navigating the Canadian waters of the St. Clair river, shall not exceed nine miles an hour, under a penalty of fifty dollars for any violation of this regulation, to be paid by the person in charge of the vessel contravening.

Speed.

Special Regulations for the Government of Certain Public Harbours in the Province of British Columbia

VICTORIA AND ESQUIMALT

Anchorage.

Sec. 1. No part of the harbour of Victoria, British Columbia, situated between the Railway Bridge and the shores of James Bay shall be deemed to be an anchorage for vessels, and vessels anchoring in this part of the harbour may do so only as a temporary expedient, and the Harbour Master is authorized to cause the immediate removal, at his discretion, of any vessel so anchoring. This regulation does not apply to such small vessels and yachts as may be permitted by the Harbour Master to moor in the extreme eastern part of James Bay. The penalty incurred by the violation of this regulation is a fine of twenty dollars.

Logs.

Sec. 2. The Harbour Master shall have authority to regulate the quantity of logs which a person may bring into the harbour of Victoria at one time and store therein at one time; under a penalty upon the person in charge of any logs entered, or of any tow-boat bringing them, in contravention to any such regulations enacted by the Harbour Master, of twenty dollars for any violation of same and, in case of a continuing violation, a further penalty of ten dollars for every twelve hours during which said violation continues.

Length of boom.

Sec. 3. No boom of logs towed into the harbour shall exceed six hundred feet in length, under a penalty of fifty dollars.

Length tow line.

Sec. 4. No tow-boats entering or leaving Victoria Harbour, towing any vessel, shall use a tow line exceeding 100 feet in length from the stern of the tow boat to the prow of the vessel in tow, within the limits of any port, under penalty of twenty dollars, to be paid by the person in charge of such vessel contravening this regulation.

Channel to be maintained.

Sec. 5. A clear channel for navigation shall at all times be maintained in the harbour under a penalty of twenty dollars for any violation of this rule and, in case of a continuing violation, a further penalty of ten dollars for every twelve hours during which said violation continues, to be paid by the person in charge of any vessel so contravening.

Time limit for remaining in harbour.

Sec. 6. No vessel shall be allowed to remain at anchor or tied up within the limits of the harbour for a period exceeding three months, without a special permission in writing from the Harbour Master, under a penalty of fifty dollars for a violation of this regulation, and a further penalty, in case of a

continuing violation, of ten dollars for every twelve hours during which such violation continues, to be paid by the person in charge of such vessel contravening this regulation.

Sec. 7. "Motor boats are prohibited from navigating the waters of Victoria Arm above Point Ellice bridge at a faster rate of speed than six miles an hour, under a penalty of \$20 for each violation." Laying up,
how moored.

Sec. 8. Vessels laying up in Thetis Cove and Plumper Bay and the northern part of the harbour shall be moored with two bower-anchors, as directed by the Harbour Master, under a penalty of fifty dollars for the violation of this regulation, to be paid by the person in charge of any vessel not conforming to same.

Sec. 9. For the purpose of allowing a clear space to practise the heavy guns established on Rodd Hill and His Majesty's dockyard at the entrance of Esquimalt Harbour, Vancouver Island, British Columbia, vessels arriving in Royal roads between the 15th May and 15th September in each year must anchor to the westward of a line drawn from Duntze Head to Race Rocks lighthouse, and not less than one nautical mile distant from Duntze Head. Vessels anchored to the eastward of this limit will be given twenty-four hours' notice to move out of the danger zone. The person in charge of any vessel neglecting or refusing to move out of said zone within said period of time shall be liable to a penalty of one hundred dollars and, in case of a continuing neglect or refusal, to a further penalty of ten dollars for every twelve hours during which said neglect or refusal continues. Anchorage.
danger zone.

Penalty.

Sec. 10. The portion of *Esquimalt Harbour* known as Constance Cove, and situated eastward of a line drawn between Duntze Head and Ashe Head is hereby designated the Man-of-War Anchorage, and such portion of the harbour shall, until otherwise ordered, be set apart for the use of His Majesty's ships, it being understood that access to the coves shall at all times be allowed to vessels desiring to make use of the graving dock situated there, and to vessels requiring to proceed to the different wharves situated on the shore of Constance Cove.

Sec. 11. Steam vessels using the ports of Victoria and Esquimalt shall be required to go slow and, if necessary, stop their engines altogether when nearing places where submarine works are being operated. Any neglect of this precaution will render the person in charge of the vessel contravening liable to a fine of fifty dollars, for each and every offence. Speed.

**SPECIAL REGULATION RESPECTING NAVIGATION IN
RIVER ST. LAWRENCE BETWEEN LANORAIE
AND VARENNES**

All vessels drawing less than fourteen feet of water shall, when navigating that part of the River St. Lawrence between Lanoraie and Varennes, either up or down bound, use the channel known as the north or Repentigny channel, unless they require to stop at points on the ship channel, in which case that channel may be used.

**SPECIAL REGULATIONS FOR HARBOURS UNDER
CONTROL OF HARBOUR COMMISSIONS**

Regulations for the control of the harbours of Quebec, Montreal, Three Rivers and Chicoutimi, in the Province of Quebec; Saint John, New Brunswick; Halifax, Nova Scotia; and Vancouver, British Columbia; are made under the authority of the National Harbours Board, and copies may be had of these regulations on application to the Secretary of that Board, at Ottawa.

Regulations for the control of the harbours of Toronto, Hamilton, Belleville and Trenton, in Ontario; Winnipeg and St. Boniface, Manitoba; North Fraser and New Westminster, British Columbia; are made by the Harbour Commissioners appointed for the administration of those harbours pursuant to the powers granted them in the special statutes under which they are in each case created. Copies of these Harbour Commissioners' regulations may be obtained on application to the Secretary of the Commission at each of the harbours named.

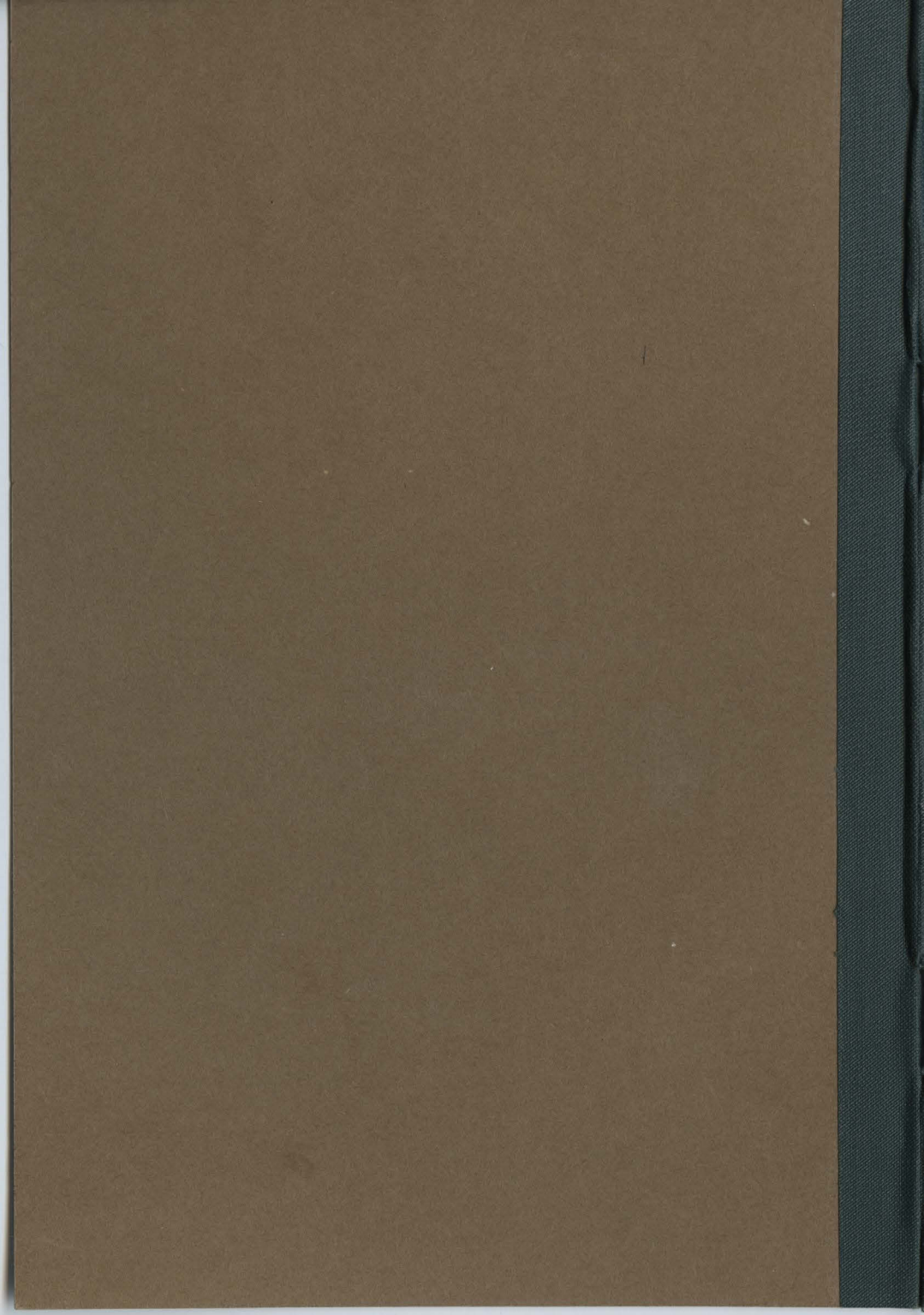
**RECIPROCAL ARRANGEMENT FOR THE EXEMPTION
FROM THE PAYMENT OF TONNAGE DUES OF
UNITED STATES VESSELS ENTERING
PORTS IN THE PROVINCE OF
ONTARIO**

Whereas provision has been made by the Government of the United States for re-establishing the reciprocal arrangement between that country and the Province of Ontario in regard to the exemption from tonnage dues on the Great Lakes and their connecting and tributary waters;

And whereas it is in the interest of shipping in these waters to restore such exemption;

Therefore His Excellency in Council is pleased to order that the Order in Council of the 2nd November, 1909, imposing, on and after the 1st December, 1909, the collection of harbour masters' fees from United States vessels entering ports in the province of Ontario, shall be and the same is hereby rescinded;

His Excellency is further pleased to authorize the Minister of Transport to suspend the collection of such fees from United States vessels so long as vessels from Ontario ports are entitled to enter United States ports, otherwise than by sea, without the payment of a tonnage tax.



REGULATIONS
FOR THE USE AND MANAGEMENT OF
GOVERNMENT WHARVES
IN CANADA

(With the Government Harbours and Piers Act and
Amendments to Sections 2-3-6-10-13 and 17 thereof)

AND

**Tariff of Tolls and Dues Leviable in Connection
Therewith**

OTTAWA
J. O. PATENAUDE, I.S.O.
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1937

105738.

[1793]

AT THE GOVERNMENT HOUSE AT OTTAWA

WEDNESDAY, the 28th day of July, 1937.

PRESENT:

THE DEPUTY OF HIS EXCELLENCY THE GOVERNOR GENERAL
IN COUNCIL

The Deputy of His Excellency the Governor General in Council, on the recommendation of the Minister of Transport and under the provisions of Section 7 of the Government Harbours and Piers Act, Chapter 89, Revised Statutes of Canada, 1927, is pleased to make the annexed Regulations for the use and management of Government wharves in Canada and Tariff of Tolls and Dues leviable in connection therewith, and they are hereby made and established in supersession of Regulations and Tariff of Tolls at present in force under Order in Council of the 15th May, 1917 (P.C. 1307), as amended, in respect of the Tariff of Tolls and Dues, by Orders in Council, P.C. 191, dated the 3rd of February, 1932; P.C. 1088, dated the 12th of May, 1932; P.C. 1400, dated the 29th of May, 1935; and P.C. 169, dated the 21st of January, 1936.

E. J. LEMAIRE,
Clerk of the Privy Council.



CHAPTER 89

An Act respecting the Government Harbours, Piers and Breakwaters

SHORT TITLE

1. This Act may be cited as the Government Harbours and Piers Act. R.S., c. 112, s. 1. Short title.

INTERPRETATION

*2. In this Act, unless the context otherwise requires, "Minister" means the Minister of Marine and Fisheries. R.S., c. 112, s. 2. Definition of "Minister."

APPLICATION

*3. Nothing in this Act shall apply to the harbour of Toronto, Quebec, Montreal, Halifax, Pictou, or Saint John, New Brunswick, or any harbour under the management of commissioners appointed under any Act of the Parliament of Canada. R.S., c. 112, s. 3. Application of Act.

WORKS UNDER THE CONTROL OF THE MINISTER

4. Excepting such wharfs, piers and breakwaters as are on or connected with canals, the use, maintenance and ordinary repairs of all harbours, wharves, piers and breakwaters constructed or completed at the expense of Canada, or in any way the property of Canada, and the making and enforcing of regulations concerning such use, maintenance and ordinary repairs, and the collection of tolls and dues for such use, shall be under the control and management of the Minister. R.S., c. 112, s. 4. Certain works to be under the control of the Minister.

5. Such construction and repairs and the works connected therewith, other than maintenance and ordinary repairs, shall be under the control and direction of the Minister of Public Works. R.S., c. 112, s. 5. Construction and repairs under Minister of Public Works.

POWERS OF THE GOVERNOR IN COUNCIL

*6. The Governor in Council may appoint or direct such officers or persons as he thinks proper, who shall have, under the direction of the Minister, the charge of the works by this Act placed under the management and control of the Minister, and who shall collect the tolls and dues to be paid in respect thereof. Appointment of officers to collect tolls, etc.

*See Amendment.

Remuneration.

*2. The Governor in Council may determine the remuneration to be allowed them respectively for such services, and such remuneration shall be retained from the tolls and dues collected. R.S., c. 112, s. 6.

Governor in Council may make regulations.

7. The Governor in Council may, on the recommendation of the Minister, make rules and regulations for the use and management of such harbours, wharves, piers and breakwaters, and a tariff or tariffs of the tolls and dues to be paid for the use of the same, and levied on persons or vessels using them, and on goods, wares or merchandise landed or shipped on or from off them; and may, by such rules and regulations, impose penalties not exceeding two hundred dollars, and punishment by imprisonment not exceeding sixty days, for any violation thereof. R.S., c. 112, s. 7.

Publication of regulations.

8. No such regulations shall be in force until they are published in the *Canada Gazette*. R.S., c. 112, s. 10.

Collection of tolls, how enforced.

9. Such tolls, dues and penalties shall be a lien on the goods and on the vessels with their tackle in respect of which they are payable or incurred; and the officer or person appointed to collect the same may detain such vessel or goods until they are paid. R.S., c. 112, s. 8.

No clearance granted to vessels unless tolls paid.

*10. No vessel leaving any port at which any such tolls or dues are payable shall receive a clearance at the custom-house thereat, unless the master produces to the collector or proper officer of the customs a certificate that the tolls or dues on such vessel have been paid, or that none are payable thereon. R.S., c. 112, s. 9.

COLLECTION OF TOLLS

How unpaid tolls may be levied.

11. If any tolls or dues imposed and payable on any goods under this Act by any regulation made hereunder, remain unpaid during four weeks after they are due, the officer or person to whom they are payable may apply to any justice of the peace for an order to levy the same.

Oath of applicant.

2. Such application shall be accompanied by the oath or solemn affirmation of the applicant, made before such justice, that such tolls or dues, stating the amount thereof, are due on such goods, describing them sufficiently to identify them, and have remained unpaid during twenty-eight days or more, as the case may be.

Sale of goods liable.

3. Upon receiving such application accompanied by the prescribed oath or affirmation, the justice shall issue his warrant to some constable commanding him to sell such goods or so much thereof as is sufficient to pay the sum due, with reasonable costs, not exceeding five dollars, which such constable shall accordingly do, and shall pay over the amount made, less the costs, to the officer or person authorized to collect such tolls or dues. R.S., c. 112, s. 11.

*See Amendment.

12. All tolls and dues payable under this Act or under any rule or regulation made hereunder shall constitute a debt due and payable to His Majesty jointly and severally

Tolls shall be a debt to His Majesty.

(a) by the owner of the goods, wares or merchandise in respect of which such dues or tolls are payable, and the consignee or person to whom such goods, wares or merchandise are delivered or who is in charge of them;

or

(b) in the case of a vessel, by the owner, master and agent of such vessel.

2. In the case of a person using a harbour, wharf, pier or breakwater, such tolls and dues shall be payable by such person.

By whom.

3. Such debt may, at any time, be recovered with full costs of suit in any court of competent jurisdiction. R.S., c. 112, s. 12.

How recoverable.

***13.** After deducting the remuneration to officers and persons hereinbefore mentioned, the remainder, if any, of all tolls and dues received under this Act shall be paid over by the person receiving them to the Minister of Finance at such times and in such manner as the Governor in Council directs; and an account thereof shall be rendered to the Minister at such times and in such manner as the Minister directs. R.S., c. 112, s. 13.

Applicable of tolls.

Accounts to be rendered.

14. An account of all such moneys and of all expenditure incurred in the collection thereof, or otherwise under this Act, shall be laid before Parliament at the session next after the close of the fiscal year in which such moneys have been received and such expenditure has been incurred. R.S., c. 112, s. 14.

Account for Parliament.

RECOVERY AND DISPOSAL OF PENALTIES

15. All pecuniary penalties imposed under this Act may be recovered with costs by summary conviction, under the provisions of the Criminal Code relating to summary convictions and shall belong to His Majesty for the public uses of Canada. R.S., c. 112, s. 15.

Recovery and application of penalties.

GENERAL

16. If the Minister deems it desirable to lease to any provincial government, municipal council, harbour commission, shipping company, or railway company any wharf, pier or breakwater under the control of the Minister, tenders by public advertisement for such lease shall be invited by the Minister for a term not exceeding three years, and the Governor in Council may thereupon lease such wharf, pier or breakwater upon such terms and conditions as are agreed upon.

Lease of wharfs and breakwaters.

Tenders to be called for.

2. Nothing in this section shall interfere with the public use of such wharf, pier or breakwater.

Public use of wharf.

3. The lessee of such wharf, pier or breakwater shall not charge wharfage tolls or dues in excess of the tolls and dues established under the authority of this Act by the regulations for the government of breakwaters, piers or wharves in Canada as approved from time to time by the Governor in Council. 1909, c. 17, s. 1.

Tolls.

*See Amendment.

Yearly
rental in
lieu of
tolls.

***17.** The Minister may enter into an agreement, for a term not exceeding three years, with any shipping company or railway company, for the payment of a fixed amount yearly for the use of any wharf, pier or breakwater under his control, in lieu of the tolls and dues leviable for such use in accordance with the rules and regulations made under the authority of this Act, on the vessels and merchandise belonging to or carried by such company. 1909, c. 17, s. 1.

Report to
Parliament.

18. The Minister shall lay before Parliament, within one month after the opening of the then next session thereof, a statement of all leases made under the provisions of this Act and the conditions of such leases. 1909, c. 17, s. 1.

Certain
powers
saved.

19. Nothing in this Act shall be construed to impair, affect, or avoid,

- (a) any of the powers or duties of the Minister of Public Works under the Public Works Act, in respect of the construction, improvement, repair or maintenance of the works hereinbefore mentioned; or
- (b) the power of the Governor in Council to make regulations for the proper use of the said works, concerning their safety and protection from injury, and the prevention of, or liability for damages done to them; or
- (c) the effect of any Order in Council made under the said Act imposing or providing for the collection of tolls or dues for the use of such works, until such order is revoked, or other provisions made for the same purpose under this Act. R.S., c. 112, s. 17.

**See Amendment.*



I GEORGE VI

CHAP. 10

An Act to amend the Government Harbours and Piers Act

[Assented to 31st March, 1937.]

His Majesty, by and with the advice and consent of the Senate and House of Commons of Canada, enacts as follows:— R.S. c. 89.

1. Section two of the *Government Harbours and Piers Act*, chapter eighty-nine of the Revised Statutes of Canada, 1927, is repealed and the following substituted therefor:

"2. In this Act, unless the context otherwise requires, "Minister." "Minister" means the Minister of Transport."

2. Section three of the said Act is repealed and the following substituted therefor:

"3. Nothing in this Act shall apply to any harbour under the administration, management and control of the National Harbours Board or of any commissioners appointed under any Act of the Parliament of Canada." Application of Act.

3. Section six of the said Acts is repealed and the following substituted therefor:

"6. (1) The Minister may appoint such officers, clerks, employees or labourers as he may think proper for the operation, administration and management of the works placed by this Act under his administration, management and control or may designate such existing officers, clerks, employees or labourers of the Department of Transport as he may think fit for that purpose, and such officers, clerks, employees and labourers so appointed or designated shall perform such duties or functions in connection with the management and control of such works, and the collection of tolls and dues to be paid in respect thereof as the Minister may direct." Appointment of officers and employees.

(2) The Governor in Council may determine the remuneration to be allowed respectively to such officers, clerks, employees and labourers, and the amounts of such remuneration and such Remuneration.

1931, c. 27.

expenses as may be authorized by the Minister for lighting, heating or otherwise making serviceable each of such works may, notwithstanding anything in *The Consolidated Revenue and Audit Act, 1931*, be retained from the tolls and dues collected thereon."

4. Section ten of the said Act is amended by adding thereto the following subsection:

Detention of vessel at subsequent port of call.

"(2) If any vessel leaves any port without paying any such tolls or dues, she may be detained at any other port at which she calls until such tolls or dues are paid."

5. Section thirteen of the said Act is repealed and the following substituted therefor:

Application of tolls.

"13. After deducting the remuneration to officers, clerks, employees and labourers hereinbefore mentioned and the expenses of lighting, heating, or otherwise making serviceable such works, the remainder, if any, of all tolls and dues received under this Act shall be paid over to the Minister of Finance at such times and in such manner as the Governor in Council directs; and an account thereof shall be rendered to the Minister at such times and in such manner as the Minister directs."

6. Section seventeen of the said Act is repealed and the following substituted therefor:

Yearly rental in lieu of tolls.

"17. The Minister may enter into an agreement, for a term not exceeding three years, with any person, for the payment of a fixed amount yearly for the use of any wharf, pier or break-water under his control, in lieu of the tolls and dues leviable for such use in accordance with the rules and regulations made under the authority of this Act, on the vessels and merchandise belonging to or carried by such person."

REGULATIONS

FOR THE USE AND MANAGEMENT OF

GOVERNMENT WHARVES

IN CANADA

AND

TARIFF OF TOLLS AND DUES LEVIABLE IN
CONNECTION THEREWITH

INTERPRETATION

1. In these Regulations, unless the context otherwise requires or it is otherwise provided—

(a) The expression "Minister" means the Minister of Minister. Transport;

(b) The expression "vessel" means any vessel used in Vessel. navigation, and includes any scow, raft, boom of logs or any other floating property;

(c) The expression "Goods" means any movable or Goods. personal property other than "vessels," and includes wares and merchandise;

(d) The expression "wharf" means any work governed by Wharf. the Government Harbours and Piers Act and which is placed by said Act under the control and management of the Minister;

(e) The expression "Wharfage" means the charge or rent Wharfage. ordinarily called the dues or tolls, for the use of a wharf, and includes the side-wharfage and the top-wharfage;

(f) The expression "Side-wharfage" means the charge or Side-wharfage. rent for the mooring of a vessel to a wharf;

(g) The expression "Top-wharfage" means the charge or Top-wharfage. rent for the landing, placing or depositing of goods on a wharf;

(h) The expression "wharfinger" means the person Wharfinger. appointed under the Government Harbours and Piers Act to have charge of a wharf and to collect the wharfage in respect thereof;

(i) The expression "Ton" means the ton-weight of two Ton. thousand pounds;

(j) The expression "Ton Measurement" means the cubical Ton Measurement. ton of 40 cubic feet;

(k) The expression "Schedule" means the schedule to these Schedule Regulations.

APPLICATION

Wharves
Falling
Under
Regulations.

2. (a) Except as provided in subsection (b) hereof, these Regulations shall apply to all wharves;

(b) Sections numbered 7, 9, 10, 21 and 25 of these Regulations shall not apply to ports especially declared to be public harbours by proclamation issued under Part X of the Canada Shipping Act, 1934, and to which Harbour Masters are appointed.

MATERIALS ON WHARF

What
materials
may be
left on
wharf.
Landing or
placing of
goods on
wharf.

3. No material of any kind except goods in course of transit or material for the use of ships or to be used in connection with the shipping of goods shall be brought or left upon any wharf.

4. No goods shall be landed or placed upon any wharf, unless by permission of the wharfinger, and then only on such portions of the wharf as may be allowed to them for the time being, and shall be so landed and placed as the wharfinger may direct.

Depositing
of sand,
gravel or
ballast on
wharf.

5. No sand, gravel or ballast of any kind shall be put upon a wharf unless with permission and under the inspection of the wharfinger and only on such portion of the wharf as he specially determines.

Goods not
to obstruct
access to
wharf.

6. No goods or substances of any kind shall be placed on the wharf, on or near the snubbing posts, nor shall they be placed in such manner upon any wharf as to obstruct the access thereto or the thoroughfare thereon.

Explosives.

7. No explosive material of any kind shall be brought to or placed upon any wharf except with the knowledge and approval in writing of the wharfinger.

Protection of
explosives.

8. No explosive material shall remain on any wharf longer than six hours and shall during that time be covered and protected by tarpaulins or other suitable coverings.

Animals
on wharf.

9. No live animals, other than animals working on the wharf in connection with the loading or unloading of vessels or the carting of goods, shall be allowed on any wharf except while in the course of being conveyed to or from said wharf by water, and then only whilst in charge of competent drivers and only during the space of time allowed specially by the wharfinger.

Certain kind
of work on
wharf
prohibited.

10. No person shall make or dress any mast or spar, or do any carpentry, on any wharf, except with the express permission of the wharfinger previously obtained and at such place by him designated for that purpose.

Goods at
owner's
risk.

11. All goods landed or placed upon a wharf shall be at the sole risk of the owner.

Structures
on wharf.

12. No structure of any kind or description shall be erected upon or attached to any wharf, without the permission in writing from the Minister, and upon the conditions and in the manner and at the place specially fixed and determined by him.

13. No goods shall be landed or deposited in or on, or shipped from off, any structure erected upon or attached to a wharf, without permission of the wharfinger. Shipment of goods off structure.

14. No person, without the permission of the wharfinger, shall remove any goods from any wharf or structure erected upon or attached to same, on which the tolls and dues have not been paid. Removal of goods.

15. Goods not otherwise specially governed by these Regulations and which have been landed, placed or deposited on a wharf shall be removed therefrom within forty-eight hours from the time of their being so landed, placed or deposited. Removal

VEHICLES

16. No vehicle, however propelled, shall be driven along or upon any wharf, unless employed in the loading or unloading of a vessel or in the carting of goods in connection therewith.

17. No such vehicle shall be permitted to stand on any wharf in such a manner as to obstruct the passage to and from the same, or to or from any vessel arriving or lying at, or departing from, the same. Vehicles not to obstruct wharf.

18. The driver of any such vehicle, or any other person, shall not obstruct, importune or annoy any person landing from or embarking on board of any vessel so arriving or lying, or departing from, said wharf. Molesting passengers forbidden.

19. No person shall ride or drive a horse or horses faster than a walk, and no person shall drive a motor vehicle of any description at a speed greater than five miles an hour, on a wharf. Speed on wharf.

20. The driver of any vehicle drawn by a horse or other animal shall remain beside such horse or animal, except when loading or discharging said vehicle, and shall not then go so far that the horse or animal is beyond his control. Drivers not to leave horses uncontrolled.

VESSELS

21. No vessel shall take berth at any wharf unless assigned thereto by the wharfinger. Allotment of berths.

22. The fastenings of a vessel to a wharf shall be attached to the rings placed on the outer edge or to the mooring posts thereof and shall not in any manner cross or traverse the wharf or be attached to any thing other than the fastenings specially provided for that purpose. Fastenings of vessels to wharf, how made.

23. The person in charge of any vessel lying at a wharf shall exhibit from sunset to sunrise a white light at each end of such vessel at a height not exceeding six feet above the deck. Lights on vessels.

24. Vessels loading or unloading, whether on to a wharf or into any other vessel, shall have a good tight canvas save-all stage or spout, in order to prevent any portion of their cargo from falling into the water. Canvas save-all.

Removal from one berth to another. 25. The wharfinger shall have power to order the removal of any vessel from one part to any other part of a wharf whenever he deems it necessary to do so to promote the interests of those doing business at that wharf.

Precedence to vessels at wharf. 26. Vessels to discharge cargo will take precedence over vessels to load.

Report of cargo. 27. After a vessel has taken the berth assigned her at any wharf, the person in charge thereof shall forthwith make, under his signature, to the wharfinger, at his office, a faithful report of the cargo to be landed, or, in case there is no cargo to be landed, a declaration that there is no cargo to land.

WHARFAGE

Imposition of dues. 28. The wharfage specified in Part First of the Schedule is hereby imposed to be paid for the use of the wharf at Sault Ste. Marie (Ontario) and the wharfage specified in Part Second of said Schedule is hereby imposed to be paid for the use of any other wharf which is not leased by the Governor in Council.

Authorization to collect dues. 29. The wharfinger at any of these wharves respectively is authorized to ask, receive and collect said wharfage from, and to levy the same on, persons or vessels using such wharf and on goods landed, placed or deposited thereon; subject to the exceptions and modifications hereinafter mentioned.

Collection of wharfage. 30. Subject to the exceptions and restrictions contained in these Regulations wharfage is chargeable and shall be collected at a wharf according to the Schedule, from any person or vessel using same and upon any goods landed or deposited thereon, or shipped therefrom, unless the Minister has authorized a commutation of said wharfage in favour of such person or vessel at said wharf; in which case the substituted amount only shall be chargeable and collected in conformity with the instructions from the Minister concerning such commutation.

Evidence of intention to ship. 31. The mere fact that goods of whatever description have been landed or placed on any part of a wharf shall be presumptive evidence that the owner intended to ship the same.

Structures to pay ground rent. 32. Any structure erected upon or attached to a wharf shall pay ground rent as determined by the Minister.

Goods landed in or shipped from structures on wharf. 33. Goods landed or deposited in or on, or shipped or placed for shipment from off, any structure erected upon or attached to a wharf shall be liable to wharfage as per Schedule, and shall be dealt with generally under these Regulations as if they had been landed or deposited in or on, or shipped or placed for shipment from off, any other part of the wharf.

Goods liable to tolls even if not shipped. 34. All goods landed or placed on a wharf shall be liable to wharfage, as per Schedule, whether they are afterwards shipped or not, and shall likewise be subject to all the Regulations as to removal and ground rent.

35. All goods shipped from any wharf will be charged the same rates as for landing, except in the case mentioned in the next following section. Rates for shipping and landing.

36. All goods landed on a wharf for reshipment shall pay only one wharfage. Goods re-shipped to pay one wharfage.

37. Goods discharged from one vessel into another vessel will be charged half the specified rates chargeable for goods landed upon any wharf; and in all cases said charge is to be paid by the inside vessel. Half-rates.

38. Whenever any goods placed on a wharf are not removed within forty-eight hours from the time of their being so placed, they shall be subsequently charged, besides and over the amount of tolls fixed in the Schedule, a ground rent as determined by the Minister. Ground rent.

39. Goods not coming under any class enumerated in the Schedule shall be charged at the same rate as the class to which they are most nearly assimilated.

40. Each entry shall pay not less than five cents. Minimum charge.

41. On all goods whatsoever, the quantity of which by right measurement or other mode of estimate provided for in the Schedule cannot be conveniently ascertained, it shall be lawful for the wharfinger to levy a rate of one-quarter of one per cent of the value thereof. Ad valorem rate.

42. Vessels, lying with moorings attached for shelter and harbour, shall pay one-half cent per registered ton for every twenty-four hours or portion thereof while so attached; the maximum charge not to exceed \$10 for the 24-hour period, or portion thereof. Shelter.

43. Special arrangements may be made with the wharfinger for vessels lying at the wharf during the winter season, and/or during the summer season. Rate for Winter and summer quarters.

44. Wharfage will be charged on all ballast put on board or taken from any vessel at a wharf. Ballast.

EXEMPTIONS

45. Canadian fishing vessels, while employed exclusively in fishing, making use of a wharf, are exempt from paying side wharfage. Fishing vessels.

46. All supplies and fishing gear shipped on board a Canadian fishing vessel employed exclusively in fishing for her use while so employed, and all fish on being landed, whether fresh, partly cured or wholly cured, if the ship's catch, are exempt from paying top wharfage. Fishing gear.

47. The Schedule does not apply to vessels and goods belonging to the Government of Canada, which are exempt from the payment of any wharfage. Government vessels.

48. In the case of steamboats landing or taking in goods at any wharf, where the freight charges earned by the steamboat carrying the goods will amount to only ten dollars or under on Rates where freight charges under \$10.

any one trip, wharfage at one-half the rate fixed by the Schedule shall be charged such steamboat; the freight charges to be estimated on goods shipped as well as on goods delivered at such wharf.

Steamboats using wharf more than once on same day.

49. Steamboats having occasion to make use of the same wharf more than once on the same day shall be required to pay dues only for the first time of so using.

Steamers using wharf on two days or more a week.

50. Steamboats using the same wharf on two days or more a week shall be required to pay dues only on the first two days of each week of using the same.

STEAMBOATS CARRYING MAILS

Mail boats.

51. Steamboats carrying His Majesty's Mails shall pay the same dues as other steamboats, but shall be entitled to a preference of berths at the wharf when engaged in delivering or receiving the said mail.

COLLECTION AND RECOVERY OF WHARFAGE

When wharfage is due and exigible.

52. Wharfage incurred in respect of the use of a wharf by any person or vessel, or of depositing goods thereon becomes due and exigible from the moment said person or vessel so uses same or said goods are so deposited.

Payment of wharfage.

53. Payment of wharfage must be made to the wharfinger by the person who is legally responsible to pay it when same becomes due; and the wharfinger must see that such payment is made to his satisfaction prior to the departure of the vessel, or removal of the goods in respect of which said wharfage has become due; provided that the wharfinger may use his discretion, in cases where the facilitating of trade might require (without imperiling the King's rights) that such payment be delayed, and suspend the collection thereof and permit the departure of said vessel or removal of said goods.

Levy on goods.

54. After the expiry of four weeks from the date any wharfage on goods deposited on any wharf has become due, when no permission has been given by the wharfinger for their previous removal when such removal although permitted has not been effected previously, the wharfinger may apply to a justice of the peace for an order to levy the said wharfage, according to the Statutes and Regulations in such case made and provided.

Recovery of wharfage.

55. Any wharfage payable by a vessel which, by permission of the wharfinger or for some other reason, has not been acquitted and paid over by the person in charge thereof on the date the same became due, may be recovered at any subsequent time as a debt due and payable to His Majesty from the owner, master and agent of such vessel jointly and severally, together with full costs of suit.

Recovery of wharfage on goods removed.

56. Any wharfage payable upon goods, which by permission of the wharfinger or for some other reason, have been removed from a wharf without payment having been effected of such wharfage, may be recovered at any subsequent time as

a debt due and payable to His Majesty from the owner and/or consignee of such goods, and/or person to whom such goods have been delivered or who is in charge of them, jointly and severally, together with full costs of suit.

57. Any wharfage payable by a person having used a wharf otherwise than mentioned in the two preceding sections which, by permission of the authority having allowed such use or for any other reason, has not been acquitted and paid over when it became due, may be recovered at any subsequent time as a debt due and payable to His Majesty from such person, together with full costs of suit.

Recovery of wharfage for wharf used otherwise than two previous sections.

GENERAL

58. No dirt whatsoever, sweeping of the hold or rubbish of any kind or nature shall be thrown or deposited upon any wharf from any vessel or from any other place by any person.

No dirt, sweeping of the hold, or rubbish to be deposited on wharf.

59. The Regulations and the Tariff tolls and dues heretofore in force are hereby repealed.

Previous regulations repealed.

60. It shall be the duty of the wharfinger to see that these Regulations are duly observed, and the wharfinger may, and he is hereby authorized to give all necessary instructions, orders and directions for the due carrying out of these Regulations, all of which shall be strictly obeyed by all persons concerned.

Regulations to be observed and wharfinger's instructions to be obeyed.

61. No person shall hinder, oppose, molest or obstruct the wharfinger or any of his assistants in the discharge of his or their duties as such officers.

Obstructing wharfinger.

PENALTIES

62. Any person who hinders, opposes, molests or obstructs a wharfinger or any of his assistants in the discharge of his or their duty shall be liable to a penalty of forty dollars for each and every offence.

Obstructing wharfinger.

63. The person in charge of a vessel omitting to make forthwith after having taken the berth assigned at a wharf under his signature to the wharfinger, at his office, a faithful report of the cargo to be landed or, in case there is no cargo to be landed, a declaration that there is no cargo to land shall be liable to a penalty of fifty dollars.

Penalty for omission to make report or declaration.

64. Any person in charge of a vessel wilfully making a false report to the wharfinger of the cargo to be landed, or wilfully making a false declaration that there is no cargo to land when cargo is landed, shall be liable to a penalty of one hundred dollars and to imprisonment for a term of thirty days.

Penalty for making false report.

65. The penalty for violation of any of these Regulations for which no penalty is provided, or for disobeying the lawful orders or directions of the wharfinger, in respect to any provision of the same, shall be twenty dollars to be imposed upon the person in charge of the vessel not conforming with, or any person violating, the particular requirements of such Regulations, orders, or directions as the case may be.

General penalty.

SCHEDULE

PART FIRST

TARIFFS OF TOLLS AND DUES LEVIABLE ON VESSELS AND
MERCHANDISE USING THE GOVERNMENT WHARF
AT SAULT STE. MARIE, ONT.

Name of Article	Tariff Cents.
Apples, undescribed, each	3
Apples, per barrel	2
Apples, 50-lb. box, each.....	$\frac{1}{3}$
Bacon, per 100 lbs.....	2
Bark, per cord.....	5
Barrels of flour, bread, meal, lime, per 100 lbs.....	2
Barrels of currants, pitch, tar, cement, plaster-of-paris, whiting, beans, peas, pearl-barley, per 100 lbs.....	2
Barrels, empty, per 100.....	25
Ballast, per ton.....	10
Beef and pork, per barrel.....	4
Beer, ale and porter, per barrel	4
Beer, ale and porter, per half barrel	2
Beer, ale and porter, per quarter barrel	1
Boats, each	15
Boilers, per ton	40
Boilers, for farmers' use, each.....	2
Bricks, per thousand.....	20
Brooms, per dozen.....	1
Buckets, per dozen.....	1
Building stone, per cord.....	10
Building stone and like material, per ton.....	40
Butter, per 100 lbs.....	2
Calves, each	2
Carriages, wagons and carts of all kinds, each.....	10
Cases, bales and other similar goods, per ton.....	40
Casks, empty, each.....	3
Cattle and horses, per head.....	10
Cedar posts, per 100.....	20
Cement, per ton.....	10
Chains and anchors, per ton.....	40
Cheese, per 100 lbs.....	2
Cider, per barrel.....	3
Clover Seed, per bushel.....	1
Coal, per ton.....	5
Colts and fillies, each.....	7
Cordage and ropes, per ton.....	40
Cordwood, per cord.....	5
Cranberries, per 100 lbs.....	2
Crockery (including china and glassware), per crate.....	10
Cultivators, each	3
Dry goods, in cases or bales, per 100 lbs.....	2
Earthenware, coarse, per crate.....	10

Name of Article	Tariff Cents
Eggs, per barrel or box of 72 dozen.....	2
Fanning mills, each.....	15
Fish, fresh	Free
Fish, pickled, per barrel	2
Fish, pickled, per half barrel	1
Fish, dried, per 100 lbs.....	1
Flour, per 100 lbs.....	2
Fruit, per 100 lbs.....	1
Furniture, per ton measurement.....	30
Grain of all kinds, per ton.....	30
Gravel or stone, for use of roads.....	Free
Grindstones, per ton.....	15
Gunpowder, per keg.....	1
Gypsum, per ton.....	15
Hams, per 100 lbs.....	2
Hardware, not specified, per ton.....	20
Hay, per ton.....	20
Headings, barrel, per 1,000.....	25
Hides and skins, per 100 lbs.....	2
Hogsheads and puncheons, each.....	7
Hoops, per 1,000.....	4
Hops, per ton.....	40
Horse rakes, each.....	10
Iron, bar, per ton	30
Iron, pig, per ton	30
Iron, scrap, per ton.....	30
Lard, per 100 lbs.....	2
Laths, per 1,000 pieces.....	5
Leather, per 100 lbs.....	3
Lime, in bulk, per ton.....	10
Lumber, sawn or square, per 1,000 feet board measure....	20
Lumber, sawn or square, per 1,000 feet deal measure when exported	10
Machinery, engines, etc., per ton.....	40
Machines, reaping and mowing, each.....	20
Machines, threshing, each	50
Marble, per ton.....	20
Matches, per 10 gross.....	3
Mattresses, each	4
Millstones, per pair.....	20
Molasses, per puncheon or hogshead.....	7
Musical instruments, such as pianos, organs and melodeons, each	25
Nails, per keg.....	2
Nails and spikes, per ton.....	40
Nursery produce, per ton.....	30
Oakum, per 100 lbs.....	2
Oatmeal, per ton.....	40
Oils, per barrel.....	3
Paints, per ton.....	30
Paint, per 100 lbs.....	1½
Pearl ashes and potashes, per barrel.....	2
Pears, 50-lb. box, each.....	½
Pickets, per 1,000.....	5

Name of Article	Tariff Cents
Plaster, calcinated, per 100 lbs.....	2
Plaster, land, per 100 lbs.....	2
Plaster, rough from quarry, per ton.....	2½
Ploughs, each	3
Poles, telegraph, each.....	¼
Potatoes and roots, per 100 lbs.....	1½
Rags, per ton.....	40
Rakes (hay), snaths and forks, per dozen.....	2
Rice, per 100 lbs.....	2
Root slicers, each.....	5
Salt, per barrel	2
Salt, per ton	20
Sand, per ton.....	10
Saw logs, per 1,000 feet board measure.....	10
Sewing machines, each.....	5
Sheep, per head.....	2
Shingles, per 1,000.....	5
Shingle or stay bolts, per cord.....	5
Shovels, per doz.....	2
Slate, per ton.....	30
Soap, per 100-lb. boxes.....	2
Spirits of all kinds and wines, per barrel	10
Spirits of all kinds and wines, per half barrel	5
Spirits of all kinds and wines, per keg and quarter barrel	2½
Spirits of all kinds and wines, per doz. bottles.....	2
Staves, for fish, flour and salt barrels, per 1,000.....	5
Staves, for pipes, per 1,000.....	20
Staves, West Indian, per 1,000.....	15
Steel rails, per ton.....	15
Stone (not used for building or roads), per ton.....	30
Stone or gravel or earth ballast for shipping, per ton.....	10
Stoves, per 100 lbs.....	2
Straw cutters and hay cutters, each.....	5
Sugar, per ton.....	30
Sulphur, per ton.....	12
Swine, each	2
Teas, per chest.....	2
Ties, railroad, per 100 ties.....	25
Timber, per 1,000 ft.....	10
Timothy seed, per bushel.....	1
Tinware, per ton.....	40
Tobacco, per 100 lbs.....	4
Vegetables, not otherwise provided for, per 100 lbs.....	1
Vehicles, undescribed, each.....	10
Vinegar, per barrel.....	2
Wood, per cord	5
Wool, per ton.....	40

Unenumerated articles (which cannot be assimilated to any class of the goods mentioned in this part of the schedule) 10 cents per ton.

Sailing Vessels

On each sailing vessel, under 50 tons	\$0 10
“ “ of 50 “ and under 100 tons....	0 15
“ “ “ 100 “ “ “ 200 “	0 20
“ “ “ 200 “ “ “ 300 “	0 30
“ “ “ 300 “ “ “ 500 “	0 50
“ “ “ 500 “ “ “ 800 “	0 75
“ “ “ 800 “ “ “ 1,200 “	1 00
“ “ “ 1,200 “ “ “ 1,600 “	1 25
“ “ above 1,600 “	1 50

Steamboats

On each steamboat, under 50 tons	\$0 20
“ “ of 50 “ and under 100 tons....	0 30
“ “ “ 100 “ “ “ 200 “	0 40
“ “ “ 200 “ “ “ 300 “	0 60
“ “ “ 300 “ “ “ 500 “	1 00
“ “ “ 500 “ “ “ 800 “	1 50
“ “ “ 800 “ “ “ 1,200 “	2 00
“ “ “ 1,200 “ “ “ 1,600 “	2 50
“ “ above 1,600 “	3 00

PART SECOND

GENERAL TARIFF ON WHARFAGE

TOP WHARFAGE

Name of Article	Tariff Cents
Animals, undescribed, each	3
Apples, per barrel	1
Apples, 50-lb. box, each.....	$\frac{1}{3}$
Bacon, per 100 lbs.....	2
Bark, per cord.....	5
Barrels of flour, bread meal, lime.....	1
Barrels of currants, pitch, tar, cement, plaster-of-paris, whiting, beans, peas, pearl-barley, fish.....	2
Barrels, empty, per 100.....	25
Ballast, per ton.....	10
Beans, per ton.....	21
Beef, per 100 lbs.....	2
Beef and pork, per barrel.....	2
Beer, ale and porter, per barrel	4
Beer, ale and porter, per half barrel	2
Beer, ale and porter, per quarter barrel	1
Beer, bottled, per dozen	$\frac{1}{2}$
Beer, bottled, per barrel	4
Beer, bottled, per half barrel	2
Boats, each	1
Boilers, per ton	20
Boilers, for farmers' use, each.....	2
Bricks, per thousand.....	20
Brooms, per dozen.....	1
Buckets, per dozen.....	1
Building stone, per cord.....	10
Building stone and like material, per ton.....	5
Butter, per 100 lbs.....	2
Calves, each	2
Carriages, wagons and carts of all kinds, each.....	10

Name of Article	Tariff Cents
Cases, bales and other similar goods per ton of 40 cu. ft..	10
Casks, empty, each	3
Casks, empty, not larger than barrels, per 100.....	25
Cattle and horses, per head.....	10
Cedar posts, per 100.....	20
Cement, per ton.....	10
Chains and anchors, per ton.....	20
Cheese, per 100 lbs.....	2
Cider, per barrel.....	3
Clover seed, per bushel.....	1
Coal, per ton.....	5
Colts and fillies, each.....	7
Cordage and ropes, per ton.....	20
Cordwood, per cord.....	3
Cranberries, per barrel.....	2
Cream, per 100 lbs.....	2
Crockery (including china and glassware), per crate.....	10
Cultivators, each	3
Dry goods, cases, bales.....	7
Dynamite, per case.....	2
Earthenware, coarse, per crate.....	10
Eggs, per barrel or box of 72 dozen.....	2
Fanning mills, each.....	15
Feed, Grain, Patent Animal Feed, per ton.....	10
Fish, fresh	Free
Fish, pickled, per barrel	2
Fish, pickled, per half barrel	1
Fish, dried, per 100 lbs.....	1
Flour, per barrel	1
Flour, per ton	10
Fruit, in tins or in glass, per ton	40
Fruit, in tins or in glass, exported, per ton.....	25
Fruit, not otherwise provided for, per 100 lbs.....	1
Furniture, per ton measurement.....	30
Grain of all kinds except oats, per bushel.....	$\frac{1}{4}$
Grain, per 100 lbs.....	$\frac{1}{2}$
Grain, Oats, per 100 lbs	$\frac{3}{8}$
Grain, Oats, per bushel	$\frac{1}{8}$
Grain of all kinds except oats, per bushel, passing through Grand Trunk elevator at Goderich, per bushel.....	$\frac{1}{8}$
Grain, oats, per bushel, passing through Grand Trunk elevator at Goderich.....	$\frac{1}{16}$
Gravel or stone, for use of roads.....	Free
Grindstones, per ton.....	15
Gunpowder, per keg.....	1
Gyproc, per 1,000 ft. B.M.....	10
Gypsum, per ton.....	15
Hams, per 100 lbs.....	2
Hardware, not specified, per ton.....	20
Hay, per ton.....	10
Headings, barrel, per 1,000.....	25
Hides and skins, per 100 lbs.....	1
Hogsheads and puncheons, each.....	7
Honey, per ton.....	30

Name of Article	Tariff Cents
Hoops, per 1,000.....	4
Hops, per 1,000 lbs.....	5
Horse rakes, each.....	5
Iron, bar, per ton.....	15
Iron, pig, per ton.....	15
Iron, scrap, per ton.....	15
Lard, per barrel.....	2
Laths, per 1,000 pieces.....	2
Leather, per 100 lbs.....	3
Lime, in bulk, per ton.....	10
Lobsters, live, per ton.....	40
Lumber, sawn or square, per 1,000 ft. board measure.....	10
Lumber, sawn or square per 1,000 ft. deal measure when exported.....	10
Machinery, engines, etc., per ton.....	20
Machines, reaping and mowing, each.....	20
Machines, threshing, each.....	50
Marble, per ton.....	20
Matches, per 10 gross.....	3
Mattresses, each.....	4
Milk, per 100 lbs.....	2
Millstones, per pair.....	20
Molasses, per puncheon or hogshead.....	7
Molasses, per barrel.....	4
Molasses, per half barrel.....	2
Musical instruments, such as pianos, organs and melodeons, each.....	25
Nails, per keg.....	1
Nails and spikes, per ton.....	20
Nursery produce, per ton.....	30
Oakum, per 100 lbs.....	1
Oatmeal, per ton.....	10
Oil, per barrel.....	2
Oil in bulk, per gallon.....	$\frac{1}{20}$
Onions, per ton.....	10
Paints, per ton.....	20
Paint, per 100 lbs.....	1
Pearl ashes and potashes, per barrel.....	2
Pears, 50-lb. box, each.....	$\frac{1}{3}$
Pickets, per 1,000.....	3
Pigs, each.....	2
Piles, wooden, 1,000-ft. board measure.....	10
Plaster, calcined, per barrel.....	2
Plaster land, per barrel.....	2
Plaster, rough, from quarry, per ton.....	$2\frac{1}{2}$
Ploughs, each.....	3
Poles, telegraph, each.....	$\frac{1}{4}$
Potatoes and roots, per bushel.....	$\frac{1}{4}$
Rags, per ton.....	20
Rakes (hay), snaths and forks, per doz.....	1
Refrigerators, per ton measurement.....	30
Rice, per bag.....	2
Root slicers, each.....	5
Salt, per barrel.....	1
Salt, per ton.....	10

Name of Article	Tariff Cents
Sand, per ton.....	10
Saw logs, per 1,000-ft. board measure.....	10
Sewing machines, each.....	5
Sheep, per head.....	2
Shingles, per 1,000.....	2
Shingle or stave bolts, per cord.....	3
Shovels, per dozen.....	1
Slate, per 10 ft. square.....	3
Soap, per 100-lb. boxes.....	1
Spirits of all kinds and wines, per barrel.....	10
Spirits of all kinds and wines, per half barrel.....	5
Spirits of all kinds and wines, per keg and quarter barrel.....	2½
Spirits of all kinds and wines, per doz. bottles.....	2
Staves, for fish, flour and salt barrels, per 1,000.....	5
Staves, for pipes, per 1,000.....	20
Staves, West Indian, per 1,000.....	15
Steel rails, per ton.....	15
Stone (not used for building or roads), per ton.....	15
Stone or gravel or earth ballast for shipping, per ton.....	10
Stoves, each.....	2
Straw cutters and hay cutters, each.....	5
Sugar, per hogshead.....	7
Sugar, per ton.....	30
Sulphur, per ton.....	12
Swine, each.....	2
Teas, per chest.....	2
Ties, railroad, per 100 ties.....	25
Timber, per 1,000 ft.....	10
Timothy seed, per bushel.....	1
Tinplate, per ton.....	10
Tinware, per ton.....	40
Tobacco, per 100 lbs.....	4
Trees, per ton measurement.....	10
Vegetables, in tins or in glass, per ton.....	40
Vegetables, in tins or in glass, exported, per ton.....	25
Vegetables, not otherwise provided for, per 100 lbs.....	1
Vehicles, undescribed, each.....	10
Vinegar, per barrel.....	2
Wood, per cord.....	3
Wood pulp, ground, per ton.....	5
Wool, per ton.....	20
Wallboard, per ton.....	10

Unenumerated articles (which cannot be assimilated to any class of the goods mentioned in this part of the schedule) per barrel bulk of 5 cubic feet, 2 cents, or 10 cents per ton.

STORAGE RATES IN FROST-PROOF WAREHOUSES

Vegetables and roots in frost-proof warehouses (after expiry of 10-day free period)— $\frac{1}{16}$ cents per bushel per day.

If warehouses are heated, additional charges are:

$\frac{1}{4}$ cent per bushel for the first ten days (no free period) or fraction thereof.

$\frac{1}{8}$ cent per bushel for each five days, or fraction thereof, after the first ten days.

SIDE WHARFAGE

(Per 24-hour period or portion thereof)

Sailing Vessels

On each sailing vessel,	under	50 tons	.....	\$0 10
"	of	50 "	and under 100 tons....	0 15
"	"	100 "	" " 200 "	0 20
"	"	200 "	" " 300 "	0 30
"	"	300 "	" " 500 "	0 50
"	"	500 "	" " 800 "	0 75
"	"	800 "	" " 1,200 "	1 00
"	"	1,200 "	" " 1,600 "	1 25
"	above	1,600 "	.....	1 50

Steamboats

On each steamboat,	under	50 tons	.....	\$0 20
"	of	50 "	and under 100 tons....	0 30
"	"	100 "	" " 200 "	0 40
"	"	200 "	" " 300 "	0 60
"	"	300 "	" " 500 "	1 00
"	"	500 "	" " 800 "	1 50
"	"	800 "	" " 1,200 "	2 00
"	"	1,200 "	" " 1,600 "	2 50
"	above	1,600 "	.....	3 00

State Wisconsin
(For 24-hour period or portion thereof)

Continued

Rate	Number of calls	Number of calls	Number of calls
\$0.10	100	100	100
0.15	200	200	200
0.20	300	300	300
0.25	400	400	400
0.30	500	500	500
0.35	600	600	600
0.40	700	700	700
0.45	800	800	800
0.50	900	900	900
0.55	1,000	1,000	1,000
0.60	1,100	1,100	1,100
0.65	1,200	1,200	1,200
0.70	1,300	1,300	1,300
0.75	1,400	1,400	1,400
0.80	1,500	1,500	1,500
0.85	1,600	1,600	1,600
0.90	1,700	1,700	1,700
0.95	1,800	1,800	1,800
1.00	1,900	1,900	1,900
1.05	2,000	2,000	2,000

Continued

Rate	Number of calls	Number of calls	Number of calls
\$0.70	1,300	1,300	1,300
0.75	1,400	1,400	1,400
0.80	1,500	1,500	1,500
0.85	1,600	1,600	1,600
0.90	1,700	1,700	1,700
0.95	1,800	1,800	1,800
1.00	1,900	1,900	1,900
1.05	2,000	2,000	2,000
1.10	2,100	2,100	2,100
1.15	2,200	2,200	2,200
1.20	2,300	2,300	2,300
1.25	2,400	2,400	2,400
1.30	2,500	2,500	2,500
1.35	2,600	2,600	2,600
1.40	2,700	2,700	2,700
1.45	2,800	2,800	2,800
1.50	2,900	2,900	2,900
1.55	3,000	3,000	3,000
1.60	3,100	3,100	3,100
1.65	3,200	3,200	3,200
1.70	3,300	3,300	3,300
1.75	3,400	3,400	3,400
1.80	3,500	3,500	3,500
1.85	3,600	3,600	3,600
1.90	3,700	3,700	3,700
1.95	3,800	3,800	3,800
2.00	3,900	3,900	3,900

DOMINION OF CANADA

ANNUAL REPORT

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OF THE

DEPARTMENT OF TRANSPORT

FOR THE FISCAL YEAR FROM APRIL 1, 1936,
TO MARCH 31, 1937

SUBMITTED UNDER THE PROVISIONS OF THE
DEPARTMENT OF TRANSPORT ACT



OTTAWA
J. O. PATENAUDE, I.S.O.
PRINTER TO THE KING'S MOST EXCELLENT MAJESTY

1937

Price, 50 cents

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PRINTED AND BOUND BY THE
GOVERNMENT OF CANADA
OTTAWA, CANADA

*To His Excellency the Right Honourable Baron Tweedsmuir of Elsfield, P.C.,
G.C.M.G., C.H., Governor General and Commander-in-Chief of the
Dominion of Canada.*

MAY IT PLEASE YOUR EXCELLENCY:

The undersigned has the honour to present to Your Excellency the Annual Report of the Department of Transport, of the Dominion of Canada, for the fiscal year ended March 31, 1937.

C. D. HOWE,
Minister of Transport.

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REPORT OF THE DEPUTY MINISTER OF TRANSPORT

FOR THE FISCAL YEAR ENDED MARCH 31, 1937

To the Hon. C. D. Howe,
Minister of Transport.

SIR,—I have the honour to submit herewith the first annual report of the Department of Transport, which was established on November 2, 1936, pursuant to the provisions of The Department of Transport Act (Chapter 34, 1 Edward VIII) as of that date proclaimed. This Act provided for the merging of the former Departments of Marine and of Railways and Canals and also for the transfer to the resulting Department of Transport of the Civil Aviation Branch of the Department of National Defence. By the Act in question all the powers formerly exercised by the ministers of the several departments affected were, upon the coming into force of the Act, vested in the Minister of Transport, and Chapter 34 also made possible the substitution of titles and transfer of duties of all departmental officers, and the reorganization of the work of the department in conformity with the requirements of a single department dealing with all agencies of transportation in so far as Federal jurisdiction should permit. The transfer of officers and employees of the several departments concerned and the organization and establishment of the resultant Department of Transport was, in virtue of Chapter 34, formally sanctioned by Order in Council, P.C. 59/2798, of October 29, 1936, effective November 2, 1936, the date upon which The Department of Transport Act was proclaimed.

The former Department of Marine was established at Confederation (1867) and was, therefore, in its seventieth year when absorbed into the larger organization. The Department of Railways and Canals, an off-shoot originally of the Department of Public Works, was formed in 1879, and was thus in its fifty-eighth year when it became part of the Department of Transport. Civil Aviation, on the other hand, is a comparatively recent development, but one which has made rapid headway and is exerting a quickening influence upon Canadian trade and commerce, serving with speed and dependability immense areas of territory not as yet reached by the older established methods of transport.

The formation of the Department of Transport involved certain changes in the organization of the former departments in the interests of efficiency and economy. The contact of the department with Canadian National Railways has been maintained and has to do principally with the budgetary requirements of the nationally-owned and operated lines, and steamships. The Department of Transport continues to be the medium of communication with the government and parliament with respect to railway plans and policies, and the preparation of the railway and steamship estimates. The department also conducts its own audit of all railway and steamship expenditures authorized by parliament, and ascertains that all such appropriations are applied as voted.

The Department of Transport continues to be responsible for the administration of the canals of the Dominion, but in that connection an important change has been made in that the position of Chief Engineer of Canals has been abolished and the operation and maintenance of the canals placed under a General Superintendent of Canals, while purely engineering problems have been placed in the hands of an engineer of design and capital construction, which officer is the chief of a corps of engineers of diversified training and experience

whose services are available not only to the various branches of the Department of Transport, but also to the National Harbours Board with its somewhat similar problems.

Based upon another Act of Parliament, Chapter 42, of 1 Edward VIII, certain important changes have been effected with respect to the administration of national harbours, formerly managed and operated by local harbour commissions, subject to a certain measure of oversight and supervision by the former Department of Marine. These national ports have now been placed under the direction of a National Harbours Board, as distinct from the department, and reporting directly to the Minister of Transport. Thus a centralized direction and control of national ports has been effected which has already resulted in considerable savings and increased efficiency of administration and operation. Terminal grain elevators at Port Colborne and Prescott, Ontario, and the Port of Churchill, Manitoba, all of which were formerly operated directly by the department have been transferred to National Harbours Board for operation.

During the fiscal year under review the Hydrographic Survey Branch of the former Department of Marine was transferred to the Department of Mines and Resources (formerly Interior) also in the interests of economy, that department having a considerable hydrographic and map service with which the Marine section is now associated. The report of the Canadian Hydrographic Service for the fiscal year 1936-37 will, therefore, appear in the annual report of the Department of Mines and Resources. A further change has had to do with the transfer from Ottawa to Montreal of the office of the Chief Engineer of the St. Lawrence Ship Channel work, and, more recently, the sale of the government shipyard at Sorel, P.Q., and the departmental lower St. Lawrence river dredging fleet, to private interests, also in the interests of efficiency and economy.

The Marine Services of the department have been placed under a director (formerly the Deputy Minister of Marine) who has supervision, through responsible heads of branches, over the various marine activities of the department, having to do more particularly with steamship agencies, aids to navigation, marine agencies, pilotage and nautical services. The Superintendent of Marine Equipment reports directly to the Deputy Minister, as also do the Chief Engineer of the St. Lawrence Ship Channel, and the Chief of the Canadian Travel Bureau.

Civil Aviation, meteorological services and radio have been grouped under the general supervision of a Chief of Air Services, each of the three divisions being in turn under the particular direction of a controller. During the year ended March 31, 1937, substantial progress was made in the construction of airports and intermediate aerodromes, hangars and radio stations forming part of the Trans-Canada airways project, construction work proceeding on 42 locations. At the end of the fiscal year preliminary development had been completed on 18 aerodromes and airports and 34 were in course of construction, while 9 additional sites had been acquired. In addition, there are 30 intermediate aerodromes which were completed prior to 1930 and are now incorporated in the Trans-Canada development, as also are 17 municipal and public airports across Canada.

Rapid progress is being made toward operation of a modern inter-urban air service connecting the principal centres of population across Canada. The Act of Parliament incorporating this company, Trans-Canada Air Lines, was assented to April 10, 1937, the Act providing that at least a majority ownership will be retained by the Canadian National Railways. This company has now appointed its Board of Directors and operating officers, has purchased the necessary equipment and is now engaged in training a competent operating personnel. Commercial operations in Western Canada have now been undertaken and will be rapidly extended to other parts of Canada.

The Department of Transport as such does not exercise control over broadcasting, that responsibility being vested in the Canadian Broadcasting Corpora-

tion, reporting directly to the Minister, who is the medium of communication as between the Corporation and the Government and Parliament. Similarly, the Board of Railway Commissioners for Canada, as established by the Railway Act, although operating as a Court of Record, and having all the powers of a Superior Court, reports to the Governor in Council through the Minister of Transport who deals with all matters affecting the board before Government and Parliament and also with respect to the Civil Service Commission, the employees of the board having been accorded Civil Service status.

The functions and activities of certain branches of the Department of Transport relate to the department as a whole, namely, the Law Branch, the Engineering Branch, the Records Branch, the Personnel Branch, the Purchasing Branch, and the Real Estate Branch. In addition, a Government Employees' Compensation Branch of the Department of Transport deals with all workmen's compensation matters as affecting Dominion Government services as a whole in the several provinces of the Dominion, dealing in all cases with the local provincial compensation board. As an important transportation adjunct the Canadian Travel Bureau, established several years ago with a view to developing the possibilities of tourist traffic, also forms part of the Department of Transport, and has been active in furnishing leadership to the tourist movement in close co-operation with provincial and local tourist bureaus throughout Canada.

An important feature of the general report herewith presented is the report of the Chief Treasury Officer of the department, whose staff has been busy since the establishment of the new department in November last in an effort to consolidate the accounts of the former departments of Marine and Railways and Canals and the Civil Aviation Branch of the Department of National Defence. It has not been possible, in the time available, to completely consolidate these accounts, and for the year under review the accounts in question are dealt with largely as heretofore, and the work of co-ordinating the accounting on the basis of the department as now organized, and the development of uniform accounting methods, will continue to receive attention during 1937-38. The accounting facilities are being maintained and provided for without increase in personnel and without transfer from the Treasury staff attaching to the Department of National Defence, which heretofore has had to do with civil aviation. There has also been a considerable increase in expenditures by this branch relative to Trans-Canada Airways, and the accounting staff is also for the present somewhat handicapped by lack of convenient office arrangements and contact with the principal administrative units of the departmental staff.

The continuity of accounting during 1936-37 was affected by the transfer of the hydrographic service to the Department of Mines and Resources and by the transfer to the National Harbours Board of the grain elevators at Fort Churchill, Prescott and Port Colborne.

The departmental accounts are as usual preceded by the report of the Railway Auditor with respect to matters under departmental accounting and auditing attention relative to the Canadian National Railways, Canadian Government Merchant Marine, Limited, and the Canadian National (West Indies) Steamships, Limited, such matters being dealt with on the basis of the calendar year 1936. The date of the enactment of the Canadian National Railways Capital Revision Act, April 10, 1937, precluded any possibility of the adjustments authorized therein being made in the accounts for the fiscal year ended March 31, 1937. While this legislation renders it unnecessary longer to maintain suspense accounts as between the Canadian National Railways and the original Canadian Government Railway lines, the accounting contact between the Department of Transport and Canadian Government Railways will continue to be maintained in respect of the investment by the Dominion in those railways.

Although the Canadian Government Merchant Marine fleet was sold during 1936-37, it was not possible to close out the accounts completely by March 31, 1937. Matters remaining to be adjusted, however, are of comparatively minor nature, but legislation will probably be required to enable the balance of the loans standing on the books of the Dominion against the Canadian Government Merchant Marine to be written into the net debt.

In submitting the accompanying reports on our departmental activities, with respect to which the exigencies of space prevent further comment on my part, I desire to acknowledge and commend most highly the whole-hearted co-operation and support I have received as Deputy Minister of the enlarged and consolidated department of Transport from officers and employees, many of whose services have been affected by the changes incident to reorganization, entailing in the case of certain branches removal to other quarters and the dislocation of established routine, as well as increase in duties. During this somewhat trying period it has been pleasing to note the extent to which all branches have endeavoured to contribute to the general good, and with this spirit of co-operation so manifest, I have every confidence that the traditional excellence of the former departments will continue to be exemplified in the newer and larger organization, with correspondingly increased opportunities for useful public service in the important domain of transport.

I have the honour to be, sir,

Your obedient servant,

V. I. SMART,

Deputy Minister of Transport.

OTTAWA, September 15, 1937.

AIR SERVICES

SIR,—I have the honour to submit herewith the annual reports for the fiscal year ended March 31, 1937, relating to the following services under my charge and direction as Chief of Air Services of the Department of Transport:—

Civil Aviation Division, J. A. Wilson, Controller;
Radio Division, W. A. Rush, Controller;
Meteorological Division, J. Patterson, Controller.

I have the honour to be, sir,

Your obedient servant,

C. P. EDWARDS,

Chief of Air Services.

V. I. SMART, Esq.,
Deputy Minister of Transport,
Ottawa, Ontario.

CIVIL AVIATION

SIR,—The following report for the fiscal year ending March 31, 1937, is submitted:—

Under the provisions of the Department of Transport Act, 1936, Chapter 34 of the Statutes of Canada, the control and supervision of Civil Aviation was transferred from the Minister of National Defence to the Minister of Transport and the Branch was transferred from the Department of National Defence to the new Department of Transport. This Act was proclaimed and came into force on November 2, 1936. Until that date, the Civil Aviation Branch continued as a civil branch under the Deputy Minister of National Defence, to whom the Controller of Civil Aviation was directly responsible.

In the new Department of Transport, Civil Aviation, Radio and Meteorology are grouped together under the Chief of Air Services as a principal division of the department. In January, the Civil Aviation Branch moved their offices to the second floor of the Hunter Building, adjacent to those of the Radio Service. The work of all three branches is so closely related that their close association in one service is a great advantage.

The transfer of the Civil Aviation Branch was accomplished without any dislocation of its work. Its functions remain as before, its records and files were taken over by the new Central Registry of the Department of Transport but its accounts and financial control continued to be handled by the Treasury Branch, Department of National Defence, until the end of the fiscal year. The only major change was the creation of a civil Aeronautical Engineering Division. Hitherto the aeronautical engineering work of the Civil Aviation Branch had been handled by the Aeronautical Engineering Service of the Royal Canadian Air Force. Certain members of this staff had been appointed as civil servants to deal with the airworthiness of civil aircraft. These were transferred to the new department and arrangements were made for the transfer of a senior officer as Chief Engineer.

DUTIES AND ORGANIZATION

The Controller of Civil Aviation is responsible for the administration of the Air Regulations, the location, equipment and maintenance of airways and civil government aerodromes and the oversight of flying clubs. The branch is divided into three divisions:—

- (a) Air Regulations Division;
- (b) Airways and Airports Division;
- (c) Administrative Services, including correspondence, information, estimates, liability records, etc.

AIR REGULATIONS

The control of civil aviation in Canada is provided for by the Aeronautics Act. In accordance with the terms of this Act, an Order in Council was passed on December 31, 1919, approving and promulgating Air Regulations, 1920, which cover in detail the air law of Canada. These regulations conform in essentials to the International Convention for Air Navigation. They have been amended from time to time, as necessary, to keep them in line with current aviation practice. On May 30, 1936, a new section providing for the licensing of interurban and international scheduled air transport services was added to the Regulations, in order to provide a measure of control and regulation over such services.

AIR REGULATIONS DIVISION

This division, in charge of the Superintendent, is organized as follows:—

<i>Location</i>	<i>District Covered</i>	<i>Staff</i>
Ottawa	Headquarters' duties and field work in following areas; Quebec, West of 75th meridian, Ontario east of 77th meridian and North of the C.P.R. Montreal and Sault Ste. Marie line as far west as the 86th meridian.	Superintendent. 2 inspectors. 2 assistant inspectors.
Montreal	Quebec, east of the 75th meridian of longitude, and the Maritime Provinces.	1 inspector. 1 assistant inspector.
Toronto	That portion of Ontario lying south of the main line of the C.P.R. from Montreal to Sault Ste. Marie and west of the 77th meridian of longitude.	1 inspector. 1 assistant inspector.
Winnipeg	Manitoba and Northern Ontario west of the 86th meridian of longitude.	1 inspector. 1 assistant inspector.
Edmonton	Saskatchewan, Alberta and the Northwest Territories.	1 inspector. 1 assistant inspector.
Vancouver	British Columbia and Yukon Territory.	1 inspector. 1 assistant inspector.

The duties include the inspection and registration of aircraft and their certification for airworthiness; the examination and licensing of pilots, navigators and air engineers; prevention of dangerous flying; inquiries into the cause of air accidents, and international flying.

LICENCES

Six hundred and three air pilots' or air engineers' licences were granted. Also 269 aircraft registration certificates and airworthiness certificates were granted to operators.

	Issued	Extended	Lapsed	Renewed	Cancelled
Private Air Pilots.....	308	155	404	162	5
Commercial Pilots.....		292	274	245	55
Limited Commercial Pilots.....	161	50	17	10	2
Transport Pilots.....	52	34	5	5	4
Air Engineers.....	82	49	64	32	8
Private Aircraft.....	45		14	11	25
Commercial Aircraft.....	224		23	25	144

TOTALS IN FORCE MARCH 31, 1937

Private Air Pilots.....	569
Commercial Air Pilots.....	373
Limited Commercial Pilots.....	67
Transport Pilots.....	46
Air Engineers.....	529
Private Aircraft.....	75
Commercial Aircraft.....	404
Airharbours.....	99

ACCIDENTS

In accordance with Air Regulations, aircraft operators are required to report all accidents involving death or injury to personnel or damage to aircraft. Nineteen accidents involving death or injury were reported and Boards of Inquiry were convened to determine the cause of each accident. In addition, 81 accidents involving damage to aircraft only were reported.

LIGHT AEROPLANE CLUBS

A further extension of the club scheme was granted and revised Standard Conditions authorized. Grants were paid for 228 private and 43 commercial air pilot's licences. Twenty-four aircraft were issued for training purposes. Twenty-two clubs were in operation.

The activities of the clubs were: Members 2,427; aircraft used, 66; members under instruction, 628; hours flown, 19,520-11.

AIRCRAFT OPERATORS

One hundred and twenty-seven commercial aircraft operators were variously engaged in transportation of mail, passengers and freight, flying instruction, air photography, timber cruising, forest and fishery patrols, demonstrations, mining exploration and prospecting, etc. These firms were located as follows: 2 in Nova Scotia, 3 in New Brunswick, 19 in Quebec, 54 in Ontario, 7 in Manitoba, 7 in Saskatchewan, 12 in Alberta, 21 in British Columbia, and 2 in the Yukon.

Forest fire protection and exploratory operations were carried out by the Air Services owned and operated by the provinces of Ontario, Manitoba and Saskatchewan.

The following is a summary of activities at this airport for 1936:—

Aircraft in..	455
Aircraft out..	450
Passengers in..	893
Passengers out..	1,400
Freight in (lbs.)..	8,456
Freight out (lbs.)..	
Mail in..	94,920
Mail out..	66,185
Aircraft imported..	5
Value..	\$20,106 57
Aircraft exported..	2
Value..	\$15,000 00

AIR MAIL SERVICES

During 1936, thirty-five regular air mail services were operated by commercial firms, under Post Office contracts; 1,159,934 pounds of mail were carried, 905,545 route miles were flown, 6,880 single trips were made. The following services were maintained:—

Yearly Services.—Cameron Bay-Coppermine, Central Manitoba and Northern Ontario, Winnipeg-Diana, Kenora-Red Lake, Sioux Lookout-Casummit Lake, Sioux Lookout-Red Lake, Fort Chipewyan-Goldfields, McMurray-Smith, Smith-Resolution, Resolution-Simpson, Simpson-Aklavik, Fort Resolution-Cameron Bay, Gods Lake-Cross Lake-Norway House, Goldfields-Fond du Lac, Kenora-Cole, Kenora-Whitefish Bay, Moncton-Charlottetown, Prince Albert-Goldfields, Prince Albert-Ile a la Crosse-Lac la Ronge, Sioux Lookout-Pickle Crow, Vancouver-Seattle, Vancouver-Victoria, Winnipeg-Gods Lake and Ilsford, Montreal-Albany, Ottawa-Montreal, Haileybury-Mud Lake, Winnipeg-Pembina, Kenora-Machin.

Summer Services.—Montreal-Rimouski.

Winter Services.—Havre St. Pierre-Port Menier, Quebec-Sept Iles, Sept Iles-Natashquan, Leamington-Pelee Island, Atlan-Telegraph Creek, Charlottetown, Magdalen Islands.

Statistics

The following summary includes all operations of commercial and provincial-owned aircraft, light aeroplane clubs and air mail operators, in fact, all flying in Canada except Federal Government and private-owned aircraft:—

	1934	1935	1936
Aircraft miles.....	6,497,637	7,522,102	7,100,401
Flights.....	128,031	153,211	108,582
Hours.....	75,871	88,451	76,443
Passengers.....	105,306	177,472	115,834
Passenger miles.....	6,266,475	7,936,950	11,272,716
Freight and Express (lbs.).....	14,441,179	17,615,910	22,947,105
Mail (lbs.) (contract).....	625,040	1,126,084	1,159,934

NOTE: The figures for 1934 and 1935 include all flying in Canada, while those for 1936 only include commercial air traffic.

I have the honour to be, sir,

Your obedient servant,

J. A. WILSON,
Controller of Civil Aviation.

Commander C. P. EDWARDS,
Chief of Air Services,
Dept. of Transport, Ottawa, Canada.

RADIO DIVISION

SIR,—I have the honour to submit herewith the report of the Radio Division of the Air Services Branch of the Department of Transport for the fiscal year ended March 31, 1937:—

AMALGAMATION OF DEPARTMENTS

With the amalgamation of the Department of Railways and Canals and the Department of Marine, as of November 2, 1936, the Radio Division became a part of the Air Services Branch of the Department of Transport.

ACTIVITIES OF THE RADIO DIVISION

The activities of the Radio Division may be divided into three main sections, namely:—

- (1) The administration of national and international radio laws and regulations and regional agreements,
 - (a) The Radiotelegraph Act and Regulations issued thereunder.
 - (b) The Canada Shipping Act, 1934.
 - (c) The International Telecommunication Convention and Regulations annexed thereto as applicable to Canadian land, ship and aircraft stations.
 - (d) The International Convention for the Safety of Life at Sea as regards the radio requirements for ships affected thereby.
- (2) The construction, operation and maintenance of radio stations as aids to navigation, both maritime and aeronautical.
- (3) The investigation and suppression of inductive interference to broadcast reception.

This includes:

- (1) (a) The licensing of radio stations of all classes—land, ship and aircraft—and the allocation of frequencies to transmitting stations with a view to the avoidance of interference, national and international. (Canada being a signatory to the International Radiotelegraph Convention has an international obligation to fulfil in respect to the control of her radio stations.)
- (b) The inspection of such stations to ensure that their equipment complies with the provisions of their licences, of the Radiotelegraph Act and Regulations and of the International Telecommunication Convention and Regulations.
- (c) The inspection of the radio equipment in foreign vessels as well as those of Canadian registry from the standpoint of Safety of Life at Sea.
- (d) The monitoring of all stations to ensure maintenance of their frequencies within the prescribed tolerance, and the maintenance of a national standard against which such frequencies may be checked.
- (e) The technical control of all broadcasting stations in the Dominion.
- (f) The detection of unlicensed stations, both transmitting and receiving, and the taking of such legal measures in respect to the same as may be deemed appropriate by the Department.
- (g) The examination for Certificate of Proficiency in Radio of persons eligible to take such examination, with a view to qualifying them to act as operators at licensed Canadian radio stations.

(h) The checking and settlement of international radiotelegraph accounts covering tolls on messages handled through Canadian stations and on messages handled by Canadian registered ships through foreign coast stations.

(2) The construction, operation and maintenance of radio aids to navigation, maritime and aeronautical, and of visual signalling stations on the East Coast.

(3) The investigation and suppression of inductive interference with broadcast reception due to faulty electrical equipment, appliances and power distribution lines.

NUMBER OF RADIO STATIONS IN THE DOMINION

The total number of licensed stations in operation in the Dominion and on ships registered therein was, on March 31, 1937, as follows:—

Coast stations..	31
Land stations..	1
Direction finding stations..	13
*Beacon stations..	26
Radiophone stations..	10
Government ship stations..	58
Commercial ship stations..	261
Limited coast stations..	5
Aircraft stations..	7
Public commercial stations..	41
Private commercial stations..	316
Private commercial broadcasting stations..	80
Experimental short wave broadcasting stations..	9
Radiotelegraph training schools..	5
Experimental stations..	126
Amateur experimental stations..	2,821
Private receiving stations (including 2,758 licences issued free to the blind)	1,038,500
Total..	1,042,310

* One combined direction finding and radio beacon station included in total of direction finding stations, and one combined coast and radio beacon station shown in total of coast stations.

LICENCE FEES

The fees charged in respect of radio licences issued by the Minister of Transport are as follows:—

(i) FOR TWELVE MONTHS

1. Limited coast station..	\$50 00
2. Public commercial station..	50 00
3. Private commercial station..	10 00
4. Experimental station..	5 00
5. Amateur experimental station..	2 50
*6. Private receiving station..	2 00
7. Technical or training school station..	5 00
8. Ship station..	10 00

(ii) FOR SIX MONTHS

*1. Private commercial broadcasting station..	25 00
*2. Amateur broadcasting station..	5 00

*As provided in the Canadian Broadcasting Act 1936, the moneys received from licence fees in respect of Private Receiving Licences and Private Station Broadcasting Licences are credited to the Canadian Broadcasting Corporation after deducting from the gross receipts the cost of collection and administration.

MARITIME RADIO AIDS TO NAVIGATION

GOVERNMENT COAST STATIONS

The term "Coast Station" is used to designate a radio station established on shore to communicate with ships at sea.

The complete system consists of eighty-one stations located as follows:—

East Coast (includes 14 radio beacon stations, 1 combined direction finding and radio beacon station and 4 radiotelephone stations) ..	37
Great Lakes (includes 7 radio beacons)	15
Pacific Coast (includes 5 radio beacon stations, 1 combined coast and radio beacon station and 6 radiotelephone stations)	22
Hudson Bay and Strait and Arctic	7
Total	<hr/> 81

Three Coast Station systems are maintained, one extending from Vancouver to Prince Rupert on the Pacific, another from Port Arthur to the Atlantic ocean in the east, and the third from Port Churchill to Resolution island at the eastern entrance to the Hudson strait, and, for the purpose of administration, is divided into three districts—Pacific Coast, Great Lakes, and East Coast. The stations of the Great Lakes connect up with those of the East Coast Division, which in turn connects with the Hudson Bay route chain. There is no direct radio connection between the Great Lakes and the Pacific coast.

Of the above stations, fourteen on the East Coast and Great Lakes are operated by the Canadian Marconi Company under contract with the department, and the balance of sixty-seven, which includes Coast Stations, Direction Finding Stations, Radio Beacon Stations and Radiotelephone Stations, on the east and west coasts and Hudson's bay and strait, are operated directly by the department.

The primary aim of the Coast Station organization is to provide radio facilities whereby any ship within 500 miles of the Canadian coast can establish instant communication with the shore. Constant watch, 24 hours a day, 365 days a year, is maintained at practically all of the stations, which during the year handled a total of 7,872,891 words.

AERONAUTICAL RADIO AIDS TO NAVIGATION

Seven old type radio beacons, three weather reporting and relay stations, and two airport stations were taken over from the Department of National Defence on November 2, 1936. The equipment of these stations will be modernized and used as required in the coast-to-coast network of aeronautical radio beacons to be established during the coming fiscal year in connection with the Trans-Canada Airways.

COMMERCIAL SHIP SERVICE

In addition to the thirty-one coast stations, all direction finding stations handle commercial radio traffic.

On the Pacific Coast the departmental stations at Estevan (VAE) and Vancouver (VAI) provide a long distance service to ships, and on the Atlantic, Louisburg, N.S. (VAS), owned and operated by the Canadian Marconi Company, provides a similar service.

RADIO DIRECTION FINDING

The direction finding stations continue to enjoy their reputation for efficiency and accuracy. These stations give bearings without charge to any ship fitted with radio.

There are thirteen radio direction finding stations in operation, 7 on the East coast, 5 on the Hudson bay and strait, and 1 on the Pacific Coast. With the exception of St. Paul island, the East and West coast stations maintain continuous watch throughout the year, while the Hudson bay and strait stations maintain such watches during the season of navigation only.

The St. Paul island station operates as a direction finding station maintaining continuous watch during periods in the spring and fall only when the normal route of navigation to and from the gulf of St. Lawrence is via Cabot strait. During the remainder of the year the station functions as an automatic radio beacon but is available to give bearings upon special request being made through the North Sydney Coast Station (VCO).

The Radio Division is indebted to the officers of Dominion Government ships generally for the valuable assistance they rendered over a period of years in the calibration of direction finding stations.

BEARINGS GIVEN 1936-37

Station—	
Camperdown, N.S.	13,288
Canso, N.S.	13,562
Yarmouth, N.S.	18,505
St. Paul Island, N.S.	2,856
Cape Race, Nfld.	8,390
Saint John, N.B.	1,318
Pachena Point, B.C.	1,278
Belle Isle, Nfld.	2,050
Port Churchill, Hudson bay.	224
Nottingham Island, Hudson strait.	315
Cape Hope's Advance, Hudson strait.	179
Resolution Island, Hudson strait.	284
Chesterfield Inlet, Hudson bay.	186
Total.	62,435

RADIO BEACON SERVICE

Radio beacons are for the purpose of enabling a radio equipped ship or aircraft to determine its bearing or direction in relation to the radio beacon station.

The department maintains a network of radio beacon stations on the Atlantic and Pacific coast and on the Great Lakes which are automatic in their operation. In clear weather each station, at advertised hours, transmits its characteristic for three periods of one minute separated by silent intervals of two minutes. In foggy weather all stations operate continuously maintaining a uniform time cycle of three minutes, each station transmitting in its proper sequence for one minute separated by silent intervals of two minutes.

Two new radio beacons were established during the year, one at Western Head, Nova Scotia, and the other at Slate Island, lake Superior.

There are twenty-eight radio beacons, located as follows:—

Atlantic Coast and Gulf of St. Lawrence	Great Lakes	Pacific Coast
Cape Bauld, Nfld.....	South East Shoal.....	Race Rocks, Vancouver Island.
Cape Whittle, P.Q.....	Main Duck.....	Langara.
West Point, Anticosti Island.....	Long Point.....	(3) Dead Tree Point.
Perroquet Island.....	Michipicoten Island.....	Quatsino (Kains Island).
Pointe-des-Monts, P.Q.....	Cove Island.....	Triple Island.
Natashquan, P.Q.....	Port Weller.....	(1) Point Atkinson.
(2) St. Paul Island.....	Slate Island.....	
Heath Point.....		
Cape Ray, Nfld.....		
Sambro Lightship.....		
Seal Island, N.S.....		
Lurcher Lightship.....		
Sable Island.....		
East Point.....		
Western Head, N.S.....		

(1) At Point Atkinson the radio signals of the station are synchronized with the emissions of the fog alarm at Point Atkinson during foggy weather for distance finding. This is the first station of its kind to be established in the Dominion.

Synchronization of the radio beacon and fog alarm signals is achieved by the simultaneous transmission by both stations during foggy weather of a group of dashes—one short and one long, of one second and five seconds duration—every third minute. These dashes transmitted by the radio beacon are easily identified as they are lower in pitch than the regular characteristic of the station. To estimate distance it is only necessary to observe the time in seconds which elapses between hearing any part of the distinctive group of radio dashes (say the end of the long dash) and the corresponding part of the group of sound signals from the fog alarm, and dividing the result by 5 (or more exactly 5.5) for nautical miles. For example, if the interval between hearing the end of the five-second dash of the radio beacon and the end of the five-second blast of the fog alarm is 33 seconds, the observer is six miles from the transmitting station (i.e., 33 divided by 5.5).

The low pitch of the short and long radio dashes used for synchronization purposes has an added advantage inasmuch as it indicates to ships well out of visible range that there is fog in the vicinity of the station.

- (2) This is a combined radio beacon and direction finding station.
 (3) This is a combined coast and radio beacon station.

In addition to the above radio beacon facilities, ships equipped with direction finding apparatus may, upon request, obtain signals for the purpose of taking bearings from any of the coast stations. During the past year 1,847 such requests for signals were handled. There is no charge for these services.

CONFERENCES

INTERNATIONAL TELECOMMUNICATION CONFERENCE, CAIRO

The next International Telecommunication Conference will be held at Cairo in February, 1938.

A preliminary conference was held in the Department of Transport, Ottawa, on September 28 and 29, 1936, when proposals for the amendment of the International Telecommunication Convention (Madrid) 1932 and the regulations annexed thereto were formulated. Representatives from the Canadian Marconi Company, the Radio Branch, Ontario Provincial Department of Lands and Forests, the Canadian National Telegraphs, the Canadian Pacific Telegraphs, the Bell Telephone Company, the Amateur Radio Relay League, the Department of National Defence, the Department of External Affairs, and the Canadian Radio Broadcasting Commission attended.

THE HAVANA CONFERENCE

There was held in the city of Havana, Cuba, from the 15th to the 29th of March, 1937, an informal meeting of technical experts for the purpose of exchanging views on the subject of radio broadcast channel allocations in the Americas,

in preparation for a formal Inter-American Conference of plenipotentiaries which is to be held in Havana in November, 1937.

At this preliminary conference, representatives from Canada, the United States, Mexico and Cuba agreed to recommend to their respective governments for approval a number of fundamental engineering principles of radio broadcast channel allocation.

The conference has made substantial progress in establishing a basis of discussion for the forthcoming conference, to which twenty-three North, Central and South American countries will be invited.

LEGISLATION

THE CANADA SHIPPING ACT, 1934

This Act came into force by proclamation on August 1, 1936.

That part of the Radiotelegraph Act, Chapter 195, R.S. of C. 1927, which was applicable to ships registered in Canada has now, with certain amendments, been embodied in the Canada Shipping Act.

As this Act did not come into effect until the date indicated, Order in Council, P.C. 2282, under section 406 (2) (b) of the said Act, was passed exempting cargo ships of 5,000 tons gross tonnage and upwards plying on the Great Lakes, which were affected by the radiotelegraph requirements provided therein, from carrying a main radiotelegraph installation until September 20, 1936, and from carrying an emergency radiotelegraph set at any time during the year 1936.

THE CANADIAN BROADCASTING ACT, 1936

This Act, which repealed the Canadian Radio Broadcasting Act, 1932, came into force by proclamation on November 2, 1936 when the technical control of broadcasting stations reverted to this division as provided under the existing Radiotelegraph Act (R.S. of C. 1927, c. 195).

Under the new Act the Canadian Broadcasting Corporation may make regulations:

- (a) to control the establishment and operation of chains or networks of stations in Canada;
- (b) to prescribe the periods to be reserved periodically by any private station for the broadcasting of programs of the Corporation;
- (c) to control the character of any and all programs broadcast by Corporation or private stations;
- (d) to determine the proportion of time which may be devoted to advertising in any program broadcast by the stations of the Corporation or by private stations, and to control the character of such advertising;
- (e) to prescribe the proportion of time which may be devoted to political broadcasts by the stations of the Corporation and by private stations, and to assign such time on an equitable basis to all parties and rival candidates.

FREQUENCY MONITORING

The Ottawa Monitoring Station operated by this division was improved during the year by the addition of directional receiving equipment to eliminate interference in the reception of broadcasting stations operating on the same channels.

The station, which is now in charge of a full-time radio electrician carried out an average of 25 measurements per day of the frequency of Canadian and foreign stations. These measurements, in addition to their value from an administrative standpoint, also provide valuable data on transmitter stability for use at the 1938 Radio Conference of Cairo.

This station has also made valuable contributions to radio research by making observations and reports on the peculiar periodic fading effect on short wave, which is the subject of study by the Bureau of Standards at Washington. The station also co-operated in the work of the Research Council of Italy in observing and reporting on the directional emissions of the Santa Marinella radio centre near Rome.

The frequency monitoring station at Point Grey, B.C., which was put in operation last year, is proving of great value in checking the frequencies of broadcasting and radiotelegraph stations in British Columbia.

RADIOTELEPHONE SERVICE TO SMALL CRAFT

Pacific Coast

The ship-to-shore radiotelephone service which was inaugurated some years ago continues to give good results.

Ninety-one tugs and other small craft—an increase of twenty-eight over last year—are now equipped with radiotelephone apparatus.

The shore radiotelephone stations are located at Vancouver, Merry Island, Cape Lazo, Alert Bay and Prince Rupert.

Atlantic Coast

The ship-to-shore radiotelephone service established at Halifax last year is being developed satisfactorily, and there are now 20 vessels of Canadian registry in eastern waters—an increase of seven over last year—equipped to take advantage of this service.

LIFE-SAVING STATIONS

To assist in the safety of life at sea, the following life-saving stations, etc., are equipped with radiotelephony:—

Atlantic Coast	Pacific Coast
Bird Rocks.....Communicates with the Grindstone Coast Station.	Carmanah.....
Little Wood Island..} Intercommunicate only.	Cape Beale.....} Communicate with Pachena Point D.F. Station.
Gannet Rock.....}	Banfield.....} Intercommunicate only.
	Tofino.....}
	Lennard Island.....}

RADIOTELEGRAPH AIDS TO NAVIGATION BROADCAST

Twice daily, at advertised hours, eleven stations on the East Coast, seven on the Great Lakes and two on the West Coast broadcast information to navigators covering weather forecasts, position and nature of dangers to navigation, etc. In addition, urgent information, such as hurricane warnings, etc., is broadcast immediately upon receipt. Two stations in the Hudson Bay and Strait also broadcast weather forecasts.

Details of the times of transmission, call signals, wavelengths, etc., used by the stations referred to, together with complete information of the services performed by all coast stations, direction finding stations, radio beacon stations, etc., will be found in the current issue of "Radio Aids to Navigation," which is published by the department each spring. This publication is available from the department without cost, together with any Notices to Mariners which may subsequently be issued in connection therewith.

RADIOTELEPHONE AIDS TO NAVIGATION BROADCAST

In April, 1928, a radiotelephone broadcasting service to fishermen was inaugurated on the East Coast, which has proved most successful. The majority of fishing vessels are now equipped with radio receivers to take advantage of this service.

Three stations are used for this purpose: Louisburg (VAS), Sambro Lightship (VGX), and Saint John, N.B. (CHSJ).

Louisburg, using a 4,000-watt radiotelephone transmitter, broadcasts on 680 Kc/s (441.2 metres) at 12 noon and 11 p.m. E.S.T., daily, a message to fishermen which includes weather forecasts, storm warnings and a synopsis of information in regard to the market price of fish, the amount of bait on hand at various points, and any other outstanding items of interest to fishermen generally. The range of this station enables fishermen to receive these messages as far east as the Grand Banks.

The Sambro Lightship (VGX) broadcasts on 690 Kc/s (434.8 metres) at 7.10 a.m. and 12.40 p.m., E.S.T., daily, and transmits the same message as Louisburg; it has a range of approximately 150 miles.

Station CHSJ, Saint John, broadcasts weather forecasts and storm warnings to fishermen in the Bay of Fundy on 1,120 Kc/s (367.9 metres) at 5 a.m. and 7 a.m., E.S.T., daily.

This service is augmented during the summer months by the C.G.S. *Arras* (CGFD), which accompanies the fishing fleet and broadcasts by radiotelephone on 690 Kc/s (434.8 metres) storm warnings and weather forecasts at 6 a.m., E.S.T., daily, and a message to fishermen the same as that of Louisburg at 1 p.m., E.S.T., daily, with a range of approximately 150 miles.

The transmissions from this network of stations provides reception at any point along the Atlantic seaboard as well as on the banks fished by Canadian vessels.

SPECIAL BROADCASTS IN SUB-ARCTIC REGIONS

In December, 1930, arrangements were made for the department's stations at Coppermine, Coronation gulf, Chesterfield Inlet and Port Churchill, Hudson bay; and the Royal Canadian Mounted Police schooner *St. Roch*, to broadcast at scheduled hours for the benefit of trading posts, settlers, miners, missions, etc., within range. The broadcasts, which consist of press, personal messages, etc., are transmitted by voice in accordance with the following schedule:—

Station	Call Letters	Wavelength		Time (E.S.T.), and day
		Kc/s	Metres	
Coppermine.....	VBK	571	525.0	11.05 p.m., Wednesday and Saturday.
Chesterfield Inlet.....	VBZ	555	540.5	10.00 p.m., Tuesday and Friday.
Port Churchill.....	VAP	555	540.5	11.00 p.m., Monday and Thursday.
<i>St. Roch</i>	VGSR	667	450.0	11.00 p.m., Wednesday and Saturday.

PRESS

West Coast

Press messages are transmitted daily as follows: Vancouver (VAI) at 0500, G.M.T., on 8,330 Kc/s (36 metres). Vessels at sea report copying the press message transmitted by this station shortly after leaving Australia.

TIME SIGNALS

Time signals are transmitted as follows:—

East Coast

Camperdown (VCS)—Daily, except Sunday, at 1,400, G.M.T., on 400 Kc/s (750 metres). These time signals are received from the Observatory, Saint John, N.B., and relayed to Camperdown by landline.

INVESTIGATION OF ICE CONDITIONS—CABOT STRAIT, GULF OF ST. LAWRENCE

The investigation of ice conditions in the Cabot Strait at the opening of navigation was again undertaken this year by the icebreakers *N. B. McLean* and *Montcalm*, and commenced April 1.

The ships cruise in the vicinity of Cabot Strait, observing the ice conditions, and the senior ship, every few hours, obtains from all incoming and outgoing ships, and from all radio and signal stations, a detailed report of the ice conditions in the different areas. These, in conjunction with her own observations, are compiled and analyzed, and, based thereon, a broadcast message containing a synopsis of location and drift of the ice, together with recommendations as to the best route for ships to follow, is broadcast twice daily, the ship using the general call sign VCQP.

The coast radio stations at Camperdown (VCS), North Sydney (VCO) and Grindstone (VCN) are prepared to pass copy of this message to ships requesting it.

In addition, the following stations broadcast a brief summary of the above-mentioned message:—

Station	Time (G.M.T.)	Wavelength
Louisburg, VAS.....	04-00 16-00	107 Kc/s C.W. (2,804 metres), preceding weather forecasts.
Cape Race, VAZ.....	04-20 16-20	455 Kc/s (660 metres), following weather forecasts.

Every vessel spoken is advised of the location and nature of the ice she may expect to encounter on her particular course, and the best route to follow.

The total number of words handled by these ships this year was:—

<i>N. B. McLean</i>	13,743
<i>Montcalm</i>	1,931

15,674

The investigation was discontinued on April 13, 1936.

HUDSON BAY ROUTE

The departmental steamer *N. B. McLean* again acted as depot and patrol ship in the Hudson Strait throughout the season of navigation.

She is completely equipped with radio, both telegraph and telephone, and maintains constant watch on 500 Kc/s (600 metres). Call sign CGSN. Short wave schedules are also maintained direct with the Ottawa Short Wave Station (VAA). The radio traffic handled by the ship this year totalled 102,693 words.

She was the first vessel to enter the Hudson Strait from the Atlantic, having left Quebec on July 6, arriving off Resolution Island on July 13. On her

return voyage, she left the western end of Hudson Strait on October 4, visiting the direction finding stations en route, finally leaving the eastern entrance to the Strait for Quebec on October 22, at which port she arrived on October 27, 1936.

Detailed observations covering navigation conditions in the Hudson Bay and Strait during the season of navigation 1936 were made and have been compiled in pamphlet form as in previous years, copies of which may be procured from the department for the sum of ten cents.

SHIP'S EMERGENCY APPARATUS

The department has in effect an arrangement whereby its coast stations call upon Canadian and certain British ships to operate their emergency apparatus whilst at sea, in order to check their efficiency.

NUMBER OF SHIPS EXERCISED, 1936-37

Total..	261
Failures..	Nil
Average time taken to change over..	8 secs.
Time allowed..	30 secs.

AUTO ALARM DEVICES

Under the Safety of Life at Sea Convention it is permissible for certain classes of ships, which are required to maintain continuous radio watch whilst at sea for the purpose of receiving distress calls, to maintain a portion of such watch by means of an auto alarm device, provided at least one certificated radio operator is carried. This operator is required to keep watch at certain specified periods, and the auto alarm equipment functions when he is not on duty.

This equipment consists of a valve receiver sharply tuned to 500 Kc/s (600 metres) whose function it is to pick out the auto alarm signal—12 dashes, each of four seconds' duration, interspersed by a space of one second—from all other signals and pass it to a timed electro-mechanical device called the selector, which in turn actuates three bells installed at strategic points on board the receiving ship, indicating to those on board that a vessel is in distress and requires assistance.

There are now approximately 778 ships fitted with auto alarm devices plying to and from Canadian ports, all of which were inspected during the year and found in efficient working order.

One of these devices, approved by the department, is now being installed on certain vessels of Canadian registry.

INSPECTIONS

The administration of the Radiotelegraph Act has been carried on as usual and no evasions or attempted evasions of section 7 of the Act (Revised Statutes of Canada, 1927, chapter 195) calling for compulsory equipment of radiotelegraph apparatus on board passenger steamers, have been reported.

Surveys of ships have also been carried out with a view to the issuance of the necessary certificates prescribed under the International Convention for the Safety of Life at Sea. No evasions or attempted evasions of this Act were reported.

Evasions of section 6 of the Radiotelegraph Act, Revised Statutes of Canada, 1927, chapter 195, under which it is unlawful to operate unlicensed radio equipment, resulted in 3,487 court actions during the year against persons operating unlicensed radio receiving sets. The equipment of one unlicensed

broadcasting station was seized, and subsequent court action against the owner resulted in the court ordering the equipment confiscated in addition to imposing an appropriate fine.

In addition to inspecting licensed radio stations of all classes in their respective districts, inspectors also undertake the examination of operators for Certificates of Proficiency in Radio under the International Telecommunication Convention of 1932. Land stations are inspected at least once a year, and ships when they call at Canadian ports.

Permanent inspection establishments are maintained at Victoria, Vancouver, Calgary, Edmonton, Regina, Moose Jaw, Saskatoon, Winnipeg, Fort William, Toronto, Hamilton, London, Kitchener, Windsor, Ottawa, Kingston, North Bay, Montreal, Quebec, Sherbrooke, Saint John, and Halifax.

The policy of utilizing the services of qualified persons as "part time" inspectors to look after small localities or areas and to assist permanent inspectors in the large centres continues to prove satisfactory. These "part time" inspectors are paid a nominal salary of \$15 to \$30 a month, and are located at the following points:—

Nova Scotia.—Yarmouth, Glace Bay, Sydney, Sydney Mines, Hopewell, Truro and Kentville.

Prince Edward Island.—Charlottetown and Summerside.

New Brunswick.—Moncton and Fredericton.

Quebec.—Montreal, St. Lambert, Three Rivers and Riviere-du-Loup.

Ontario.—Brantford, Fort William, Port Arthur, Toronto (2), Windsor, Chatham, Fort Frances, Kenora, St. Catharines, Niagara Falls, Stratford and Sault Ste. Marie.

Manitoba.—Brandon and Winnipeg.

Alberta.—Medicine Hat.

British Columbia.—Vancouver, Nelson and Prince Rupert.

Yukon.—Dawson.

The number of inspections carried out during the fiscal year was:—

Coast and land stations.	393
Ship stations.	2,726
Amateur experimental stations.	2,217
Private receiving stations.	70,940
	<hr/>
	76,276

EXAMINATIONS FOR CERTIFICATES OF PROFICIENCY IN RADIOTELEGRAPHY

The International Telecommunication Convention prescribes the qualifications of radio operators on mobile stations, and departmental regulations provide that all commercial and amateur operators must pass examination to satisfy the minister as to their ability to operate the class of station on which they are engaged.

Competent operators on mobile stations are demanded in the interests of safety of life at sea, while interference problems necessitate similar requirements in the operation of amateur and land stations.

The more important services call for operators holding First, Second, or other prescribed class of Certificate of Proficiency, while in the case of service of lesser importance not likely to become a source of interference, operators are required to satisfy the department that they are fully qualified to operate and maintain the equipment upon which they are employed.

Two hundred and twenty-two operators were examined for Commercial Certificates of Proficiency in Radiotelegraphy during the year, including ninety-one re-examinations; one hundred and nine were successful and one hundred and thirteen failed.

One First Class Certificate issued under the Convention of 1912 was exchanged for a Second Class Certificate under the Telecommunication Convention of 1932, the holder having satisfied departmental examining officers as to his present qualifications.

Seventeen First Class and six Second Class Certificates issued under the Convention of 1927 were exchanged for certificates of similar class under the Telecommunication Convention 1932, the holders having met departmental requirements in this respect.

Two Temporary Second Class Certificates issued under the Convention of 1927 were exchanged for First Class Certificates under the Telecommunication Convention 1932, the holders having previously passed the necessary examination and since that time having had the requisite one year's experience on ships or stations in the Maritime Mobile Service.

Eight Temporary Second Class Certificates issued under the Convention of 1927 were validated under the Telecommunication Convention 1932.

Seven candidates for Provisional Certificates of Proficiency in Radiotelephony were examined, six of whom were successful. Two candidates for Restricted Provisional Certificates of Proficiency in Radiotelephony were examined, both of whom were successful. Five Provisional Certificates of Proficiency in Radiotelephony were renewed during the year.

Five hundred and forty-one candidates for Amateur Certificates of Proficiency in Radiotelegraphy were also examined, of whom five hundred and twenty-three were successful and eighteen failed.

Seven thousand and six Certificates of Proficiency in Radio have been issued by the Department up to the end of March, 1937.

Examinations were held at the following places during the year:—

EXAMINATIONS FOR COMMERCIAL CERTIFICATES OF PROFICIENCY IN RADIOTELEGRAPHY

British Columbia: Vancouver, Victoria. *Alberta:* Edmonton. *Saskatchewan:* Regina, Saskatoon, Unity. *Manitoba:* Winnipeg. *Ontario:* Fort William, Hamilton, Kingston, Kitchener, London, Ottawa, Toronto, Windsor. *Quebec:* Montreal, Quebec. *New Brunswick:* Saint John. *Nova Scotia:* Halifax.

EXAMINATIONS FOR PROVISIONAL CERTIFICATES OF PROFICIENCY IN RADIOTELEPHONY

British Columbia: Vancouver. *Saskatchewan:* Regina. *Ontario:* Hamilton, London, Ottawa. *Quebec:* Montreal. *Nova Scotia:* Halifax.

EXAMINATIONS FOR AMATEUR CERTIFICATES OF PROFICIENCY IN RADIOTELEGRAPHY

British Columbia: Chemainus, Cranbrook, Golden, Grand Forks, Kelowna, Penticton, Port Alberni, Pouce Coupe, Prince George, Prince Rupert, Refuge Cove, Squirrel Cove, Trail, Vancouver, Vernon, Victoria. *Alberta:* Black Diamond, Blackie, Calgary, Coleman, Drumheller, Edmonton, Fort McMurray, Grand Prairie, Lethbridge, Medicine Hat, Peace River, Provost, Spirit River, Wetaskiwin. *Saskatchewan:* Dodsland, Forgan, Herbert, Kinistino, Lloydminster, Maidstone, Meadow Lake, Mendham, Moose Jaw, Nipawin, North Battleford, North Portal, Oxbow, Raymore, Regina, Waldheim, Waldron, Weyburn, Saskatoon, Sovereign, Star City. *Manitoba:* Benito, Brandon, Boissevain, Channing, Dauphin, Flin Flon, Fox Warren, The Pas, Winnipeg. *Yukon:*

Dawson City. *Ontario*: Belleville, Bracebridge, Brantford, Burks Falls, Cardinal, Carleton Place, Chatham, Chesterville, Fort William, Galt, Hamilton, Kapuskasing, Kenora, Kingston, Kitchener, Lindsay, London, Midland, Niagara Falls, North Bay, Ottawa, Oshawa, Owen Sound, Port Arthur, St. Catharines, Schumacher, Simcoe, Stratford, Toronto, Welland, Whitby, Windsor. *Quebec*: Bourlamaque, Farnham, Montreal, Noranda, Port Alfred, Quebec, St. Lambert, Senneterre, Thetford Mines. *New Brunswick*: Bathurst, Campbellton, Fredericton, Hampton, Jacquet River, Moncton, Sackville, Saint John, Williamstown, Woodstock. *Nova Scotia*: Annapolis Royal, Berwick, Bridgetown, Camperdown, Halifax, Kentville, Mahone Bay, Overton, Sydney Mines, Truro, Wolfville. *Prince Edward Island*: East Point, Summerside.

Summary.—Yukon, 2; British Columbia, 167; Alberta, 77; Saskatchewan, 51; Manitoba, 85; Ontario, 259; Quebec, 51; New Brunswick, 30; Nova Scotia, 47; Prince Edward Island, 3. Total, 772.

FEES FOR EXAMINATIONS

First Class Certificate.....	\$2.50
Second Class Certificate.....	1.00
Experimental Certificate.....	2.50
Amateur Certificate.....	.50
Emergency Certificate, any class.....	5.00
Radiotelephone Certificate.....	2.50

RADIO BROADCASTING

Eighty Private Commercial Broadcasting Stations and nine Experimental Short Wave Broadcasting Stations were licensed during the year.

REVENUE FROM LICENCES

Revenue from the issue of transmitting licences of all classes and from Private Radio Receiving Licences after deducting commission to issuers and to the Post Office Department amounted to \$1,918,544.80. There were 1,038,500 Private Radio Receiving Licences issued during the year.

TRANS-ATLANTIC RADIOTELEPHONE SERVICE

Through the facilities of the Canadian Marconi Company, the Bell Telephone Company and the British Post Office, a direct Anglo-Canadian radiotelephone circuit is available to the Canadian public.

COMMERCIAL RADIOTELEPHONE SERVICES

In British Columbia the North West Telephone Company, a subsidiary organization of the British Columbia Telephone Company, operates radiotelephone services between points hitherto telephonically isolated. Under licences issued by this Department, the company has established permanent public commercial radiotelephone stations at Vancouver (Lulu Island), Bralorne Mine, Ocean Falls, Prince Rupert, Prince George, and Quesnel, all in B.C. These stations are also authorized to provide communication to private commercial radiotelephone stations at Lake Buntzen, Goose Bay, and Namu, B.C., operated by other companies.

Licences were also issued to this company to operate private commercial radiotelephone stations for the purpose of providing outside traffic facilities to industrial concerns at Claydon Bay, B.C., and Sage Creek, B.C.

This radiotelephone service is used in conjunction with ordinary telephone exchanges and persons residing at the above-mentioned points are thus provided with long distance telephone service to outside points.

The North West Telephone Company is also licensed to operate a private commercial radiotelephone station which may be located at any point in British Columbia for the purpose of providing telephone communication in an emergency. In addition this company has been granted experimental licences for stations at Powell River, B.C., Vancouver (Lulu Island), B.C., and a portable station for use anywhere in British Columbia for the purpose of carrying out tests with a view to the extension of their existing radiotelephone service.

Persons residing at certain points on the north shore of the St. Lawrence may now enjoy telephone facilities to any part of Canada through the medium of a radiotelephone station at Rimouski, P.Q., operated by the Canadian Marconi Company, which ties in with the Bell Telephone system at that place and with radiotelephone stations on the north shore located at Baie Comeau, P.Q., Shelten Bay, P.Q., and Chutes aux Outardes, P.Q., which are owned and operated by the Ontario Paper Company, Limited. This service was put into effect in June, 1936.

POLICE RADIO SERVICES

The British Columbia Provincial Police, Attorney General's Department, operate fourteen radio stations at fixed points in British Columbia and seven portable stations throughout the province. These stations provide communication between police headquarters and the various units of the force.

Police radio stations have also been established for the purpose of providing communication between police headquarters and police radio equipped automobiles in the following cities and towns:—Halifax, N.S.; Saint John, N.B.; Montreal, Westmount, Verdun, P.Q.; Ottawa, Toronto, Hamilton, Guelph, Belleville, Cornwall, Ont.; Winnipeg, Man.; Vancouver and New Westminster, B.C.

COMMUNICATION WITH ISOLATED POINTS

Radiotelegraphy and radiotelephony are now used extensively throughout the Dominion to provide the means for maintaining contact with isolated points beyond the reach of ordinary telegraph and telephone facilities.

Provincial governments use radio extensively in their forestry work and operate stations as follows: New Brunswick, 3; Ontario, 39, including one aircraft; Manitoba, 1 aircraft; Saskatchewan, 24, and British Columbia, 17, including 5 patrol vessels and 3 Game Commission vessels.

Public utilities and power companies use radio to provide emergency telegraph and telephone communication between their power plants and distribution centres. Forty-four licences for such stations were issued during the year.

Licences were also issued to mining companies throughout the Dominion to cover the operation of forty Radio Stations and eight Aircraft Radio Stations.

Other companies operating aircraft were licensed for 56 Ground Radio Stations and 33 Aircraft Radio Stations.

PILOTAGE

On the East Coast the radio equipment of the Halifax pilot boats *Hebridean* and *Nauphila* is maintained on behalf of the Pilotage Branch, and the shore station at the Citadel, Halifax, established for the purpose of communicating with these vessels, is operated by the Signal Service staff, under the direction of a certificated radio operator, and maintained by this division.

The pilot boats *B.C. Pilot No. 1*, *B.C. Pilot No. 2*, *B.C. Pilot No. 4*, and the shore station at Victoria, B.C., operated in connection therewith, are maintained by this division on behalf of the Pilotage District of British Columbia.

In the St. Lawrence the pilot boat *Citadelle* is radio equipped and is operated in conjunction with the short station of the Pilotage at Father Point.

FLIGHTS OF AIRCRAFT

The Dirigible HINDENBURG (DEKKA).

Many bearings and weather reports were given the "Hindenburg" during the season by the East Coast Direction Finding Stations of this division.

MEDICAL ADVICE TO SHIPS AT SEA

Ships at sea may obtain medical advice through any of our coast stations. Messages from ships in this connection are forwarded to the nearest medical officer of the Department of Pensions and National Health and his reply is transmitted to the ship.

Eleven ships took advantage of this service during the year.

WORK UNDERTAKEN ON BEHALF OF OTHER DEPARTMENTS OF THE GOVERNMENT

This division maintains the radio equipment on vessels belonging to other departments, as follows:—

Department of Fisheries.—*Givenchy, Malaspina, Arras, and Arleux.*

Royal Canadian Mounted Police.—*Cruisers Baroff, Fleurdelis, Ulna, Adversus, Alachasse, Madawaska, Chaleur, Scatarie, Interceptor, R.C.M.P. Acadian, Captor, R.C.M.P. Laurier and R.C.M.P. Macdonald.*

The R.C.M.P. land stations at Halifax and Shediac are also operated and maintained by this division.

OTHER DEPARTMENTS OF THE CANADIAN GOVERNMENT OPERATING
RADIO STATIONS

Department of National Defence.—Militia Services (Royal Canadian Corps of Signals): Operates in addition to stations established for military purposes seventeen permanent stations and two summer stations situated along the Mackenzie River and in the Yukon territory on behalf of the Department of Mines and Resources, Bureau of Northwest Territories and Yukon Affairs.

Royal Canadian Air Force: Operates three summer stations for communication with aircraft on the East Coast and Maritime Provinces in connection with the Royal Canadian Mounted Police Preventive Service.

Department of Public Works.—Operates ten stations to provide emergency communication between the mainland and certain islands, and five stations to provide emergency links in existing landline circuits.

Department of Mines and Resources.—Operates one experimental station at the Dominion Observatory for the transmission of time signals.

EAST COAST VISUAL SIGNAL SERVICE

The chief function of the visual signal stations on the East Coast, which are located at strategic points, is to report the movements of vessels not equipped with radio. All radio coast stations report ships communicated with, and this is supplemented by reports of ships sighted by the visual signal stations which are organized to tie in with the East Coast Radio Service.

Magdalen Islands.—Including Grindstone, Amherst Island, Pleasant Bay, Grosse Isle and Etang du Nord. Wireless to Sydney.

Aspy Bay.—Signal agent part time. Landline to Sydney.

Scatari Island.—Signal agent part time. Landline and telephone to Sydney.

Point Tupper.—Signal agent part time. Reports vessels passing through the Strait of Canso; ice reports to Canso. Vessels reported during the year, 314. Landline to Sydney.

Sydney, C.B.—The duties of signal agent are undertaken by the Superintendent of Pilots, who, upon receipt of reports, analyses same and forwards to central offices at Halifax and Quebec as requisite.

Halifax, N.S.—This station is located at the Citadel and maintains a continuous watch day and night and is in direct communication with Camperdown radio and signal station by a private telephone. This station is also equipped with a radiotelephone set for the purpose of communicating with the Halifax pilot boats *Hebridean* and *Nauphila*, which are similarly equipped. A total of 1,343 ships arriving at Halifax, N.S., were reported by the Citadel Station during the year. Shipping companies, immigration officials and the public are kept well informed on all shipping matters. Shipping and weather reports, also ice reports in season, are furnished twice daily to the Board of Trade and the press.

Camperdown, N.S.—This station is situated at the entrance to Halifax Harbour and reports the passing of all vessels to the signal station at the Citadel. Three full-time signal agents are maintained for visual signalling. The Coast Direction Finding Station situated at the same point reports all vessels communicated with by wireless, giving position and probable time of arrival. The station is organized for lamp signalling at night to vessels not fitted with wireless. The total of vessels bound in reported by this station during the year was 1,270.

Sambro Light Vessel.—This lightship keeps a lookout and reports all passing vessels not fitted with wireless to Camperdown.

Saint John, N.B.—The signal station at Saint John is situated in the Customs Building, and is connected by telephone to the Red Head Coast Direction Finding Station. One full-time signal clerk is employed. Vessels reported during the year, 378.

Lurcher Lightship.—Reports all ships spoken or sighted, by wireless, to Red Head, Saint John.

Partridge Island.—Signal agent part time. Telephone to Saint John, N.B. Vessels reported during the year, 378.

Point Lepreau.—Signal agent part time. Landline to Saint John, N.B. Vessels reported during the year, 83.

TRAFFIC SECTION

This section of the Radio Division handles the preparation, rendering and collection of accounts for commercial ship to shore and inter-station messages, handled by the departmental ships and stations, and the auditing, rendering and collection of international accounts to various operating companies and foreign administrations for radiotelegrams exchanged by foreign ships through Canadian coast stations and by Canadian ships through foreign coast stations. The number of accounts handled by the division was 86,000 representing \$92,000 in tolls.

MESSAGES HANDLED BY THE COAST STATION SERVICES

The total number of messages and words handled during the year ending March 31, 1937 (including retransmissions), was as follows:—

East Coast..	130,856	2,543,626
Great Lakes..	30,765	483,529
West Coast..	269,275	4,047,277
Hudson Bay and Strait..	21,117	798,459
	<u>452,133</u>	<u>7,872,891</u>

The business handled by the East Coast System (operated by the Canadian Marconi Company under contract and partly by the department) shows a decrease of 1,035 messages with a decrease of 82,423 words.

The Great Lakes System (operated by the Canadian Marconi Company under contract) shows an increase of 3,911 messages with an increase of 84,437 words.

The West Coast System (operated by the department) shows an increase of 106,076 messages with an increase of 519,836 words.

The Hudson Bay and Strait System (operated by the department) shows a decrease of 1,520 messages with a decrease of 144,304 words.

REVENUE

The net revenue accruing to the Radio Division from all sources during the year amounted to \$1,985,170.23, against \$1,646,601.07 in 1935-36, an increase of \$338,569.16 including \$6,170.83 received from "Sale of Publications" and "Fines and Forfeitures" the revenue from which was not included in previous reports.

Traffic Revenue—

East Coast..	\$ 5,792 04	
Great Lakes..	661 27	
West Coast..	46,649 12	
Hudson Bay and Strait..	1,932 98	
Premium Revenue..	4,804 72	
		\$ 59,840 13

Other Revenue—

Receiving Licence fees..	\$1,900,704 30	
Broadcast Licence fees..	3,555 00	
Other Licence fees..	14,285 50	
Fines and Forfeitures..	5,440 51	
Examination fees..	614 50	
Publications..	730 32	
		<u>1,925,330 13</u>
		\$1,985,170 26

The East Coast traffic revenue shows a decrease of \$489.81, the Great Lakes an increase of \$14.17, the West Coast an increase of \$5,899.90. The Hudson Bay and Strait a decrease of \$87.66, and the Premium Revenue a decrease of \$2,209.98. Total net traffic increase, \$3,126.62.

The Receiving Licence fees show an increase of \$326,273.24, the Broadcast Licence fees an increase of \$55, the Other Licence fees an increase of \$2,971 and the Examination fees a decrease of \$27.50. Total net "Other Revenue" increase, \$335,442.57, including "Publications" and "Fines and Forfeitures."

TRANSATLANTIC

The Marconi Beam Service between Drummondville, P.Q., and Bodmin, England, which was inaugurated on October 25, 1926, continues in permanent operation. The rates in effect via this circuit are as follows:—

Canada Eastern Zone to Great Britain and Ireland—

Fully paid messages..	\$0 18 per word.
Code messages..	0 11 per word.
Deferred messages..	0 08 per word.
Nightletter messages..	1 50 for 25 words or less and 6 cents for each extra word.
Post letter messages..	0 60 for 20 words or less and 3 cents for each extra word.

TRANS-PACIFIC

The Marconi Beam Service between Drummondville, P.Q., and Ballan, Victoria, Australia, which was inaugurated on June 16, 1928, continues in permanent operation. The rates in effect via this circuit are as follows:—

Canada to Australia—

Fully paid messages.. . . .	\$0 35 per word.
Code messages.. . . .	0 21 per word.
Deferred messages.. . . .	0 17½ per word.
Day letter messages.. . . .	2 92 for 25 words or less and 11½ cents for each extra word.

NEW CONSTRUCTION, ADDITIONS AND ALTERATIONS

EAST COAST (GOVERNMENT OPERATED STATIONS)

General repairs to roads, buildings, masts and aerial equipment were carried out at the East Coast Stations. The direction finding equipment at Canso and Belle Isle was recalibrated following the installation of new copper wire ground systems.

The main transmitter at Yarmouth was changed to inductive coupling with resultant improvement in local broadcasting receiving conditions.

In connection with the Radio Beacon Service extensive repairs were made to the station buildings (at Sable Island) and a new 145-foot structural steel mast was erected there. At Seal Island an annex to the fog alarm building was constructed to accommodate the radio beacon equipment which had previously been housed in cramped and unsatisfactory quarters in the fog alarm building. One of the Seal Island transmitters was modified to include crystal control.

A new Radio Beacon Station equipped with duplicate crystal controlled transmitters was established and placed in commission on January 6, 1937, at Western Head near Liverpool, N.S.

The following data gives a very good idea of the amount of fog experienced during the year at East Coast points where radio beacons are installed:—

STATISTICS ON OPERATION OF EAST COAST RADIO BEACONS

Beacon	Total Hours Fog		Gross Total Hours Running	
	hrs.	mins.	hrs.	mins.
Seal Island.....	2,016	33	4,235	04
Cape Ray.....	1,456	02	2,440	33
Lurcher, L.S. No. 14.....	1,276	27	2,279	33
Sambro L.S. No. 15.....	1,567	30	3,649	02
Cape Bauld.....	1,686	43	2,456	08
Cape Whittle.....	2,037	53	2,756	12
Sable Island.....	2,703	29	4,875	09
East Point.....	1,223	46	2,285	37
Western Head (Jan. 6-Mar. 31).....	298	39	649	14
St. Paul Island.....	949	02	2,062	53

At Charlottetown, P.E.I., a temporary Radiophone Station CJY was established for co-operative work with Canadian Airways planes on the winter service between Charlottetown and the Magdalen Islands.

The radiophone station located at the Halifax Citadel was supplied with new terminal equipment to permit local telephone subscribers to communicate with ships at sea equipped for radiotelephony.

WORK UNDERTAKEN ON BEHALF OF OTHER DEPARTMENTS OF THE GOVERNMENT

In addition to the maintenance of the radio equipment on the patrol vessels operated by the Royal Canadian Mounted Police the equipment on all ships operated by other Government departments was as usual supervised by our maintenance electricians.

EAST COAST (MARCONI OPERATED STATIONS)

At North Sydney a new operating house was built to replace the old building which was condemned. A new 145 foot structural steel mast was erected, new ground systems installed and power and communication cables laid. The city water mains were extended and running water is now available at the station.

WEST COAST STATIONS (GOVERNMENT OPERATED)

A new operating house was built at Point Grey to replace the old building which was torn down. A new driveway complete with concrete curb was constructed and the grounds were graded and seeded.

The Alert Bay Station is now provided with central station power supplied by the Pacific Power and Water Company.

A new 2 Kw. transmitter together with diesel engine driven power supply was installed at Estevan. Accommodation for this was provided in the new power house by fitting up the disused battery room as a new operating room.

An improved water supply was obtained at Estevan by deepening the old well and relining it with concrete.

Improved short wave receivers of latest design were installed at nine of the West Coast Stations.

GREAT LAKES RADIO BEACON STATIONS

At Slate Island, lake Superior, a new automatic radio beacon was established and placed in commission on October 26, 1936. It is equipped with 200 Watt crystal controlled transmitters in duplicate, also duplicate 3 KVA gasoline engine driven generating plants all accommodated in a newly built annex to the fog alarm building. The aerial is supported on two 80 foot structural steel masts.

HUDSON BAY AND STRAIT (GOVERNMENT OPERATED STATIONS)

The equipment at Resolution Island, Cape Hopes Advance and Nottingham Island was checked and the rigging overhauled and painted where necessary.

The direction finding apparatus at all these stations was recalibrated with the assistance of the C.G.S. *N. B. McLean*.

ASSISTANCE RENDERED TO VESSELS

Special assistance was rendered to various ships during the year by Government Radio Stations. Vessels not equipped with radio were contacted through other vessels so equipped.

WEST COAST

Name of Station	Name of Vessel	Date	Remarks
Bull Harbour, B.C.....	Barge <i>Island Carrier</i>	Dec. 11, 1936	Broken adrift and out of control.
Gonzales Hill, B.C.....	SS. <i>Atlantic City</i>	Aug. 25, 1936	Struck submerged object and engine room filling fast.

GREAT LAKES

Sault Ste. Marie, Ont.....	SS. <i>Farrell</i>	Aug. 13, 1936	Aground.
"	SS. <i>Crete and Cornell</i>	Sept. 8, 1936	Collision.
"	SS. <i>Alex. B. Uhrig</i> and tug <i>Helen</i>	Oct. 11, 1936	Collision.
"	SS. <i>J. M. Davis</i>	Dec. 4, 1936	Aground.
"	M.S. <i>Chicago Tribune</i>	Dec. 8, 1936	Aground.
Port Burwell, Ont.....	SS. <i>Sandmerchant</i>	Oct. 18, 1936	Foundered.
"	Barge <i>Genevieve Ryan</i>	Oct. 18, 1936	Adrift.
"	SS. <i>Graham C. Woodruff</i>	Oct. 21, 1936	Aground.
"	Tug <i>Estelle Haber</i>	Nov. 5, 1936	Adrift.
"	SS. <i>Sydney Smith</i>	Nov. 15, 1936	Aground.
"	SS. <i>Robert J. Paisley</i>	Nov. 26, 1936	Aground.
Point Edward, Ont.....	Tug <i>Bonnie G.</i>	Apr. 15, 1936	Lost propeller.
"	Two barges.....	Dec. 6, 1936	Adrift.

EAST COAST

Ellis Bay, Anticosti, P.Q.....	Yacht <i>L'Oiseau Blanc</i>	June 8, 1936	Aground.
Quebec, P.Q.....	Yacht <i>L'Oiseau Blanc</i>	July 21, 1936	Sinking.
"	SS. <i>Avon River</i>	Dec. 11, 1936	Aground and propeller broken.
Father Point, P.Q.....	SS. <i>Benmaple</i>	Aug. 31, 1936	Collision.
Red Head, St. John, N.B.....	SS. <i>King's County</i>	Dec. 11, 1936	Aground.
Yarmouth, N.S.....	Sch. <i>Accuracy</i>	Oct. 9, 1936	Bad leak.
Camperdown.....	SS. <i>Bjerke</i>	Mar. 22, 1937	Sinking.
Cape Race, Nfld.....	SS. <i>San Quentin</i>	Apr. 27, 1936	Steering gear damaged, Radio room flooded.

INDUCTIVE INTERFERENCE SECTION

This section has been operated along the same general lines as in the past. Progress continues to be made in the development of investigation equipment, and improvements in methods of investigating interference have, also, been effected.

Thirty-three cars are equipped for the investigation of interference and operate from the permanent offices at Victoria, Vancouver, Calgary, Edmonton, Regina, Saskatoon, Moose Jaw, Winnipeg, Toronto, Hamilton, London, Kitchener, Windsor, Kingston, North Bay, Fort William, Ottawa, Montreal, Quebec, Sherbrooke, Halifax, and Saint John, N.B.

An additional car at Headquarters, Ottawa, has been equipped with special measuring and recording apparatus, and is being used for special investigations.

Thirty-four part-time inspectors, located in other cities and towns throughout the Dominion, are supplied with portable receivers and a limited amount of equipment for the investigation of interference in their districts.

The inspector in charge of each car, with his assistant, investigates interference in the city in which his headquarters are located, and, also, makes regular interference investigation tours throughout the sections of the surrounding country which are under the jurisdiction of the office to which he is attached.

The investigators, on their tours, interview broadcast listeners who have reported interference and determine the electrical system on which the trouble

originates; they then assist the owners of the system to locate the exact source and recommend means of suppressing the interference. Many of the sources are found to be faults or abnormal conditions in electrical apparatus, which, if not attended to in the early stages, may result in hazardous conditions or service interruption.

Where interference is found to be caused by the normal operation of electrical equipment, the investigator demonstrates the use of interference suppressors and recommends, in detail, what steps the owners should take to permanently cure the trouble.

Since practically every piece of electrical apparatus is a potential source of radio interference, Radio Division investigators are daily confronted with new problems peculiar to the specific equipment under investigation. For many of these cases no precedent exists. Detailed records of the technical features covering location and suppression of interference from such sources are, therefore, made for future guidance.

In addition to investigation of interference, the investigators carry out other work required by the Radio Division in towns they visit. Such work includes the sale of radio receiving licences, inspection of amateur stations and the examination of candidates for operators' certificates.

The following table gives a summary of the sources of radio interference investigated during the past four years:—

	1933-34	1934-35	1935-36	1936-37
SOURCES INVESTIGATED				
Electrical distribution systems and power lines.....	7,904	8,050	9,278	8,979
Domestic and commercial electrical apparatus.....	2,683	3,278	3,803	4,718
Defective receivers and radio apparatus.....	1,614	1,541	1,832	1,845
	12,201	12,869	14,913	15,542
ACTION TAKEN				
Number of sources definitely reported cured.....	10,592	11,039	12,908	12,989
Number of sources not yet reported cured.....	1,424	1,674	1,839	2,378
Number of sources having no economic cure.....	185	156	166	175
	12,201	12,869	14,913	15,542

Many of the 2,378 sources listed as not yet reported cured have been successfully dealt with by the owners of the apparatus following the advice given by the investigators, but, as in many cases permanent cures cannot be applied during the investigation, final reports of permanent elimination have not been received.

The 175 sources reported as "having no economic cure" are principally electro-medical apparatus, electric railway systems, ignition systems of automobiles, high voltage power lines and a few other types of commercial apparatus. Investigations are being conducted at Headquarters in an endeavour to find an economic means of dealing with such apparatus.

In addition to the sources listed above, a great number of cases have been dealt with by correspondence from Headquarters and district offices. Following the advice given, the interference has been successfully eliminated by the owners of the apparatus.

The Radio Division handles a large number of complaints incidental to these individual sources, since many broadcast listeners frequently request assistance relative to a single disturbance on a distribution network. Some of these individual sources seriously affect reception for many miles in all directions.

The Headquarters' experimental car has been used to make a survey of reception conditions in various parts of the country. Measurements of the field strength of stations were made and strength of interference measured and recorded on a graphic meter. This system of measurement facilitates the work of improving reception conditions.

Considerable progress has been made in dealing with interference from electro-medical apparatus. An experimental room has been completely shielded and specifications published describing a method of suppressing this type of interference. Progress has, also, been made in finding means of reducing interference from electric railway systems and ignition systems of automobiles.

The Canadian Broadcasting Act, 1936, embodies a section giving the Governor in Council authority to make regulations governing the use of apparatus liable to cause interference. The Radio Division has been conducting co-operative investigations and consulting with manufacturers and users of various types of interfering equipment, with a view to drafting regulations to effectively control the radio interference situation without imposing any unnecessary hardship on any party concerned.

The Radio Division is actively co-operating with the Canadian Engineering Standards Association, and the Sectional Committee on Radio Electrical Co-ordination of the American Standards Association.

Respectfully submitted,

WALTER A. RUSH,
Controller of Radio.

Commander C. P. EDWARDS,
Director of Air Services,
Department of Transport, Ottawa, Ont.

METEOROLOGICAL SERVICES

SIR,—I have the honour to submit herewith my report upon the Meteorological Service of Canada for the fiscal year ended March 31, 1937:—

Historical.—Acting on the recommendation of the British Association for the Advancement of Science and the Royal Society of London, the British Government established a Magnetic and Meteorological Observatory in Toronto, which was opened in 1840, and continued under their jurisdiction until 1853, when it was taken over by the Government of United Canada. About 1869 Professor G. T. Kingston, Director of the Observatory, interested a number of persons in Canada in establishing meteorological stations and succeeded in 1871 in obtaining a grant from the Dominion Government, which led to the establishment in 1872 of the Meteorological Service of Canada under the Department of Marine.

With the establishment of the Magnetic Observatory, correct time became a necessity and the demands for shipping required a good time service at the principal ports. This led to the establishment of time services at Toronto, Ont., Montreal and Quebec, P.Q., and Saint John, N.B. These all came under the jurisdiction of the Meteorological Service.

In 1897, through representations made by the British Association for the Advancement of Science, the first seismograph in America was installed in Toronto, and later in the same year in Victoria. Since that time all the important earthquakes which have occurred throughout the world have been recorded.

The service thus had, in addition to the meteorological work, the magnetic, time and seismological services for the Dominion chiefly because it was the only organization at that time in a position to undertake these various activities, although there was no physical relation to them. Meteorological work, however, extended so rapidly in succeeding years that the energies of the staff were generally devoted to this branch and as a result the others became more and more subsidiary.

In 1905 the Dominion Observatory was established in Ottawa, one of its chief functions being the provision of accurate time for the Dominion. Shortly afterwards it undertook magnetic surveys and added the Department of Seismology. There were thus two departments in the Government giving magnetic, seismological and time service for the Dominion. When the reorganization occurred in November and December, 1936, advantage was taken to consolidate the various activities as much as possible, with the result that the magnetic, seismological and time work for the Dominion was put in charge of the Dominion Observatory, leaving the Meteorological Service free to devote all its efforts to provide a weather service for the Dominion. As the Observatory at Saint John, N.B., was partly time and partly meteorological, the two could not be separated, so that the time work remains for the present under the Meteorological Service under a working arrangement with the Dominion Observatory whereby there will be a unified time system for the Dominion.

Quebec Observatory.—The observatory on the Plains of Abraham, which was completed and occupied in 1874, largely through the efforts of Lieut. E. D. Ashe, the director, was condemned several years ago, and under the Public Works Building Program, provision was made for the erection of a new Meteorological office at Laurier and Tache avenues. This office was completed and occupied in 1936 and the old observatory demolished, the ground reverting to the Battlefields Commission in exchange for the new site.

The equatorial telescope which had not been in use for many years was sold for a nominal sum to the College des Jesuites, Quebec, to be preserved by them for its historical value.

The time for Quebec is now obtained by time signals given to the railway and telegraph offices from Montreal.

Personnel.—Mr. F. N. Denison, superintendent of the Victoria office, retired on superannuation and was succeeded by Mr. W. A. Thorn.

The service lost in the death on January 12, 1937, of Mr. G. Marlow, a devoted servant.

Weather Broadcasts.—The forecasts based on observations taken at 8 p.m. E.S.T. were broadcast over the Canadian Radio Commission's Trans-Canada network every evening. In addition various radio and wireless stations of the Radio Branch of the Department of Transport broadcast at stated intervals forecasts and storm warnings for the benefit of shipping on the Atlantic, the Pacific and the Great Lakes, while local broadcasts from numerous stations were made of the weather and forecasts.

Meteorological Stations.—Four new Telegraph Reporting stations, Chibougamau, P.Q., Clarke City, P.Q., Kedgewick, N.B., and Langara Point, B.C., were established. The addition of these stations fills a long-felt want for more meteorological data from the parts of the country in which they are situated.

In connection with the transatlantic there were established 7 pilot balloon and 7 secondary stations in Eastern Canada.

In Newfoundland an office was opened in St. John's, and all the meteorological stations in Newfoundland taken over by this service, so that with the additions there are now 2 Pilot Balloon, 6 Weather Telegraph Reporting, and 34 Second Class or Auxiliary Stations, also 1 Airplane Observing Station, established in co-operation with Imperial Airways.

On March 31, 1937, there are in Canada and Newfoundland, in addition to Headquarters at Toronto, 6 Branch Offices, 6 Chief, 2 Airport, 9 Pilot Balloon, 73 Telegraph, 39 Bulletin, 870 Climatological Stations. Of the latter, 594 are voluntary. To the voluntary observers the service extends its grateful thanks for the important contribution they are making to the climatology of the country.

Inspection.—Four Chief, 25 Telegraph and 15 Climatological Stations were inspected during the year.

Library.—With the appointment of Miss H. J. Hotson as librarian it has been possible to properly organize the library.

A system of records for periodicals and serials has been set up to show henceforth all additions to the library, and a start has been made in recording the literature already received.

Cataloguing and classification of books are well under way, the classification following the new international system for meteorological literature as part of the general Dewey Decimal System, as sanctioned at the International Conference of Directors in Warsaw in 1935.

Since the office lacks a reading room, a system of daily circulation of current material to the various offices has been established as the best method of making the literature available to all.

To make it possible to trace borrowed material, a system of charging, by author or number and by borrower, has been set up, which tells at once where borrowed material is and what each borrower has.

Total volumes received, 1936-37.....	200
Total magazines received, 1936-37.....	214

Publications.—Members of the staff published 11 papers in various journals during the year, generally of a technical character.

TRANS-ATLANTIC AIR SERVICE

On the recommendation of the Inter-Empire Conference between Great Britain, the Irish Free State, Newfoundland and Canada on the Trans-Atlantic Air Service, which was held in Ottawa at the end of November, 1935, Canada agreed to provide a meteorological service for the Western Atlantic, Newfoundland, and Canada. This involved taking over the existing Meteorological Service in Newfoundland including 6 stations reporting by telegraph and several stations where observations of temperature and rainfall were made.

At Headquarters an additional staff for administrative work has been added and 5 meteorologists, all graduates, with post-graduate experience, are now undergoing intensive training in forecasting for this route.

Newfoundland.—To properly supervise the work an office, in charge of Mr. James Kirk, with 2 assistants, was opened in St. John's, Nfld. The Commission Government of Newfoundland very kindly co-operated by providing the office and furniture.

The stations have been inspected and raised to the standard of the Canadian Service and provided with additional equipment wherever necessary. Two Pilot Balloon stations, one at St. John's and the other at Norris Arm, to get the direction and velocity of the upper winds, were inaugurated and 34 auxiliary stations were provided with equipment to give temperature, precipitation, weather, fog and wind observations as rapidly as the stations could be inspected and the observers instructed in taking the observations.

All the necessary forms and records required from the different stations are forwarded to the St. John's office where they are abstracted and copies made for Headquarters in Toronto, the British Meteorological Office, London and the United States Weather Bureau. The Commission Government of Newfoundland is furnished with whatever information they require and forecasts for Newfoundland are forwarded to them from Headquarters in Toronto.

As part of the meteorological program, Imperial Airways provided a 'plane for ascents up to 17,000 feet and to supervise this work, Mr. Bindon was detailed from this office. The work is carried out at Norris Arm, but they were very greatly handicapped on account of the lack of radio facilities during the most of the year and a landing field; consequently when it was no longer possible to use floats the work had to be discontinued until the ice had formed sufficiently for the use of skis; unfortunately, however, this period was very brief. In spite of these handicaps 67 flights were made, 62 at Norris Arm and 5 at Quidi Vidi Lake, near St. John's. The pressure, temperature and humidity at all levels up to 17,000 feet in the atmosphere were obtained from the results of eye readings and a recording instrument on the aeroplane. These observations were immediately telegraphed to Headquarters and a report forwarded to the British Meteorological Office.

Eastern Canada.—To provide the necessary meteorological information for Eastern Canada, pilot balloon stations were established at Sable Island, Grindstone Island, Fredericton, N.B., Clarke City, P.Q., Dolbeau, P.Q., and Moosonee, Ont., additional telegraph reporting stations at Kedgewick, N.B., Clarke City and Chibougamau, P.Q., the latter being considerably north of any of the existing stations in Quebec. In addition, 8 secondary stations for recording precipitation, cloud, and fog, three times per day, were opened.

Two p.m. Observations.—In preparation for the Trans-Atlantic Service a third observation at 2 p.m. has been taken since the first of December at 40 stations in Canada. These observations are transmitted to Headquarters in a slightly modified international figure code. It is hoped this code may soon be introduced for the transmission of all our observations as, owing to the inter-

continental exchange of meteorological data, which is rapidly growing in volume, it is becoming an urgent necessity. The 2 p.m. observations are received and plotted on the weather maps and are used wherever possible for forecasting for all requests that come in after these maps are ready.

Working Charts for the North Atlantic.—To meet the requirements of the Trans-Atlantic Air Service a new working chart which includes North America, the North Atlantic and the western part of Europe, on a scale of 1-15,000,000 has been prepared by the Surveyor General's office of the Department of Mines and Natural Resources. The working chart of North America was used as the base to prepare this map.

A small map embracing a section of the North Atlantic with the coasts on either side has also been prepared for use of the Captains of the aircraft; this map will show the weather conditions along the route at the time of departure and will enable them to follow the changes that are made in the weather as reported by radio from the terminal stations.

In order to obtain the weather information from the United States stations a connection has been made at Toronto with the Bureau of Commerce Airways teletype circuit passing through Buffalo. All the 6-hourly observations and the results of the pilot balloon and aeroplane ascents taken throughout the United States are received in time for forecasting purposes.

TRANS-CANADA AIR SERVICE

The establishment of a Trans-Canada Air Service has very greatly extended the work of the Meteorological Service and much time has been devoted during the year to planning the organization and the personnel. For this purpose forecast centres are to be established at strategic points along the route and provision made for a 24-hour service. This will naturally require a very great increase in the forecasting and operating staffs. In addition to the forecast centres, pilot balloon stations to give the direction and velocity of the upper winds and regular stations for surface observation at selected points along the route and off the route are being added as well as secondary stations at more frequent intervals along the route, sending hourly observations while the plane is in flight.

Vancouver Airport.—To meet the urgent demands of the Air Services for more reports from Vancouver, Mr. R. J. Ryan was appointed weather observer and began his duties in February, 1936. He has to make pilot balloon observations at stated times and send Airways weather reports to the United States airport at Seattle and receive reports from them. At the same time he was able to get reports from a number of stations in Canada which were useful for aviation purposes.

MARINE METEOROLOGY

Hitherto the Meteorological Service has been dependent on the United States Weather Bureau for a few observations from ships on the Atlantic as an aid to forecasting for the Maritime Provinces and from the Pacific in connection with forecasting for British Columbia and the Prairie Provinces. With the inauguration, however, of the Air Services, it became necessary to get more ship observations and in greater detail as soon as possible. To this end arrangements have been made whereby the Radio Station at Louisburg will receive the weather messages from ships and transmit them to the Head Office. It has also been arranged to have the Marconi Station at St. John's, Nfld. receive the messages when the ships are out of touch with Louisburg. It is hoped by this means that the observations from ships in the Atlantic can be very greatly extended.

The observations of air and water temperatures on the Great Lakes were continued throughout the year in co-operation with the shipping companies. During the period from October 1 to the close of navigation twice daily observations were received from boats on the Great Lakes equipped for radio transmission. These reports have been very valuable for storm warning purposes.

SPECIAL INVESTIGATION AT FORT SMITH, N.W.T. ON "HOW COLD AIR MASSES ARE BUILT UP."

In co-operation with the United States Weather Bureau an investigation was undertaken during the winter of 1936-37 to determine the source of the cold waves coming down from the polar regions and the mechanism by which these cold air masses are built up. For this purpose the United States Weather Bureau operated stations at Fairbanks, Alaska and Fargo, N.D., while Canada occupied Fort Smith, N.W.T. At these places aeroplane ascents were made up to 17,000 feet whenever possible. The Royal Canadian Air Force provided the 'plane and the personnel consisting of Sergeants R. I. Thomas, P. E. Sorenson and L. W. Thompson. They made 140 flights, beginning on October 10 and ending on March 2 with two flights per day for three days towards the end. In all this period only three days were missed due to changing their 'plane from floats to wheels. When it is remembered that it was during the winter season with very few facilities it is truly a most remarkable record and it is very doubtful if it has ever been excelled. Sometimes they were compelled to come down until their 'plane was free from ice, but they always managed to fight their way through, reaching a height on the average of 16,000 feet throughout the period. The temperature, humidity and pressure were measured during the flight by eye readings with special instruments designed for the work and also by recording meteorographs which gave a continuous record of these elements throughout the flight.

Messrs. R. C. Jacobsen and G. C. Gill had charge of the meteorological part of the investigation; Mr. Jacobsen superintending the observations from aeroplanes and Mr. Gill those at the ground level.

At the surface, continuous records of temperature, humidity pressure and wind were made and a continuous record of the temperature at the top of a 100-foot mast was obtained. At night the radiation from the snow surface and from the sky was observed to find the total amount of cooling taking place from the snow surface.

Pilot balloon observations were also taken daily to get the direction and velocity of the wind in the upper air and the height of cloud, if any.

It was found that the temperature increased from the ground up to about 500 feet and then remained constant to nearly 15,000 feet. There were indications that this region of constant temperature got progressively colder until the air mass was swept out of the region. It is hoped that very valuable results will be obtained from this investigation in regard to the manner in which the cold air masses are built up.

FROST WARNING SERVICE IN THE OKANAGAN

The frost warning service during the period before blossoming until the setting of fruit in the peach, apricot, cherry, and apple region of the Okanagan and Similkameen Valleys in British Columbia, which was inaugurated in the spring of 1935, was continued in April and May, 1936.

The forecasting centre was again established at Penticton and thirteen special reporting stations observing temperature, humidity, precipitation, and wind were installed at several points from Vernon at the extreme northern end of the Okanagan to Osoyoos in the south and also at Keremeos in the Simil-

kameen Valley. From these supplementary stations observations twice a day were furnished to the forecast headquarters at Penticton together with the regular weather telegrams from the meteorological stations on the western half of the continent and from ships on the Pacific. From the two weather maps drawn each day forecasts of temperature, wind force and direction, precipitation, the suitability of the weather for spraying with insecticides and the probable protection necessary for hothouse and cold frame operations were issued from the Radio Broadcasting Station at Kelowna. This Radio Station, CKOV, broadcast the synopsis and forecast of weather probabilities without charge for the benefit of the fruit-growers.

In addition to the forecasting activities, an attempt was made to obtain experimental evidence concerning the meteorological conditions both on the surface and in the upper air attendant upon frosts in the fruit orchards. This involved the construction of an anemometer tower at Oliver with three meteorological stations installed at heights of 4, 22, and 37 feet respectively above the ground. A resistance-thermometer carried aloft by a tethered balloon furnished temperature readings at different heights up to 500 feet above the surface. The data so obtained at Oliver together with other data obtained from stations at high levels on the mountainside and from thermometers carried by motor car to various levels on valley roads have been utilized in an inquiry regarding the most suitable methods to be used in protecting orchards from frost by means of coal-heaters. Publication of this preliminary report will be made by the Meteorological Services in 1937.

At the request of fruit-growers in the fruit regions of the Kootenay Valley, a survey of that region was made from the meteorological standpoint and a report upon the possibilities of extending the frost warning service into this region was made.

FORECAST SECTION

The synoptic weather map was prepared twice daily throughout the year, including all Sundays and holidays, commencing at 8 o'clock a.m., and p.m. E.S.T. In January, 1937, this was supplemented by a 2 p.m. map, somewhat less complete in character. Morning and evening reports were received from 88 stations in Canada and Newfoundland; 151 in the United States, including Alaska; 4 in Greenland, 1 in Bermuda, and a variable number from ships on the Atlantic. Lack of sufficient reports from the Atlantic between Nova Scotia and Bermuda continues to be a source of anxiety to the forecast staff, especially when there are indications of possible bad weather in that area. Reports from the Pacific have all but ceased to come. About 20 reports were received daily from Europe through the courtesy of the United States Weather Bureau.

The teletype system of communication with the two telegraph companies continued to work throughout the year with its usual high degree of efficiency. Reception of reports from all stations on the American continent, Greenland and Bermuda was usually complete about 8.40 a.m. and p.m. E.S.T. Most of these reports were transmitted each morning, Sundays and holidays excepted, to Winnipeg and St. Hubert where weather maps were made out. At the latter place they are used chiefly in the interest of aviation.

The messages were decoded and entered on the working charts with all possible speed. The map analysis was made in each case as speedily as possible and the forecasts issued to all 25 forecast districts from the Rockies to Newfoundland and the Grand Banks. During the period of daylight saving time the haste with which forecasts have to be prepared in order to meet the requirements of newspapers and radio stations does not give the forecasters the time that would otherwise be desirable.

Owing to the difference in time across the continent the eastern forecasts were prepared first in each case and transmitted promptly to newspapers and radio stations in order that they might be available to shipping and other interests at as early an hour as possible. The forecasts for the Great Lakes were telephoned twice daily to the wireless station at Toronto Island to be transmitted to all other wireless stations in the region and to shipping in general.

Commencing in November, 1936, and continuing during the season of navigation, a special detailed forecast of wind and weather for the Great Lakes was prepared for the evening broadcast of the Toronto *Evening Telegram*. Many favourable comments were received by the *Telegram* concerning this service.

Special forecasts regarding forest fire-weather and fruit-spraying were issued as heretofore during the spring and summer months.

Aviation forecasts were frequently issued for special flights to different parts of Canada and the United States and were issued regularly for the Ottawa to Montreal and Montreal to Albany air-mail flights, also to Quebec Airways for the route extending from Rimouski eastward along the north shore.

The storm warning service was continued throughout the year in Nova Scotia and vicinity, and during the season of navigation, on the Great Lakes and gulf of St. Lawrence.

Requests were occasionally received for special forecasts with regard to towing of dredges and other unseaworthy craft.

Special reports of snowfalls in Ontario continued to be a popular source of information to the motoring public.

Innumerable inquiries were answered during the winter months with regard to the shipping of perishable goods. The average error for the year in the estimate of the nightly minimum temperature at Toronto was 3.7 degrees. The number of inquiries by telephone has steadily continued to increase.

Bulletins containing reports from representative stations across the Dominion and the regional forecasts were prepared daily, except Sundays and holidays and transmitted to the larger centres of population such as Ottawa, Montreal, Quebec, Saint John, and Halifax.

From May to October, 1936, a bulletin was prepared twice daily in the international code giving the various weather elements at some 25 stations in Northern and Eastern Canada and the New England States. These were transmitted together with forecasts for the gulf of St. Lawrence, bay of Fundy and a considerable portion of the Atlantic off the coasts of Nova Scotia and Newfoundland, to the Commanding Officer, R.C.N., at Halifax.

The morning weather map was reproduced daily by the chalk-plate process, and of 823 copies printed, 117 were delivered by messenger and 649 copies were mailed.

Beginning on April 1, 1936, the accumulated precipitation at each of the reporting stations from the 1st of April or the 1st of November to date, together with the normal for the same period, have been published in the Daily Weather Map, in addition to the daily precipitation.

CLIMATOLOGICAL SECTION

During the year daily figures of rainfall or snowfall were received from 921 stations in Canada and Newfoundland; daily highest and lowest temperatures from 705 stations; daily 8 a.m. and 8 p.m. E.S.T. readings of pressure and humidity from 119 stations and monthly totals and average values of sunshine for each hour of the day from 84 stations. At 80 stations observations of wind velocity for every hour were summarized while at about 300 additional points wind data for fixed hours were analysed. During the year special control observations of temperature, pressure, wind, etc., at 2 p.m. were instituted at selected points across Canada. Hourly readings of pressure, temperature and humidity were computed from a number of autographic instruments, but the staff is too small to undertake but a small fraction of this work.

The Monthly Weather Map giving graphical and tabular summaries of the weather of each month from a selected number of stations has been issued regularly to 775 institutions and individuals about the close of the second week of each following month.

The Monthly Record of Meteorological Observations, containing 58 pages, giving the bulk of the meteorological data for Canada, was about two years behind the date of observation, but during the year by temporarily dropping some other activities arrears were reduced to one year, April, 1936, manuscript having been forwarded to the King's Printer in April, 1937.

About 1,000 special requests for information regarding the climate of Canada or of other countries or of the weather conditions at given periods have been answered during the year. Computations of absolute humidity, diurnal variability of temperature, etc., have been frequently made for engineers and manufacturers. Climatological data have been prepared for the Quebec Year Book and Agricultural Bulletin of the Bureau of Statistics. During the summer months temperature and precipitation data for a selected number of stations in Western Canada were telegraphed weekly to Toronto and these data furnished to the Bureau of Statistics at Ottawa. Besides this, various summaries and differences from normal have been supplied to other departments and the press on several occasions.

A special weekly bulletin during the agricultural season was prepared in Toronto from specially telegraphed reports of temperature and rain and telegraphed to Winnipeg for publication each Monday. The difference from normal of temperature and rainfall for each grain district was stated in this bulletin for the week ending Monday, also the differences of accumulated temperature and precipitation from April 1st to date were computed and published for each grain district. The bulletin met with general approval by agriculturists and others, but the extension to utilize about 250 reporting stations each week is badly needed.

A special summary of pressure, temperature, and precipitation for 26 stations in Canada is now prepared for each month and forwarded to Washington for international broadcast by Arlington transmitter on the 5th day of each following month.

PHYSICS SECTION

The work of the Physics Section during the past year has consisted chiefly of a careful examination of the weather processes occurring over the continent from day to day in order to provide a thorough understanding of and training in aviation forecasting. For the first time there has been sufficient staff to permit an analysis of two synoptic maps of North America each day.

The method of analysing weather maps has been entirely on the original lines developed by the Bergen School of Meteorology. The almost universal acceptance of analysis of weather maps by means of fronts and air masses by the aviation forecast service in both America and Europe has demonstrated both the fundamental soundness and the practical usefulness of frontal analysis. However, with increased data, difficulties in understanding the weather changes occurring over North America from day to day have been as persistent and as tantalizingly difficult as ever. An intensive study has been made of many situations to discover the physical processes taking place in the atmosphere. This procedure parallels the present experience of other meteorological services engaged in forecasting weather for aviation purposes. Unfortunately time has not been sufficient to carry these investigations in this office as far as desired nor to publish the results obtained.

The aeroplane ascents to obtain meteorological reports of the upper air made at St. John's, Newfoundland, from June to December, 1936, at Fort Smith, N.W.T., from October, 1936, to March, 1937, and daily at Toronto throughout the year have been extremely valuable. These flights have provided complete

reports on the temperature and humidity of the air up to altitudes of ten to fifteen thousand feet together with information on bumpiness of the air, formation of ice on aeroplane, character of clouds and visibility of the earth's surface from great heights. Especial care has been taken to note the conditions necessary for ice formation on aeroplanes. Although ice has been noted to begin to form on the aeroplane at Fort Smith as low as 30° F., hazardous formation appears to be limited to a chilled aeroplane going through moist air at a temperature from 33° F. to 28° F. Further study of icing will be made this year as it constitutes one of the major perils of aviation in Canada and transatlantic flying.

In August, 1936, aeroplane reports available from United States have been increased from three to approximately twenty per day. The grave problem has been to interpret the additional aerological information and to learn how it may be quickly and effectively used in the aviation forecast.

Experiments have been made with various types of thermodynamic diagrams to determine fundamentally the properties of air masses during each season in Canada and United States and to detect evidence as early as possible of thunderstorms and cloud formation. In general the Rosbygram has been found most useful in winter and tephigram in summer. The tephigram has been redrawn and published with a scale and in a form more suitable for American observations than other forms hitherto available.

Increased attention has also been paid to meteorological reports, especially dewpoints and cloud from all stations as accurate aviation forecasting depends entirely on the correct location of fronts. Considerable success has been attained in using barometric tendencies to forecast front movement for 12 hours to 24 hours, essentially as laid down in Petterssen's treatment of the subject.

Instruction of a post-graduate class in meteorology at the University of Toronto has been continued as in the previous three years. The students in this class coming from other Canadian universities have, after completing the course, been generally taken into the Meteorological Service with a good fundamental training in meteorology.

Since February, 1937, much attention has been given to the weather and upper air conditions over the Atlantic in view of the proposed transatlantic aviation service. Daily or twice-daily synoptic maps have been drawn in order to follow closely the movements of weather along the proposed route from Newfoundland to Ireland.

Forecasts were provided during the summer of 1936 for flying air mail from St. Hubert to Rimouski, and also at the urgent request of mining interests, a daily forecast since January 1, 1937, for the region around Rouyn. In addition to these forecasts, practice daily forecasts for airports and over probable air routes have been made by all members of the division. This division will thus be able to provide a small nucleus from which forecasters trained in modern methods may be drafted to form the skeleton staff of forecasters for the air services.

Memoranda on meteorological subjects have been prepared, the most important being on the possible use of atmospherics to detect the position of cold fronts. Unfortunately the study of this subject leads conclusively to the result that atmospherics cannot be used to detect fronts not already well known.

Evaporation.—The investigation of the evaporation from the Great Lakes water surface was continued and a formula applicable to large bodies of water such as these is being developed from experimental and theoretical considerations. In this work the shipping companies and the captains of the boats are co-operating with us very closely and very important results are being obtained. Measurement of evaporation at Toronto has been made throughout the season from April to November by means of an experimental tank and the total for

the period amounted to 20 inches. During the year most of the Experimental Farms have been furnished with Piche Evaporimeters. This gives a measure of the evaporating power of the air and is most useful in connection with agricultural investigations.

Sea-water Temperatures.—Thermographs have been maintained throughout the year on the routes from Vancouver to Hong Kong, Vancouver to Australia and Vancouver to Yokohama via Honolulu. The temperature readings obtained from the charts have been tabulated in 5° squares and are up to date.

Earth Temperatures.—Daily readings to 0.1° F. on platinum thermometers at different depths from the surface down to 15 feet were continued throughout the year at Toronto. At the 15-foot depth the range was only 6° varying from 49° F. on November 30 to 43° F. on June 1. At the surface the highest temperature was 82° on July 10 and the lowest 16° on February 4 or a range of 66°. Earth temperatures by means of special mercurial thermometers were taken at the Dominion Experimental Stations at Ottawa, Harrow and Vineland. For the investigation of frost damage to trees at the Dominion Experimental Station at St. Catharines, a special installation using mercurial thermometers was designed so that they could get the temperature at different depths below the surface during the winter in undisturbed soil and without disturbing the snow cover.

Radiation.—The Robitzech actinographs for measuring the amount of heat or radiation from the sun, which were recalibrated last year, have been in use at Toronto, Ottawa and Harrow and the records from these instruments have been evaluated.

Upper Air.—The investigation of the upper air by means of small meteorographs sent up on balloons was continued at Calgary, Alta., and Goderich, Ont. Only 17 balloons were sent up, of which 11 were recovered. The highest ascent was 69,500 feet on July 15 at Goderich and the lowest temperature 89° F. below zero on the same date. A much smaller meteorograph but with a much more open scale which has been in development for sometime was completed during the past year and has proved very satisfactory.

Instrumental Equipment.—Several important alterations were made in the anemographs which simplified the mechanism and eliminated the principal sources of weakness in them. The base and cover have both been redesigned and greatly improved.

As the recording raingauges in general use are either not suitable for the Canadian climate or are too expensive, considerable time was devoted to designing a new electrical recording raingauge of the tipping bucket type with a vacuum mercury switch to close the electric circuit each time the bucket tips, the recording part of the raingauge being adapted from the velocity registering portion of the anemograph.

Humidity.—A continuous record of the humidity of the air has been obtained in Toronto by a Kew thermograph which gives the record by means of photography except in the winter when a hair hygograph has to be used. These thermometers, however, require very considerable attention and are not properly ventilated. To overcome these defects and to install the most modern equipment a special ventilating system was designed, by using a double mercury in steel thermograph. Electric resistance thermometers have also been made for Toronto and Quebec whereby the temperature at any time can be obtained in the office, thus greatly facilitating the answering of numerous inquiries for temperature at both places. This same principle has been applied for getting the temperatures through a vertical section of the air at Penticton and at Fort Smith.

MAGNETIC SECTION

Terrestrial Magnetism.—During the year 1936 the two regular Magnetic observatories at Agincourt, Ont., and Meanook, Alta., were maintained in operation and continuous photographic records obtained of the declination, horizontal force and vertical force of the earth's magnetic field.

Control of the values of the elements was secured by absolute measures with standard magnetometers in conjunction with simultaneous readings of the variometers, each week throughout the year. This required some 8,000 settings and readings of the instruments at each observatory followed by the necessary computations to determine absolute values.

Approximately 75,000 measurements are made from the records at the two observatories in preparing the report, which gives in detail the story of the variations of the magnetic force in both directions and intensity at each observatory.

The report for 1932-33 is still in the printer's hands. This latter report covers the period of the International Polar Year and will appear in much greater detail. Values of the elements will be given for every hour of the day as well as the daily and monthly means published formerly, conforming to the requirements recommended by the International Polar Year Commission.

Assistance was given to various observers in standardizing their equipment at Agincourt for use in geophysical investigations and for magnetic surveys and special reports were furnished on request to aid observers in reducing their field observations and for purposes of research.

Magnetic character data were prepared and forwarded quarterly to the International Commission on Terrestrial Magnetism.

As stated in the introduction the magnetic work was transferred to the Department of Mines and Natural Resources, on December 1, 1936.

Seismology.—The seismological work at Toronto and Victoria was carried on as usual until December, 1936, when it was transferred to the Department of Mines and Natural Resources, Dominion Observatory, Ottawa. Up to that time the Milne-Shaw instruments were kept in good condition and with little loss of record. Some records from the instruments in Toronto however, were somewhat distorted due to the heating system in the building causing at times considerable tilting effects.

Measurements of all quakes were made as well as the time at the hypocentres of all the important disturbances. Altogether, there were 192 quakes in the eight-month period, ending December 1, 1936. This averages somewhat less than the normal. The intensities were also rather moderate, the most destructive occurring July 13-Northern Chili; August 23-Northern tip of Sumatra; September 19 at 4°3 N., 97°8 E., and November 13 at 56°7 N. 162°3 E.

Fifty seismic stations were regularly provided with our Monthly Bulletin of analysis; the loan of original seismograms was made to various international centres; and correspondence and inquiry relative to seismic problems were attended to promptly.

Similar work was carried on in connection with the Victoria, B.C. records.

In view of the removal of the work, it is of interest to note that a total of 6,343 earthquakes were registered on the Toronto instruments and analysed during the past 40 years. It is the oldest and longest unbroken chain of seismological work in the Western hemisphere. To Toronto belongs the historical distinction of being the pioneer in this. The first instrument installed in 1897 was a Milne photographic, which operated till the middle of 1922, when the more sensitive Milne-Shaw replaced it. Hence since 1922 the number of quakes recorded at Toronto annually, were almost tripled.

The photographic thermographs, dry and wet, and the barograph, were kept in good order without loss of record. Abstracts of the monthly, daily and hourly values were kept up to date. Hourly humidities were derived from the results of the photographic dry and wet bulb from April to October, but during the winter the hair hygograph has to be used owing to the temperature being below freezing point making it impossible for the wet bulb to function satisfactorily, the readings being standardized by comparison with absolute instruments.

APPENDIX A

REPORT OF MAURICE ROYER, C.E., IN CHARGE OF QUEBEC OBSERVATORY

The work at the observatory has been performed regularly as in former years and all meteorological observations have been taken carefully and without interruption. The instruments have been kept in the best possible order.

Daily reports have been given to the newspapers, and information concerning meteorological, astronomical, and other conditions, and the correct time, have been furnished to the public by means of a telephone. Numerous abstracts from the records and statistical tables have been prepared for lawyers, engineers, and industrial corporations, while there were the usual appearances before the local courts to testify as to past weather conditions. Several barometers, hygrometers and chronometers have been compared and adjusted for the public.

The new observatory building on Laurier avenue was occupied in March, 1936, but unfortunately there was not time before winter set in to complete the fencing and improvements to the grounds.

APPENDIX B

REPORT OF FRANCIS M. BARNES, IN CHARGE OF SAINT JOHN OBSERVATORY

Meteorological observations have been made continuously without interruption during the year at 8.30 a.m. and 8.30 p.m. A.S.T., and punctually transmitted to Toronto by the Canadian National Telegraph Company, entered in the meteorological register and copies mailed to the Head Office monthly. Ice and snow records have been reported each Tuesday morning during the winter months.

All returns from outside stations in the Maritime Provinces have been carefully checked, acknowledged and recorded. The daily weather bulletin in code from Toronto has been decoded, copies made, posted in public places and mailed to hotels and business houses who are interested. During the year a large number of inquiries were received from merchants, engineers and others for meteorological information. Local and outside shipping, contractors and commercial houses, transportation companies and others make frequent requests for statistical and other information from this office. In many cases settlement of claims wholly depends upon records of our observations. The press obtains information when important storms occur, during periods of extremes and items of interest to the public, also monthly weather statistics returned by the smaller stations in the Maritimes.

CANADIAN AIRWAYS

During the year the Canadian Airways Limited inaugurated an air service connecting the principal cities of the Maritimes. Meteorological information has been furnished at these places when requested.

TRANSCONTINENTAL AND TRANSATLANTIC AIR SERVICE

In connection with the proposed Transcontinental and Transatlantic Air Service about sixty ships entering the port of Saint John were visited during the winter. The object of the visit was to ascertain what meteorological equipment was on board, the route taken by the ship, the range of the wireless equipment and whether the ships are at present sending weather reports. Much interest was shown by the masters of the ships in the proposed flights and practically all were willing to co-operate. It was ascertained that many of the ships still use the time ball for rating their chronometers while in port and many of the officers took advantage of the local observatory to check their barometers.

TIME SERVICE

The time service has been carried on as previously reported with transit observations taken as frequently as possible. Time signals are automatically sent out from our Mean Time clock.

During the year electric thermostatic control was placed in the Riefler sidereal clock room. The range as shown has a variation of not more than one degree. This should assist materially in improving the rate of the master clock.

SIGNAL SERVICE

Upon receipt of storm warning telegrams from the head office acknowledgment was made as promptly as possible and the required signal displayed on the Custom House signal mast. The press was requested to publish these storm warnings. The agent at Point Lepreau who was promptly notified hoisted storm drums during the day and lamps during the night.

APPENDIX C

REPORT OF W. A. THORN, IN CHARGE OF GONZALES HEIGHTS OBSERVATORY,
VICTORIA, B.C.

Telegraphed weather observations have been recently increased from two to three daily synoptic code signals and extended to include Airway reports six times a day issued from Victoria for airmail service. Wireless reception of signals for forecast use has been similarly extended to take advantage of weather reports issued by vessels on the Pacific (a service of paramount value).

Also coastal airway weather has been received daily at frequent intervals. Upper air currents were measured on 195 days of the year by balloons released at Victoria.

An additional first class weather station has been established at Langara, Queen Charlotte islands. To the regular British Columbia Forecast and Bulletin Service, forecasts for the Prince Rupert area and Queen Charlotte islands have been added.

Special forecasts for airplane flights over northern territory were issued and others in connection with the serious spring floods.

Public interest in forecasts was very pronounced during the past winter, in many respects the most severe for 20 years, and again during the phenomenal November fog, which temporarily paralyzed Vancouver port activities.

In addition to summarizing for publication the weather data collected from 215 stations maintained and serviced in this province, snow, fog and flood data were investigated for water power and transportation interests and coastal storms for shipping insurance. Monthly data was furnished for agricultural and commercial agencies, and an accurate time service was maintained locally, and storm warning signals operated at four points on the coast.

Local tables for sun and moon rise were issued to the press.

Two photographic seismographs have been kept in operation and, although the editing of records has since November been assumed by the Dominion Observatory, Ottawa, epicentres of 60 earthquakes registered have been determined and telegraphed to the central collecting agency.

In conclusion, it may be of interest to report that notwithstanding curtailment of "open" hours some 1,500 visitors have been admitted to view this office during the year.

APPENDIX D

REPORT OF H. P. TROOP, IN CHARGE OF WINNIPEG METEOROLOGICAL OFFICE

Weather messages from 185 stations on the North American continent were received daily from Toronto by teletype. This data was first plotted on a large working map and the isobars drawn, from which a reduced map was then prepared for mimeographing. In addition, the daily weather map contained data for temperature, pressure, wind, and precipitation at forty stations in Canada and sixteen in the United States, as well as temperature, precipitation, and state of the weather at 45 supplementary stations, chiefly in Western Canada during the crop season, and eight during the winter months. The weather map also contained a synopsis of past weather conditions and forecasts for the regions of lake Superior, Kenora and Rainy River, Manitoba, Saskatchewan, Alberta, and the Peace River district.

The data shown on the map was increased during the year to include the accumulated totals of precipitation from April 1 and November 1, respectively, as well as the normal amounts for the same periods.

The weather map was ready for distribution at 9.45 a.m. daily except Sundays and holidays. The number of maps distributed has increased somewhat during the year, 228 now being delivered locally by messenger and 101 mailed.

A weather bulletin covering 27 stations was telegraphed each morning to the Head Office of the Canadian Pacific Railway, Montreal. The complete weather bulletin of 31 stations, with precipitation at the supplementary prairie stations, was telegraphed each morning at 9.45 to the Vancouver Grain Exchange and to the cities of Western Canada.

For the grain trade, weather data, including temperature, wind, state of weather, precipitation, isobars, and forecasts, were entered daily on a large glass wall map of North America located on the trading floor of the Grain Exchange. During the crop season the weather data for the supplementary stations was entered on a glass map of the Prairie Provinces.

During the months April to September inclusive a complete weather summary for the Prairie Provinces, giving a general synopsis of past weather conditions as well as a detailed statement of temperature and precipitation by crop districts was received weekly via teletype from the head office. This weekly summary was mimeographed and distributed to the subscribers of the daily weather map,

the press, and to others by request. This new service was greatly appreciated by the grain companies and others interested in crop conditions in the Prairie Provinces.

Regular observations were taken at the University of Manitoba three times daily and records kept. Until January 29, pilot balloon observations were taken daily from the roof of the Grain Exchange Building. On January 30 the pilot balloon equipment was moved to the Stevenson Airport and the personnel of the Northwest Airlines given instruction in the method of taking the flights. The reason for this change was that upper air observations were required for the air mail service at times when the staff of this office was engaged in preparing the daily map.

Upper air observations, reports of weather conditions and forecasts were issued daily to passenger and air mail services, the Royal Canadian Air Force and, upon request, for individual flights.

Numerous extracts of records were prepared for heating companies, lawyers, engineers, the press, and other interested persons. Special forecasts were issued to milling concerns, to companies shipping perishable freight, and to many others for various purposes.

A short course in meteorology was given to members of the Ground School in the Winnipeg Flying Club, as well as several lectures to various clubs and organizations of the city.

APPENDIX E

REPORT OF J. F. CARMICHAEL, IN CHARGE OF ST. HUBERT METEOROLOGICAL OFFICE

During the year the regular meteorological instruments, including the recording barograph, thermograph, hydrograph, anemometer, and pressure tube anemometer were in operation, and daily, weekly and monthly reports for the station compiled.

The Head Office, Toronto, sent each day by teletype the signals for a sufficient number of stations to prepare the daily weather map in the office. It also sent general forecasts, and special forecasts for the Montreal-Albany route.

For the Montreal-Albany-Newark route, weather reports were received from Toronto, Kingston, and Ottawa. Reports were also received from the Albany Weather Bureau for the use of the planes flying the route. For part of the year airplane observations were received from Albany and transmitted by teletype to Toronto, but this was discontinued on the establishment of a direct circuit between Buffalo and Toronto. On the other hand, the airplane observations from Toronto were sent by teletype to St. Hubert and by radio to Albany.

For the Montreal-Rimouski service which operated during the season of navigation, special reports on days of flight were received from Father Point, Rivière du Loup, Quebec, Sorel, and Three Rivers. Special forecasts for these flights were received from Toronto.

During the year a daily service was established between Montreal and Ottawa, which necessitated obtaining twice daily weather reports from Sand Hill (Renfrew) and Vankleek Hill.

On both Montreal-Albany and Ottawa-Montreal routes there is radio contact with the station every fifteen minutes, so that weather reports can be received from or given to the pilots.

APPENDIX F

REPORT OF E. B. SHEARMAN, IN CHARGE OF METEOROLOGICAL OFFICE,
VANCOUVER, B.C.

Meteorological observations have been continued without interruption throughout the year, and the morning weather bulletin received from Victoria supplied to the daily press, fishermen, transportation companies, radio stations, and many inquirers by phone. The office was also called upon to give detailed reports and to answer innumerable questions in regard to the weather, received from transportation companies, engineers, legal, and other interests.

The correct time is maintained principally for the convenience of the shipping interests and citizens, and to fire the time gun at Brockton Point.

During the year five sea water thermographs on the Canadian Pacific ships have been in constant use. The instruments are regularly checked for accuracy and the charts corrected.

There are two ships on the Pacific equipped by this service with meteorological instruments, from which twice daily reports are received through the United States Weather Bureau.

In return for the assistance rendered by the officers of the various ships in furnishing meteorological information, and at the request of the Consular Service in Vancouver, the office acts as a clearing house from which ships can obtain a supply of charts, notices to mariners, bulletins and observation forms, received from many nations. The masters and mates are also given instruction in meteorology in connection with the examination for their certificates.

Respectfully submitted,

J. PATTERSON,
Controller.

Commander C. P. Edwards,
Chief of Air Services,
Dept. of Transport, Ottawa, Ont.

REPORT OF THE GENERAL SUPERINTENDENT OF CANALS

SIR,—I have the honour to submit my annual report for the fiscal year ended March 31, 1937.

The canal system of Canada comprises a series of canals and canalized waters by which a total of 1,890 miles of waterways have been opened to navigation from the sea. This system may be considered as of two classes: (a) the main route via the St. Lawrence river and the Great Lakes; (b) the subsidiary routes, all of which, except the St. Peters canal, are branches of the former. The various canals on the main route, having been constructed at widely different dates, provide various depths for navigation, none of which, under normal conditions, is less than fourteen feet. As to the subsidiary routes, the normal depth available on each is shown in the table at the end of this report.

The main route between Montreal, at the head of ocean navigation, and Port Arthur and Fort William on the west shore of lake Superior, comprises 76 miles of canal, with thirty-one locks and 1,139 miles of river and lake waters, or a total of 1,215 miles. From Montreal to Duluth, at the southwest end of lake Superior, the distance is 1,337 miles and to Chicago 1,244 miles. From Port Arthur and Fort William railway connection is available, (a) north and west to Superior Junction on the main transcontinental line of the Canadian National Railways, (b) west on the transcontinental line of the Canadian Pacific Railway, and (c) west on the transcontinental line constructed by the Canadian Northern Railway and now owned and operated by the Canadian National Railways.

Further data as to the various canals and canalized waters now in operation, their mileage, limiting dimensions, etc., is available in a departmental publication, "The Canals of Canada" (1937 edition). A summary of such data is appended to this report.

For the guidance and control of those using the canals, a departmental publication, "Rules and Regulations" (1937 edition) is available.

In the detailed report which follows, the various canal systems are taken up in the following order:—

1. The St. Lawrence and Great Lakes route between Montreal and Port Arthur, including the Lachine, Soulanges, Cornwall, Farran's Point, Rapide Plat, Galops, Welland Ship, and Sault Ste. Marie canals.
2. The Richelieu river route from its junction with the St. Lawrence at Sorel to lake Champlain, including the St. Ours lock and Chambly canal.
3. The Ottawa river route from lake St. Louis to Ottawa, including the Ste. Anne lock and the Carillon and Grenville canals.
4. The route from Ottawa to Kingston via the Rideau canal.
5. The route from lake Ontario to Georgian bay via the Murray canal and the Trent and Severn rivers.
6. The St. Peters canal across an isthmus at the southerly end of Cape Breton island, Nova Scotia, and connecting the Bras d'Or lakes with the Atlantic ocean.
7. Miscellaneous works under which are comprised the Hungry Bay dyke, the Ste. Barbe dyke, various protection walls along the south side of lake St. Francis and the Masson bridge near Valleyfield between the main land and deSalaberry island.

ST. LAWRENCE AND GREAT LAKES ROUTE

On the St. Lawrence river system of canals as a whole, traffic for the 1936 season amounted to 8,288,524 tons, an increase of 20 per cent over the previous year's tonnage and only 123,018 tons under the greatest tonnage on record, that of 1928.

Low water conditions were again experienced in 1936. There was, however, a slight improvement over the previous year. From the opening of navigation until about the middle of July the full draught of 14 feet was available throughout. Thereafter the available draught on some of the St. Lawrence canals gradually decreased until from about the end of August to about the middle of October it was only 13 feet. After the middle of October 13 feet 3 inches was available. The minimum of the previous year was 12 feet 3 inches.

(a) LACHINE CANAL

This canal, which lies across the southeasterly portion of the island of Montreal, overcomes the Lachine rapids, between the harbour of Montreal and lake St. Louis. It is 8.74 miles long and has five locks with a minimum depth, at normal low water, of 14 feet.

The canal opened for traffic April 22 and closed December 10. There were eight delays to traffic amounting in all to 38½ hours. The greatest single delay, one of 9½ hours, occurred on November 4, when a heavy load of snow on the bascule bridge at Rockfield rendered it inoperative. No delays were due to accidents caused by vessels.

The more important improvements and repairs carried out during the season included the following:—

Extensive repairs were carried out at south lock 2 during the winter of 1936, as fully described on page 71 of last year's report. In final completion of this work the cofferdam, closing the upper entrance to this lock, and the steel stoplogs across the upper entrance to south lock 1, installed for purposes of unwatering, were removed during the early part of April.

One lock gate for use at locks 1 or 2 and two spare gates for locks 3 or 4 were rebuilt and the lower sill of north lock 4 was reconstructed.

At the Rockfield bascule bridge (bridge No. 7) the weight of the counterweight was increased by 15 tons by a partial encasing with concrete of the upper bracing. The upper floor planking of bridges 3, 4, 5 and 7 and the bottom planking of bridge 5 was entirely renewed.

Repairs made to canal walls included the renewal in concrete, for a height of 5 feet, of the north wall above locks 3 along a length of about 320 lineal feet; the renewal of about 500 lineal feet of the concrete coping on the south side, half a mile east of Rockfield bridge; the renewal, for about half its height, of 120 feet of concrete wall along St. Patrick street west of the Côte St. Paul power house and the underpinning of the north wall above north lock 4 for a length of 30 feet.

At weir 3, north of lock 3, the masonry wall on the south side of the tailrace was renewed in concrete on a length of 200 feet and the timber floor of the tailrace replaced in concrete for a distance of 40 feet from the downstream face of the weir. The centre pier of the weir was extended easterly in concrete for a length of 24 feet. Above weir 5 at Lachine, the north masonry wall was renewed in concrete along a length of 135 feet.

Repairs made to buildings included chiefly the entire replacement in concrete of the wooden floor of the lock-gate shed having an area 40 feet by 100 feet. Minor repairs were made to power lines and to the heating plant for the stores building and shops.

The floating plant of the Lachine canal consists of the tug *Lachine Canal*, a gate lifter, two floating steam derricks and six scows. The hulls of all these vessels were caulked and general repairs made to machinery.

The dredging fleet of the Quebec canals consists of the tug *Dandy*, a dipper dredge, sounding scow and coal scow, four dump scows and six flat scows. The operations of the fleet on the Lachine canal consisted in the removal of a total of 3,496 cubic yards of material at various points along the canal including the upper entrance at Lachine, above locks 3, opposite to the plant of Crane Limited, near Côte St. Paul lock and at Cantin's dry dock.

(b) SOULANGES CANAL

The lower entrance to this canal is at the upper end of lake St. Louis, 16 miles west or upstream from the upper end of the Lachine canal. The canal is 14.67 miles long, has five locks with a minimum depth of water of 15 feet and extends from Cascades Point to Coteau Landing.

Navigation opened April 23 and closed December 10. The canal was operated throughout the season without accident. One minor delay only occurred during the season.

The more important improvements carried out last year included the following:—

A reinforced concrete slab, 12 inches thick and provided with a heavy footing, was laid on the north side of the prism between locks 2 and 3 for a length of 928 feet to prevent sliding of the slope. The placing of this portion of the slope protection was carried out last winter. The remainder of this slope, or a length of about 500 feet, will be similarly treated during the coming year.

One spare lock gate was constructed for use at locks 1, 2 or 3. The lower gates of lock 5 were replaced and gates, mooring posts, railings, etc., was painted.

The floors of bridges at St. Féréol and St. Dominique roads were renewed and minor repairs made to other bridges.

At lock 3 about 45 feet of the underpinning of the lower north splay wall, which had become undermined, was removed and replaced by new underpinning protected by a concrete slab 20 feet wide. Repairs also were made to both slope walls of the canal between locks 4 and 5.

The canal quarry supplied a total of 9,145 tons of crushed stone for use on the Soulanges and Lachine canals and at the Ste. Anne lock.

The floating plant of this canal comprises the tug *Carillon*, gasoline yacht *Doreen*, a gate lifter, two floating steam derricks and seven flat scows. Repairs made to these vessels included painting, caulking and general repairs to machinery.

The dredging fleet of the Quebec canals removed a total of 8,875 cubic yards at various points on the Soulanges canal. The bulk of this material was dredged at the upper entrance opposite to the canal shops, the remainder at the quarry wharf and at the guard gate. The fleet was also utilized in the placing of 7,345 cubic yards of stone and clay along the north face of the breakwater at the upper entrance.

Further details in regard to works carried out are on record in the report of the Superintending Engineer.

(c) CORNWALL CANAL

This canal, which begins at the westerly or upstream end of lake St. Francis 31 miles from the head of the Soulanges canal and provides a minimum navigable depth of 14 feet, has six locks and is 11 miles long. It surmounts the Long Sault rapids. A repair basin, 250 feet long and 300 feet wide, situated between old locks 16 and 17 at Cornwall and capable of accommodating vessels of St.

Lawrence canal size with 13 feet draught, is operated in connection with this canal. The Cornwall, Farran's Point, Rapide Plat and Galops Canals are generally designated as the "Ontario-St. Lawrence Canals."

Navigation opened April 24 and closed December 10.

One serious accident only occurred during the navigation season when on August 21 the ss. *Hastings* struck and carried out the lower gates of lock 18. The overflow passing down the reach overran the gates of old lock 17 causing considerable damage in the repairing basin below. Spare gates were immediately placed at lock 18 and navigation resumed the same day.

The more important improvements and repairs carried out during the year were as follows:—

At the upper entrance to the guard gates the southerly timber stone-filled crib was removed and replaced by four small cribs with floats and floating booms thereby facilitating to a considerable extent the navigation of down-bound vessels.

Repairs at the various locks included the pointing of masonry at lock 17, repairs to gates at lock 20 and the installation at this lock of a new semaphore signal system and the installation at the guard gates of two hand winches as an emergency alternative to electric operation.

Riprap protection was laid on the north bank of the canal below lock 20 for a length of about 620 feet and above the regulating weir of lock 21 for a length of 263 feet. Stone filling was placed below the southerly end of the apron of the Mille Roches weir to prevent scour.

The timber floor system, including stringers and planking, of the steel bridge over old lock 17 was renewed. Repairs in concrete were made to the brick culvert on the northerly side of the headrace to the Canada Cottons Company's Dundas and Canada mills.

Repairs to buildings included new windows for the west side of the blacksmith shop and extra sheeting for the walls.

Canal grounds were well cared for and plants supplied as usual from the greenhouse for use on the Quebec canals.

The floating plant of the Ontario-St. Lawrence Canals consists of the tug *W. A. Bowden*, three gate lifters, two derrick scows, one pontoon scow, two boarding scows and eight flat scows.

(d) FARRAN'S POINT CANAL

This canal, together with the Rapide Plat and Galops canals, upstream therefrom form the group known as the "Williamsburg Canals." The length of the Farran's Point canal is 1.28 mile. It has one lock situated about 5 miles west of the upper end of the Cornwall canal.

The canal was opened to navigation April 24 and closed December 10.

Repairs carried out included the installation of two lock-gate valves and the placing of gate shims.

(e) RAPIDE PLAT CANAL

This canal extends from the town of Morrisburg to Flagg's bay, a distance of 3.89 miles. It is situated $9\frac{1}{2}$ miles above the Farran's Point Canal and has two locks.

Navigation opened April 24 and closed December 10. No delays were occasioned to navigation through any cause.

The upper and lower gates of lock 23 were replaced by reconditioned spare gates. Two new gates were installed at the lower end of lock 24.

Stone protection, amounting to about 1,250 square feet, was laid on the north bank at the canal yards in continuation of the work of the previous season.

The high north bank at Mariatown, where the stone protection had been washed out, was riprapped and partly stonefilled to prevent further settlement and slides, about 4,425 square feet being covered. A small amount of riprapping was also done on the south bank west of the weir at lock 24.

(f) GALOPS CANAL

Situated about $4\frac{1}{2}$ miles west of the Rapide Plat canal, the Galops canal extends from the village of Iroquois to a point $1\frac{1}{2}$ miles above the town of Cardinal, a distance of 7.36 miles. It surmounts the last series of rapids met with between Montreal and lake Ontario, and has three locks, a lift lock at the lower entrance, a guard lock at the upper entrance, and a lift lock beside the guard lock for overcoming the Galops rapids only.

This canal was opened to navigation on April 24 and closed December 10. Repairs effected during the past year included the following:—

A portion of the northerly masonry wall of lock 25 above the middle gate recess, which had become unstable owing to partial disintegration and displacement, was removed for a length of 65 feet and a height of 9 feet below the coping and two upper courses and replaced by reinforced concrete, the upper courses and coping being then relaid.

A new hot-air furnace was installed in the lockmaster's house at Iroquois.

The roadway connecting highway No. 2 with locks 27 and 28 was improved by a top dressing of cinders.

In connection with the lease of water power to the Edwardsburg Starch Company at old lock 26 in the village of Cardinal certain improvements were carried out. These included the removal of the upper lock gates and their replacement by reinforced concrete gate bars, and the provision of small valves in each pair of bars to allow of a slight flow of water from the canal reach above.

Further details in regard to works carried out on the Ontario-St. Lawrence canals are on record in the report of the Superintending Engineer.

(g) WELLAND CANALS

WELLAND SHIP CANAL.—This canal, which connects lakes Erie and Ontario, supersedes the former Welland canal. It was constructed between the years 1913 and 1933, in which latter year the final items of all main contracts had been completed. The first through traffic traversed the canal on November 22, 1930 (draught being then restricted to 18 feet), since when the canal has been in continuous operation during navigation seasons. The allowable draught by 1933 had been increased to 23 feet 6 inches, accommodating Great Lakes vessels up to 700 feet in length and 75 feet beam. All lock structures provide for a depth of 30 feet and the intermediate reaches can be dredged to the same depth should future necessity require it. The official opening of the canal took place on August 6, 1932.

The lower and lake Ontario entrance is at Port Weller and the canal enters lake Erie at Port Colborne. Its extreme length between harbour limits is 27.6 miles. The summit level of the canal, or level of lake Erie, 327 feet above that of lake Ontario, is attained in a distance of about $8\frac{1}{2}$ miles by means of seven locks, three of them twin locks in flight, each with an average lift of $46\frac{1}{2}$ feet. A guard lock is located at Port Colborne for the purpose of compensating such variations as may occur in the level of lake Erie. The lift locks are 859 feet long between inner gates and 80 feet wide and provide a depth of 30 feet of water over the mitre sills. The guard lock has a length of 1,380 feet between

inner gates and a width of 80 feet. The width of the canal prism at bottom is 200 feet, its depth 25 feet. The canal is crossed by twenty bridges, fourteen of which accommodate highway traffic and the remaining six railway traffic.

Descriptions of the various works carried out during the construction period prior to the opening of the canal to traffic will be found in previous annual reports. Attention may be specially drawn to the years 1922 to 1933 inclusive, during which time the more important construction work on the canal was in progress.

During the year 1935, as a result of slides and subsidences which had taken place at various places along the canal prism, a number of new contracts were entered into for flattening and otherwise re-establishing the slopes. Work on these contracts had been completed in November, 1935, with the exception of that being carried on by Brodrick Contractors on the west slope, in and north of the city of Welland. This last undertaking was resumed in May, 1936, and had been fully completed by the end of October.

The canal opened for traffic April 20 and closed December 12. Navigation throughout the season was carried on without serious accident or delay.

During the season of 1936 there were 3,182 upbound and 3,200 downbound transits of vessels through the canal. The total cargo tonnage carried amounted to 10,436,803, an increase of about 17 per cent over the figure for the previous year and the greatest tonnage carried since the opening of the canal to through traffic in the season of 1931.

Among commodities transported wheat amounted to 2,327,083 tons (77,569,433 bushels), an increase over the previous year of about 24 per cent, while the shipments of coal and coke amounted to 3,435,366 tons, an increase of about 16 per cent. Considerable increase was also shown in metallic ores.

There were 649 transits of upper lakes vessels of Canadian registry and 341 transits of United States upper lakes vessels during the navigation season. Eighty-one salt water vessels passed through the canal carrying 765,301 tons in 633 passages. Sixty-five per cent of this tonnage was carried by United States vessels, 30 per cent by Norwegian, 4½ per cent by Canadian, and one-half of 1 per cent by British vessels. Way freight discharged at various canal ports during the season amounted to 1,204,630 tons, freight taken on to 229,948 tons, a total of 1,434,578 tons and an increase over the previous year's figure of about 18 per cent.

At Port Colborne the protective rock fill, placed about eight years ago on the lake side of the western breakwater extension, had been washed in towards the shore leaving the concrete structure exposed to wave action at its outer end. To remedy this condition a series of pre-cast reinforced concrete monoliths, weighing about 12 tons each, were deposited in three rows and two deep along the outer face of the breakwater extension for a length of about 330 feet from the outer end. The outer side of the monoliths was protected by a filling of large stones and small concrete blocks. This work was carried out in September, 1936, under contract with the Russell Construction Company of Toronto.

At the Port Weller gate dock provision was made for the carrying out of emergency repairs to upper lakes freighters. An arrangement of blocking was installed, consisting of a fixed row of keel blocks along the centre line of the dock with a double row of movable blocking supported on heavy transverse timbers on either side for the accommodation of scows or bilge-blocked vessels. All work in connection with this installation had been completed by the beginning of November.

A shoal southeast of the Port Colborne elevator pier which had been causing inconvenience to navigators was dredged and the area swept to the prevailing grade in this vicinity.

At the St. Catharines dock the temporary plank floor of the warehouse was replaced by a concrete floor. A concrete foundation and floor were also constructed for the 48-foot extension to this building to be erected in April.

Under contract with Caustic Sanitation Limited, chemical closets were installed at the eleven vertical lift bridges and at the swing bridge south of Thorold.

Considerable trouble had been experienced through failures in several instances of the transverse anchorage eye-bar links in the lock gates. These anchorage links were of high carbon steel. After considerable research work had been carried out in regard to the cause of the failure it was decided to replace both transverse and longitudinal bars with alloy steel bars. This work has now been carried out.

The electrical equipment of the power-house during the year was operated without serious interruption or breakdown. The three 5000 k.v.a. generators with which the power-house is equipped supplied a total of 10,871,120 k.w.h., an increase of about 5 per cent over last year's output. This figure includes 495,800 k.w.h. supplied to the Hydro-Electric Power Commission and small deliveries made to the Department of Marine and Canada Steamship Lines Limited.

The control of the prism lighting system of the canal by two constant current regulators, one for the northern and the other for the southern division of the canal, has now been centralized at the power-house to feed the entire system directly from that point. In addition, an emergency supply has been installed at the lock 8 substation by which, when necessary, the entire system can also be supplied.

During the navigation season of 1936, the various bridges which cross the canal were operated 88,797 times for the passage of boats, an increase of about 8 per cent over the previous season and an average of about 4,440 operations for each bridge.

As noted in last year's report alterations were made to the filling tunnels in the centre wall between twin locks 5 after the close of navigation in 1935, the object being to devise a satisfactory method for the elimination of vacuum conditions and marked vibration observed in these tunnels as originally designed and constructed.

The operation of the two schemes installed during the season of 1936 has shown that by either method vibration difficulties can be practically overcome. An inspection of these reconstructed filling tunnels was made last February. This inspection revealed no indication of wear in the west tunnel where the multiple pipe method had been tried. In the east tunnel, where the varying section method was adopted, some indication of erosion was apparent. This, however, may have been due to defective material.

Further experience in the operation of both systems will, however, be necessary before a final decision as to relative efficiency can be safely arrived at.

The floating plant of the canal consists of the tug *Welland*, the motor boat *Adventurer*, a steel pontoon gate lifter of 500 tons capacity, a small steel gate lifter, three deck scows, one sweep scow, one derrick scow and two small lifting scows. The gate lifter received a general overhaul at the close of the season and extensive repairs were made to the derrick scow.

WELLAND CANAL.—Under this heading are included the "third canal" now superseded by the Welland Ship canal, the "second canal" used only as a power channel and the "feeder canal". Since April 1, 1934, these works, formerly under separate departmental management, have all been placed under the jurisdiction of the Ship canal.

Third Canal.—The works thus designated now include the maintenance of the east and west harbour piers at Port Dalhousie, of lock 1, and of the unwatered canal prism and its crossings between lock 2 and the Ship canal.

Traffic through lock 1 during the year amounted to 99 upbound and 107 downbound vessels. The normal season for navigation extends from April 15 to December 15.

At Port Dalhousie repairs were made to the northerly end of the east harbour pier where displacement of the facing blocks and erosion of the filling had taken place. The repair work, commenced last year on the east harbour wall below lock 1, was completed. The wooden truss span with its two approach spans over one of the openings in the west entrance pier to lock 1 of the third canal, was renewed in timber.

A number of minor improvements were also carried out, such as the final surfacing of the roadway at Geneva street crossing, cleaning of ditches, seeding of newly excavated areas, repairs to buildings, etc.

Second Canal.—This is also known as the "old canal". It was superseded in 1887 for traffic purposes by the "third canal" and has since been used for power purposes only. It receives its supply of water, amounting to 700 c.f.s., from the Ship canal.

In the past year this canal was unwatered from time to time for periods totalling approximately fifteen days. Advantage was taken of these periods of unwatering to make various repairs to locks, weirs, valves, etc. Among these were included the following: General repairs were made to the floor of lock 3, where extensive erosion had taken place. The old lower gates at lock 12 which, as the head at this lock is taken by reinforced concrete gate bars at the upper end, are no longer necessary, were removed. The gate bars at the head of lock 16, which had been carried out, were replaced and slots provided between them to take the greater part of the flow and openings in the lower gates were enlarged to reduce materially the head at this point. All valves in the weir of lock 2 were thoroughly overhauled and put in good repair and the racks cleared of various accumulations. A large hole, caused by erosion, immediately below the apron of lock 6 weir was repaired with rubble stone filling. Masonry joints in the weir of lock 12 were pointed. The timber apron of this weir is in bad repair and will be attended to during the coming year.

Feeder Canal.—The route of the feeder canal, constructed in 1829 for the supply of the summit level of the first Welland canal, lies between the south end of the city of Welland and a point about five miles above the mouth of the Grand river at Dunnville, a distance of about twenty miles. Included is a branch from the main route, about two miles long, between Stromness and the mouth of the Grand river at Port Maitland on lake Erie. The utility of the feeder canal as such ceased on the reduction in 1881 of the summit level to that of lake Erie and it now serves only as a drainage ditch for contiguous areas.

At Dunnville, there is a dam across the Grand river dating from the original construction of the feeder, the top of which is still maintained as a road. A short road bridge is also maintained across Sulphur creek at the south end of the dam and three combination bridges and weirs between islands in the river. Bridges, which formerly crossed the feeder at various points, have now been largely replaced by earth fills and culverts. A ferry service is maintained by the department across the mouth of the river at Port Maitland.

As considerable leakage through the Dunnville dam had become evident, repairs were made last year to a section about 100 feet in length. These were effected by driving a cut-off of steel sheet piling immediately in front of the existing wooden piling on the upper side of the dam. The steel piling was then capped with a concrete slab extending partially over the existing concrete slab deck of the cribs which form the dam. It is proposed, during the coming season, to complete this repair for the entire length of the structure.

At the Sulphur creek bridge the wooden sidewalk along the slope of the southerly approach was replaced by a dry rubble wall benched into the slope, the space between the wall and the roadway being filled in with clay with a

surfacing of cinders. Repairs were also made to the southerly concrete pier of this bridge, which was partly undermined, by an underpinning of concrete in bags alternating with rubble, an enclosing concrete wall being then built around the pier to about a foot above water level.

Weirs 1 and 2, situated between islands on the north side of Sulphur Creek and west of the dam, were extensively repaired. The three timber bents between the masonry piers were replaced at both weirs by concrete piers. At weir 1, the more westerly of the two, the wooden floor system of the bridge was replaced by steel beams with a reinforced concrete deck. At weir 2 the wooden floor system was renewed.

The ferry service was in operation last season from May 2 to December 5. During that period 12,138 trips were made, 7,745 vehicles were carried and 16,236 pedestrians.

Further details in regard to works carried out are on record in the report of the Superintending Engineer.

(h) SAULT STE. MARIE CANAL

This canal provides communication between lakes Huron and Superior, surmounting by a single lock the rapids of the St. Mary river. It is 1.38 mile in length between the east and west extremities of the entrance channels and under usual conditions provides a minimum depth of water on lock sills of 18 feet 3 inches.

It may be noted here that the United States canals, situated directly across the river, and known as the St. Mary's Falls canals, comprise four locks, one of which, however, has been out of commission for some years. Of the three locks in use, two have 6 feet greater depth than the Canadian lock. Vessels of both countries may use either system of locks at will.

The Canadian canal opened to traffic April 29 and closed December 17. There were no serious accidents or delays during the season.

The total tonnage of freight which passed through the Canadian lock in 1936 was 2,278,236, an increase of 18 per cent over the figure for the previous year. The combined tonnage through both Canadian and United States canals amounted to 69,529,132, an increase of 44 per cent over last year's figure. This tonnage for the combined canal systems was the largest since 1930 and nearly three and one-half times greater than that of 1932. The improvement was largely due to a revival of east-bound iron ore shipments and westbound soft coal.

Repairs to the south lock wall, east of the upper main gate, commenced in February 1936, as noted in last year's report, were completed before the opening of navigation. These repairs consisted in the removal of the face of the masonry wall and its replacement in concrete for a length of 68 feet and a height of 24 feet. Fissures and holes in the undisturbed masonry backing were filled in by cement gun. The results have been very satisfactory, leakage having been practically eliminated.

The depth of water in the lock during the navigation months varied from an average for August of 18.21 feet to an average for December of 17.23 feet, the mean monthly average for the season being 17.8 feet, a decrease from the previous season of 0.70 foot.

The usual routine work of clearing the lock bottom and filling culverts and the general overhauling of electrical and operation machinery was carried out as heretofore.

The floating plant of the canal consists of the steel tug *Batchawana*, a derrick scow, diving scow and steel gate lifter.

2. RICHELIEU RIVER NAVIGATION

The through navigation of the Richelieu river between Sorel and lake Champlain is made possible by a lock at St. Ours and the Chambly canal extending from Chambly Basin to St. Johns.

A total of 873 commercial vessel trips were made through the locks of the Richelieu river in the 1936 season. The tonnage transported amounted to 79,731, an increase of about 80 per cent over the traffic of the year before. The number of pleasure craft lockages was 380.

(a) ST. OURS LOCK AND DAM

At a point on the Richelieu river 14 miles above the town of Sorel the level of the river has been raised 5 feet by a dam. This difference in level is overcome by the St. Ours lock.

The lock was opened to navigation May 1 and closed November 30.

Minor works only were carried out during the year. These included the completion of the ice breaker crib at the upper entrance to the lock, the construction of which was commenced in the winter of 1935, and the installation of lead-covered underground cables for electric transmission to replace the former system of wires enclosed in pipes, which had proved unsatisfactory.

The floating plant assigned to this lock comprises a derrick scow, a flat scow and an open scow.

Further details in regard to maintenance works at this lock are on record in the report of the Superintending Engineer.

(b) CHAMBLY CANAL

Between the St. Ours lock and Chambly Basin, a distance of 32 miles, the river is navigable to vessels drawing 7 feet. The Chambly canal, which commences at Chambly Basin, is 11.76 miles in length and has nine locks. It surmounts the rapids between Chambly and St. Johns, thus establishing communication with lake Champlain. The locks provide a depth of 6½ feet of water over the sills.

The canal was opened to traffic May 20 and closed November 28.

The various improvements and repair works carried out are as follows:—

The concrete culvert under the canal at the Chambly shops, the construction of which was described on page 82 of last year's report, was fully completed in April, 1936, and restoration and reinforcement of the excavated canal banks at this point was made.

Preliminary work in connection with repairs to be made to lock 1 at the south end of Chambly basin was commenced in the early spring of 1936, but on account of extremely high water and ice had to be abandoned. These repairs, which were resumed and completed during January and February of last winter, were as follows:—

A layer of reinforced concrete 12 inches thick was laid on the original wooden apron of the lower entrance of the lock, the apron being protected along its outside face by a row of wooden sheet piling driven to rock and reinforced in front by stone filling. The concrete wall at the north-east corner of the lock entrance was rebuilt and open joints in the lock masonry gunited. Unwatering of the lock to permit of these operations was effected by means of a crib cofferdam round the entrance to the lock, further protected by an outer enclosure of steel sheet piling.

At lock 7 the east wall, for a length of about 50 feet from its junction with the upper east entrance wall, including the upper gate recess, was rebuilt in concrete for its entire height, which averages about 20 feet.

The storehouse at Chambly was enlarged by an extension 70 feet in length by 20 feet wide at its southerly end. The building is of frame construction on concrete foundation and has a concrete floor. It is provided with an office and facilities for storage.

Minor repairs included replanking and painting of bridges, rebuilding of riprap walls, repairs to roads and general maintenance of canal buildings.

The floating plant of this canal comprises the tug *Chambly*, one dredge, one steam-operated derrick, one hand-operated derrick scow and three flat scows. A new hull was constructed for the derrick and the old boiler on the derrick scow was replaced by a sound second-hand boiler.

Further details in regard to works carried out at this lock are on record in the report of the Superintending Engineer.

3. OTTAWA RIVER NAVIGATION

The total tonnage of merchandise transported during the season of 1936 through the Ottawa river canals, which include the Ste Anne lock and the Carillon and Grenville canals, was 261,493, a decrease of 28,033 tons from the previous year's figure. The number of pleasure craft lockages was 3,124, a slight increase over last year.

(a) STE ANNE LOCK

This lock surmounts the Ste Anne rapids where an estuary of the Ottawa river flows between Ile Perrot and the island of Montreal to empty into lake St. Louis. It consists of two locks, side by side, the old and the new, each with a lift of 3 feet. The old lock, now out of use, had a depth of only 6 feet. The new lock provides 9 feet of water on the sills.

Navigation opened April 27 and closed November 30.

The principal improvements and repairs carried out during the year included the following:—

The cribwork facing of the south pier at the lower entrance to the old lock, which was badly decayed, was renewed in concrete and a section of the foundation of this crib work, which had been undermined, was reinforced by one-man stone deposited along the foot of the wall.

The concrete slab top of the wing dam at the upper entrance to the lock was renewed for a length of 400 feet along that section of the dam newly faced in 1935.

Repairs were made to the canal superintendent's house and consisted in the renewal of beams and joists under the lower floor, a new roof and the repainting of the exterior and office.

The floating plant at this lock consists of one new derrick scow built last winter.

Further details in regard to works carried out during the year are on record in the report of the Superintending Engineer.

(b) CARILLON AND GRENVILLE CANALS

From the Ste Anne lock to the foot of the Carillon canal there is a navigable stretch of water of 27 miles through the lake of Two Mountains and the Ottawa river. The Carillon canal, which is 0.94 mile in length with two locks, has a total lift of 14 feet and surmounts the rise in the river level produced by the Carillon dam at the head of the canal and the natural fall of the river downstream therefrom.

The Long Sault rapids, extending upstream from a point 6 miles above the Carillon canal, are surmounted by the Grenville canal, 5.94 miles in length, with five locks. These canals provide a depth of 9 feet of water over the lock sills.

Navigation on these canals opened on April 27 and closed November 30.

Improvements and repairs carried out during the year included the following:—

The decayed cribwork walls on both sides of the canal between locks 2 and 3, which rested on stone masonry, was removed and replaced in concrete to a length of 2,090 feet.

On the south side of the entrance pier above lock 2 the concrete and crib facing of the wall between the by-wash and the easterly end of the dam was replaced by a new concrete wall having a total length of 174 feet with an average height of 12 feet. The floor of the by-wash was also renewed in concrete.

In the canal yards at Carillon a frame building sheeted with corrugated galvanized iron, 20 feet by 60 feet, was erected for the storage of the canal truck and construction equipment.

Extensive repairs were made to the Carillon dam, two breaks having occurred in the southerly half. At the larger of these breaks, 176 feet in length, and about 400 feet from the southerly end, the lower side of the dam was reinforced with additional stone-filled cribs and the damaged cribs below the crest rebuilt. At the smaller break, 40 feet in length and about 60 feet from the southerly end, the lower cribs and apron were replaced. To prevent leakage, brushwood, straw and earth-filled bags were deposited along the upper side of the dam and loaded down with large stones. Unwatering was effected by the construction of temporary cribs at 20-foot intervals along the crest of the dam, the openings being blocked by stoplogs.

Stone walls along canal reaches were rebuilt at different points over an aggregate length of about 600 feet and riprap walls were also repaired.

The floating plant of these canals includes a gate lifter and six scows.

Further details in regard to works carried out during the year are on record in the report of the Superintending Engineer.

4. OTTAWA TO KINGSTON

RIDEAU CANAL

This canal connects with the Ottawa river about 56 miles above the head of the Grenville canal and provides a waterway between the cities of Ottawa and Kingston. It consists of a series of natural water courses joined by artificial cuttings, is 126.25 miles long and has forty-seven locks with a minimum depth of 5 feet over the sills. It rises by thirty-three locks to a summit in the upper Rideau lake, from which body of water it descends by fourteen locks to the level of lake Ontario.

The "Tay Branch," a subsidiary to this canal, 6½ miles in length, with a minimum draught of 5 feet, connects the town of Perth with the north end of Lower Rideau lake.

The entire canal system is traversed by nine railway and thirty-one highway bridges.

Navigation opened at Ottawa May 1 and at Kingston Mills May 22. It closed at the Ottawa flight locks November 30 and at Kingston Mills October 13. The dates on which various other sections of the canal were opened and closed will be found in the tabular statement at the end of this report.

Precipitation last year over the canal drainage area was normal and 5-foot navigation was maintained during the entire season.

Commercial vessel trips on the canal numbered 473 as against 624 in the previous season. The total tonnage of merchandise transported amounted to 15,604, a reduction of about 20 per cent from the year before. The number of pleasure craft lockages was 11,677, an increase of about 12 per cent over last year.

The more important improvements carried out or in progress during the year were as follows:—

At Hogsback, under contract with Messrs. Belanger and Bertrand, the reconstruction, in concrete, of the old timber dam and bridge over the Rideau river which had been started in October 1935, was fully completed last August and placed in commission. A description of this structure will be found on pages 84 and 85 of last year's report. It may, however, be noted again that the new bridge has an overall length between abutments of 223 feet 6½ inches, provides nine sluiceways, a double-lane roadway and sidewalk and a service bridge for stoplog regulation. The scheme of the work was such as to lend itself readily to an inexpensive landscaping of the area between the west approach to the bridge and the river above the dam. The provision of convenient roadways and parking spaces enhances considerably the appearance of the locality. The movement of road traffic also has been greatly facilitated by the improved alignment of the dam and added width in the new bridge.

At Beckett's Landing a new three-span high level steel truss bridge on concrete piers and abutments has been under construction since September last by the Department of Highways of Ontario in replacement of the present swing bridge, which crosses the Rideau river about one-third of a mile farther upstream. By an agreement entered into with the Department of Highways of Ontario, the Department of Transport is to contribute the sum of \$35,000 towards the cost of the undertaking. It is expected that the new bridge will be completed during the coming summer.

Minor repairs and improvements made during the year have included the following:—

Lock gate renewals included three pairs in the Ottawa flight locks, one pair each at Black Rapids, Merrickville, Kilmarnock and Kingston Mills and two pairs at Jones's Falls.

Repairs to lock sills and masonry were made at Hartwell's, Long Island, Clowes, Merrickville, Newboro, Chaffey's, Davis's, Upper and Lower Brewers and Kingston Mills. At Merrickville a new concrete wing wall, in replacement of the original masonry wall, was constructed at the head of lock 23, the lower sill of this lock was rebuilt in concrete and the upper sill of lock 22 refaced in concrete. The sill of the waste weir at Upper Brewers was lowered 4 feet, the channels above and below being similarly lowered and regraded. This alteration will permit a greater lowering of Cranberry lake without passing the flow through the locks.

The steel trusses of the Bronson avenue bridge at Ottawa were cleaned and painted. It is proposed, during the coming season, to replace the present structure by a wider bridge with two sidewalks to provide for the greatly increased traffic at this point. New plank floors were laid on the bridges at Pretoria avenue Ottawa, Manotick, and Beckwith street Perth, and on the swing spans at Kars and Smiths Falls detached lock. At the Manotick bridge the timber stringers were renewed on all spans and new plank flooring laid. A new plank floor was laid on the Kilmarnock fixed bridge and dam. New timber swing spans were installed over the locks at Old Sly's, the Narrows and Chaffey and in the bridge at Brass Point. The timber stringers and plank floor of the Drummond Street bridge at Perth were renewed, a new loading girder installed in the swing span and one new floor beam installed.

The floating plant of this canal, consisting of the tugs *Agnes P.* and *Loretta*, dipper dredge *Rideau*, two double-pocket side-dumping scows, two flat scows and one coal scow, was employed during the 1936 season in placing clay at the Black Rapids and Long Island dams and at the Kilmarnock dam and waste weir, in dredging channels at Smiths Falls detached lock, at Stonehouse point above Poonamalie and at Dow's lake and its upper entrance. Spar buoys were set out and painted, channels dragged to remove weeds and stores and supplies delivered along the canal.

Further details in regard to works carried out are on record in the report of the Superintending Engineer.

5. LAKE ONTARIO TO GEORGIAN BAY

(a) MURRAY CANAL

This canal is without locks. It consists of an open waterway 5.15 miles long and 80 feet in width with 11 feet depth at low water (Elevation 244) across the isthmus of the Prince Edward County peninsula and connects the bay of Quinte with lake Ontario.

Navigation opened April 25 and closed November 30.

There was a slight decrease in tonnage of cargoes transported through this canal from that recorded for 1935.

Further repairs were made to the entrance piers at both ends of the canal. These consisted in the removal and restoration of disintegrated concrete from the decks of all four piers. About 60 per cent of the total concrete in these decks was thus restored.

Minor repairs were made to the floors of both the Brighton road and Trenton road bridges. The latter bridge has now been replaced by a new structure, constructed by the Ontario Department of Highways, situated about 300 feet east of the former bridge site. A full description of the new bridge will be found on pages 86 and 87 of last year's annual report. It was opened to traffic in November, 1936. The old bridge has since been removed.

Further details in regard to works carried out are on record in the report of the Superintending Engineer.

(b) TRENT CANAL

The route of the Trent canal lies between Trenton on the bay of Quinte, where direct connection is made with lake Ontario, and Port Severn on Georgian bay, from which the waters of the Great Lakes are accessible. The canal is made up of a series of lakes and rivers connected by relatively short lengths of artificial cutting. Connection between the water levels of the various reaches is effected by locks except at Swift Rapids and Big Chute where marine railways are employed. Entering the canal at Trenton the route follows the Trent river to Rice lake continuing by the Otonabee river to Peterborough and Lakefield and thence by the Kawartha lakes to its summit in Balsam lake, the level of which is about 595 feet above that of lake Ontario. From Balsam lake connection is made with lake Simcoe by various small lakes, the Talbot river and artificial cuttings. The canal continues from the head of lake Simcoe via lake Couchiching and the Severn river to its western terminus at Port Severn, a total distance from Trenton of about 240 miles. In addition to the main route there are branches to Lindsay and Port Perry, to Chemong Park and to Omemee. The total length of the entire canal system amounts to upwards of 300 miles. It includes forty-four locks and two marine railways. Included also in the operation of the canal is a system of reservoir lakes, sixty-one in number, with thirty-six reservoir dams.

The dates on which the various sections of the canal were opened and closed to traffic will be found in the tabular statement at the end of this report.

During the 1936 season of navigation there were 3,033 transits of commercial vessels on the canal. The number of pleasure craft lockages was 11,010. Both these figures represent marked increases over the traffic of the previous season. The tonnage of commercial cargoes transported amounted to 24,047, an increase of 70 per cent over the tonnage carried in the previous year.

The more important works of construction carried on during the year included the following:—

The work of concrete restoration at dam 1, Trenton, commenced in 1935 and described in last year's report, was fully completed in November, 1936.

Owing to the badly disintegrated condition of the concrete in the walls of lock 12 at Campbellford, extensive restoration work, which is still in progress, was commenced in December last. This has consisted in the removal of disintegrated concrete, the placing of wire mesh and steel-rod reinforcement and the building up again of the lock walls to original lines with gunite and mass concrete. Based on an approximate preliminary estimate, the work is now about 65 per cent completed. Operations will be continued until the opening of the lock to navigation in May.

Under contract with A. Lothian work was commenced at the end of last October on the construction of a concrete cut-off wall to prevent seepage into lock 14 from the forebay of the power house of the town of Campbellford. This wall, which extends from the upper entrance wall of the lock across to and along the forebay of the power house to a junction with the existing cut-off wall at the lower end of the lock, was completed at the end of November. It is 245 feet long, is approximately 9 feet high and has a top width of 12 inches.

Under an agreement entered into between the department and the County of Peterborough and United Counties of Durham and Northumberland, work has been in progress since last October on the renewal in concrete of the pier at the westerly end of the swing span of the Wallace Point bridge over the Otonabee river. By the terms of this agreement half the cost of this work, which is now nearly completed, up to an amount not exceeding \$4,500, is to be assumed by the department and the remainder by the three counties.

Work on the replacement of the fixed high-level bridge over the canal at Bridge street Lakefield, the commencement of which was noted in last year's report, was continued under contract with the Ontario Bridge Company. The erection of the new span had been fully completed by the end of April, 1936, the temporary bridge being then removed.

Extensive repairs to the Portage road culvert, which crosses under the canal cutting, about three miles east of the entrance to lake Simcoe, have been under way since September last and are still in progress. These repairs consist in the removal of disintegrated concrete from the walls and roof of the culvert and the restoration of the interior lining to a new semi-circular section with vertical side footings, the circular intrados being formed by corrugated steel sections behind which mass concrete is placed as the work progresses. Up to the present the footings of both walls have been completed and restoration of the intrados for about one-fifth of the total length of the interior. The culvert, exclusive of entrance walls, has a total length of 160 feet.

On the abandoned Holland river division of the canal system, on which certain structures are still maintained by the department, repairs have been carried out on the Queensville road bridge over the east branch of the Holland river. These repairs, which included the scraping and painting of the steel swing span, the restoration of disintegrated concrete in the pivot and river piers and the repair of the timber bulkheads at both shores, were completed last October.

Under an agreement entered into with the Township of East Gwillimbury, the department is now released from all future liability for the maintenance of this bridge.

The timber reservoir dam at Koshlong lake in the township of Glamorgan was replaced during the year at a new site above the former dam by a concrete structure, the old dam being afterwards demolished. The renewal in timber of the old timber dam at Paint lake in the Township of Sherborne was also completed during the past winter.

The old timber dam at the outlet to Mitchell lake near the village of Victoria Road was replaced during the autumn and winter of 1936-37 by a concrete structure, consisting of a central pier and two abutments, with two stop-log openings 16 feet wide and a reinforced concrete service deck.

Dredging operations during the year were carried out along Big Bob channel at Bobcaygeon, extending from the upper entrance to lock 32 into Sturgeon lake, a distance of about 0.8 mile. Of this stretch a total of about half a mile of channel at the upper and lower ends was dredged and intermediate areas drilled and blasted. The completion of this work will provide a channel of much improved alignment. The following are among the more important of smaller repairs and improvements carried out during the year:—

General repairs to the hydraulic lift lock at Peterborough included the provision of two new buoyancy tanks and of a new stem on the valve of the Taylor air compressor, the repacking of ram and accumulator glands, etc.

At the hydraulic lift lock at Kirkfield new seals were placed at the upper and lower reach gates; all electric light wiring was renewed, all machinery inspected and various minor repairs attended to.

All lock gates on the canal system were painted above upper water level and a damaged dome cover of the intermediate large cylindrical valve at locks 11 and 12 was replaced.

Complete new underfloors were placed at three bridges and the upper plank flooring renewed at two other bridges.

Wire fencing renewed at various points on the canal amounted to upwards of 800 rods.

Wharves were renewed or repaired as found necessary and approaches thereto kept in good order. Buildings were painted or otherwise repaired and the grounds at all locks kept neat and orderly.

The floating plant of this canal consists of the following principal units: Steamer *Bessie Butler*, tugs *Bob Hall* and *Katchiwano*, dredges *Fenelon* and *Auburn*, one drill boat, four motor boats and six scows. The more important repair work carried out on this plant included a new dipper arm, dipper teeth and hoisting cable for the dredge *Fenelon*, general repairs to both hull and deck superstructure of the dredge *Auburn* and lesser repairs to other units.

Further details in regard to works carried out are on record in the report of the Superintending Engineer.

6. ST. PETERS CANAL

The St. Peters canal, which was reconstructed between the years 1912 and 1917, connects the Bras d'Or lakes with the Atlantic Ocean at St. Peters bay on the southerly coast of Cape Breton island, Nova Scotia. It consists of a tidal lock 300 feet in length and 48 feet in width with approaches, totalling in all half a mile. The minimum depth on lock sills is 18 feet and depth of approach channels 17 feet. A steel highway bridge spans the canal near the lake entrance, forming part of the main highway between Sydney and Point Tupper.

The canal was opened to traffic April 1, 1936, and closed January 15, 1937.

No delays to traffic occurred during the season. There were two minor collisions, one boat striking the wall at the lake entrance and another a gate at the Atlantic end of the canal. The cost of repairs was in both cases met by the vessel owners.

A total of 1,002 registered vessels passed through the canal during the 1936 season. There was a slight increase in the tonnage of cargoes carried over that of the previous season amounting to about 3 per cent.

Improvements and repairs carried out during the year included the following:—

Last season a system of electric lock operation and lighting was installed on the canal. In addition to a series of lights along the west side of the canal, provision is made also for the lighting of the bridge, the bridge and lock watch-houses, the canal office and the Superintendent's dwelling house. This improvement was effected through an agreement entered into with the Nova Scotia Power Commission for the supply of power from their generating plant in the village of St. Peters and for the necessary installation work in the canal area.

A section of the old cribwork, about 100 feet in length, on the west side near the highway bridge at the northerly end of the lake entrance was partially rebuilt. This work will be entirely completed during the new fiscal year.

7. MISCELLANEOUS WORKS

(f) HUNGRY BAY AND STE. BARBE DYKES

These dykes extend along the south shore of lake St. Francis from the upper entrance of the Beauharnois canal for a distance of about 7 miles. They are maintained as a protection against the waters of the lake, the level of which was raised when the Beauharnois canal was constructed. It may here be mentioned that since the opening of the Soulanges canal in 1899 the Beauharnois canal has ceased to be used for navigation and is under lease mainly for power purposes. The Hungry bay dyke has been in existence since 1856. The top of this dyke is maintained as a road. The Ste. Barbe dyke was constructed in 1889. At various places along the lake shore protection walls have been built outside the dykes.

Since the construction in the years 1930, 1931 and 1932 of the power channel of the Beauharnois Light, Heat and Power Company, which cuts through the original Hungry bay dyke road about a mile and a half west of the city of Valleyfield, the portion of this road under maintenance by this department has extended from the new St. Louis river feeder, built by the Power Company at a point 3,000 feet west of the westerly side of the power channel, to the westerly limit of the parish of St. Stanislas de Kostka, a distance of 13,200 feet or 2½ miles.

Minor repairs, which included resurfacing of the road and widening of the shoulder at various points, were made to the road along the Hungry bay dyke.

Low spots along the crest of the Ste. Barbe dyke were raised to a uniform height over a length of 8,000 feet by the deposit of a layer of clay 4 feet in width.

The stone protection walls along lake St. Francis, running westerly from the new power channel, which were seriously damaged in the spring of 1936, were repaired where necessary over a distance of five miles.

Similar repairs were also made to the walls along the lake shore in the parishes of St. Stanislas and Ste. Barbe for a total length of about 1,800 feet.

Further details in regard to works carried out are on record in the report of the Superintending Engineer.

(g) MASSON BRIDGE

This bridge spans the "lost channel," a branch of the St. Lawrence river between deSalaberry island and the southerly shore, about $3\frac{1}{2}$ miles east of Valleyfield. It forms part of a Provincial highway route. To provide for the greatly increased loads which are now transported, it became necessary to replace the older bridge, a through steel truss of 169-foot span, by a heavier structure. This work was carried out entirely at the expense of the department during the past year. The new bridge consists of a half-deck plate girder span of 80 feet with concrete substructure and occupies the same site as the former bridge. It provides for a roadway of 20 feet clear width and has a carrying capacity of 20 tons. To compensate for the shorter span the approaches at either end have been extended by rock fills surfaced to road elevation. The concrete substructure, consisting of two wing-wall abutments, and the approaches, were constructed by departmental forces; the superstructure being erected under contract by the Dominion Bridge Company Limited.

I have the honour to be, sir,

Your obedient servant,

E. B. JOST,

General Superintendent of Canals.

V. I. SMART, Esq.,
Deputy Minister,
Department of Transport, Ottawa, Canada.

CANALS OF CANADA

Name	Location	Length in Miles	Num- ber of Locks	Locks		
				Minimum dimensions		
				Length between hollow quoins	Mini- mum width	Normal depth over sills
				Feet	Feet	Feet
<i>St. Lawrence and Great Lakes</i>						
Lachine.....	Montreal to Lachine.....	8.74	5	270	45	14
Soulanges.....	Cascades Point to Coteau Landing	14.67	5	280	46	15
Cornwall.....	Cornwall to Dickinson's Landing..	11.00	6	270	43.67	14
Farran's Point.....	Farran's Point Rapids.....	1.28	1	800	50	16
Rapide Plat.....	Rapide Plat, Morrisburg.....	3.89	2	270	45	14
Galops.....	Iroquois to Cardinal.....	7.36	3	270	45	14
Welland Ship.....	Port Weller, Lake Ontario, to Port Colborne, Lake Erie.....	27.60	8	859	80	30*
Sault Ste. Marie.....	St. Mary's Rapids, Sault Ste. Marie.....	1.38	1	900	60	18.25
<i>Richelieu River</i>						
St. Ours Lock.....	St. Ours, Que.....	0.12	1	339	45	12
Chambly.....	Chambly to St. Johns, Que.....	11.78	9	120.5	23.35	6.5
<i>Ottawa and Rideau Rivers</i>						
Ste. Anne Lock.....	Junction of St. Lawrence and Ottawa rivers.....	0.12	1	200	45	9
Carillon.....	Carillon rapids, Ottawa river.....	0.94	2	200	45	9
Grenville.....	Long Sault rapids, Ottawa river...	5.94	5	200	45	9.5
Rideau.....	Ottawa to Kingston.....	126.25	47	134	33	5
	Rideau Lake to Perth (Tay Branch).....	6.50	2	134	33	5
<i>Lake Ontario to Georgian Bay</i>						
Trent.....	Trenton to Peterborough lock, Peterborough.....	88.74	18	175	33	6
	Peterborough lock to Swift Rapids	135.71	24	134	33	6
	Swift Rapids to Port Severn.....	16.0	Marine	Railw ays	25	(4)
	Port Severn lock.....		1	100		6
	Sturgeon Lake to Lindsay (Scugog Branch).....	8.35	1	142	33	6
	Lindsay to Port Perry (Scugog Branch).....	26.65	None			(4.5)
Murray.....	Isthmus of Murray, Bay of Quinte	5.15	None			(11†)
<i>Miscellaneous</i>						
St. Peters.....	St. Peter Bay to Bras d'Or Lakes, Cape Breton, N.S.....	0.50	1	300	48	18‡
	Total.....	508.67				

* The depth of canal prism between locks is 25 feet.

† With Lake Ontario at Elev. 244.

‡ The depth of canal prism is 17 feet.

DATES OF OPENING AND CLOSING OF CANALS

For the Seasons of 1932, 1933, 1934, 1935 and 1936

Canals	1932		1933		1934		1935		1936	
	Opened	Closed	Opened	Closed	Opened	Closed	Opened	Closed	Opened	Closed
Lachine.....	April 25	Dec. 10	April 19	Dec. 5	April 25	Dec. 8	April 23	Dec. 9	April 22	Dec. 10
Soulanges.....	" 25	" 10	" 19	" 4	" 25	" 8	" 23	" 9	" 23	" 10
Cornwall.....	" 23	" 12	" 18	" 3	" 26	" 8	" 23	" 8	" 24	" 10
Williamsburg—										
Farran's Point.....	" 23	" 12	" 17	" 4	" 25	" 8	" 23	" 8	" 24	" 10
Rapide Plat.....	" 23	" 12	" 17	" 4	" 25	" 8	" 23	" 8	" 24	" 10
Galops.....	" 11	" 16	" 15	" 12	" 17	" 15	" 15	" 15	" 20	" 12
Welland Ship.....	" 17	" 15	" 20	" 1	" 9	" 15	" 2	" 14	" 29	" 17
Sault Ste. Marie.....	May 1	Nov. 30	May 1	Nov. 30	June 4	Nov. 30	" 20	Nov. 30	May 1	Nov. 30
St. Ours.....	" 2	" 30	" 1	Sept. 30	June 27	Oct. 31	" 20	" 15	" 20	" 30
Chambly.....	April 27	" 30	April 25	Nov. 30	April 27	Nov. 30	April 27	" 30	April 27	" 30
Ste. Anne.....	" 27	" 30	" 27	" 30	" 27	" 30	" 27	" 30	" 27	" 30
Carillon and Grenville.....										
Rideau—										
Locks 1 to 8 (Ottawa),	" 28	" 30	May 1	" 30	May 1	" 30	May 1	" 30	May 1	" 30
Pretoria Ave. and Bronson Ave. bridges and locks 9										
to 13 (inclusive).....										
Locks 14 to 31 (inclusive).....										
Lock 23 (Poonamalie).....										
Locks 33 and 34 and Perth bridges.....										
Rideau Ferry Bridge.....										
Locks 35 to 38 (inclusive).....										
Locks 39 to 49 (inclusive) and Brass' Pt. bridge.....										
Kingston Mills.....	May 1	Nov. 26	May 1	Sept. 30	May 23	Sept. 30	" 20	" 15	" 22	Sept. 30
Trent—										
Trenton bridge.....	June 4	" 1	April 10	Nov. 15	April 20	Nov. 15	" 10	Nov. 20	" 1	Nov. 16
Lock 1 to lock 7 (inclusive).....	May 13	Oct. 27	May 13	Sept. 15	June 16	Sept. 15	June 16	Oct. 12	June 16	Sept. 30
Lock 8 to Trent Bridge.....	" 12	Nov. 9	" 12	" 15	" 1	" 15	" 6	" 11	" 16	" 30
Hastings to Rice Lake.....	" 11	" 1	" 11	" 30	May 16	" 30	" 6	Nov. 9	" 16	" 30
Rice Lake to Peterborough.....	" 27	" 5	" 27	" 30	June 1	" 30	" 17	" 9	" 16	" 30
Peterborough lift lock.....	" 6	" 8	" 6	" 30	June 1	" 30	" 16	Oct. 12	" 16	" 30
Peterborough to Lakefield.....	" 3	" 8	" 3	" 30	" 1	" 30	" 8	Nov. 7	" 16	" 30
Young's Point.....	" 2	" 10	" 2	" 30	May 11	" 30	" 2	" 2	" 16	" 30
Young's Point to Bobcaygeon.....	April 29	" 10	April 29	" 30	May 11	" 30	April 18	" 18	" 16	" 30
Bobcaygeon to Balsam Lake.....	" 11	" 1	" 11	" 30	" 16	" 30	April 18	" 18	" 16	" 30
Kirkfield lift lock to Lake Simcoe.....	" 30	Oct. 25	May 2	" 15	June 16	" 15	June 14	Sept. 27	June 10	Oct. 15
Lake Simcoe to Couchiching lock.....	" 30	Nov. 18	May 2	Oct. 15	May 8	" 15	May 14	Oct. 31	May 10	Oct. 15
Swift Rapids to Georgian Bay.....	" 4	" 12	April 15	Sept. 30	" 4	Oct. 15	April 19	Oct. 31	" 10	Sept. 30
Seaug River and Lindsay lock.....	" 13	Dec. 10	Nov. 25	Nov. 30	April 21	Dec. 7	April 13	Nov. 1	April 2	Nov. 30
Murray.....	April 18	Jan. 14	April 22	Jan. 1	April 23	Jan. 8	May 1	Dec. 2	April 25	Jan. 15
St. Peters.....	1932	1933	1933	1934	1934	1935	1935	1936	1936	1937

GENERAL ENGINEERING BRANCH

SIR,—I have the honour to submit my annual report for the fiscal year ended March 31, 1937.

The General Engineering Branch was created on November 2, 1936, as a service department for all branches of the Department of Transport, including the National Harbours Board. All work, however, of a nature similar to that now performed by this branch, but carried out prior to November 2 of the past fiscal year by the engineering branch of the Department of Railways and Canals, has been included in what follows:—

The staff now attached to this branch comprises an engineer in charge, seven other engineers, five draftsmen, and two stenographers.

With the exception of one assistant engineer and one draftsman, formerly attached to the Department of Marine, all the members of the staff were previously attached to the Chief Engineer's Branch of the Department of Railways and Canals.

In addition to various work referred to the General Engineering Branch by the General Superintendent of Canals, the Senior Hydraulic Engineer, and by other administrative branches of the department, the following work was carried out by this branch during the fiscal year:—

NATIONAL HARBOURS BOARD

(1) Plans, specifications and estimates of cost were prepared in connection with:—

- (a) Repairing and strengthening the west wall of Pier No. 1, Princess Louise Docks, and the construction of a freight shed, Quebec Harbour;
- (b) Reconstruction and addition to Imperial Oil Company's wharf, Montreal Harbour;
- (c) Reconstruction of upstream face of Alexandra Pier, Montreal Harbour.

(2) Preparation of preliminary plans and studies in connection with:—

- (a) Strengthening of wharf, Sections 30-31, Montreal Harbour;
- (b) Strengthening of wharf, Sections 38-40, Montreal Harbour;
- (c) Construction of Extension to Shed 5, Alexandra Pier, Montreal Harbour;
- (d) Wharf extension, Sections 48 and 49, Montreal Harbour;
- (e) Construction of Transit Shed, Berth No. 1, Saint John Harbour.

(3) One junior engineer temporarily transferred to the National Harbours Board for three months for inspection services in connection with the reconstruction of the Canadian National Railways dock and ferry dock at Three Rivers, Quebec.

ST. LAWRENCE DEEP WATERWAY

With the exception of replying to such inquiries as were received in connection with the deep waterway and the bringing up to date of various water level records, practically no work was done on this project.

BEAUHARNOIS POWER DEVELOPMENT

Monthly reports were submitted throughout the year showing power production, power distribution, and water diversion, as derived from monthly inspections of the power house log book.

One main unit of the plant was altered from 25-cycle to 60-cycle periodicity. The present generating capacity is as follows:—

2—Auxiliary 60-cycle units	11,520 K.W.
4—Main 60-cycle units	149,200 K.W.
4—Main 25-cycle units	149,200 K.W.
Total	<u>309,920 K.W.</u>

which is equivalent to 415,300 horse-power.

Power production during the year totalled 581,546,000 kilowatt hours, all of which was of 60-cycle. The average load during the year was 66,499 K.W. The average diversion of water for power purposes was 12,429 c.f.s. under an average head of 81.2 feet, giving an average overall efficiency of 77.8 per cent.

No construction operations were carried on during the year.

LAKE CHAMPLAIN WATERWAY INVESTIGATION

On March 31, 1936, the Engineer in Charge, General Engineering Branch, was appointed with the District Engineer, Department of Public Works, Montreal, and the District Engineer, United States Army, New York, as a committee to assist the International Joint Commission in its investigation as to the advisability of the improvement of a waterway from Montreal through lake Champlain to connect with the Hudson river.

The first meeting of this engineering committee took place May 25, 1936, when a program of work to be carried out in connection with the project was formulated. As a result, about twenty-five temporary water level gauges were established on the Richelieu river, from St. Johns, Quebec, to Chambly basin, at which water levels were read intermittently during the summer and discharge stage relationships established, various routes for a waterway from the St. Lawrence river to lake Champlain were investigated and estimates of cost prepared, and economic studies were made to determine potential traffic for the suggested waterway.

On March 15, 1937, the committee submitted a report to the International Joint Commission, which included estimates of cost of various projects, together with estimates of potential annual savings in transportation costs that might result from the construction of such a waterway.

PRESCOTT ELEVATOR

Plans and specifications were prepared for the partial demolition of the sub-station and office building at the Government elevator, Prescott, Ont.

INVESTIGATION OF WATER LEVELS—ST. LAWRENCE RIVER

Hydraulic studies were carried out in connection with the work of the Interdepartmental Board appointed for the study of water levels on the St. Lawrence ship channel.

HUDSON BAY RAILWAY AND TERMINALS

Certain work in connection with the administration of the construction work at Churchill and the operation and maintenance of the Churchill elevator and harbour was carried out in this office.

DISTRIBUTION OF SALARY COSTS

Since November 1, 1936, the time and salary costs of the General Engineering Branch have been distributed to the various works carried out by the branch. The attached table shows the distribution of salary costs for the period November 1, 1936, to March 31, 1937.

I have the honour to be, sir,

Your obedient servant,

G. A. LINDSAY,
Engineer in Charge.

V. I. SMART, Esq.,
Deputy Minister,
Department of Transport, Ottawa, Canada.

OTTAWA, March 31, 1937.

SUMMARY OF DISTRIBUTION OF SALARY COSTS—NOVEMBER 1, 1936 to
MARCH 31, 1937

Vote No.	Description	Amount	Total
		\$ cts.	\$ cts.
77	<i>Hudson Bay Railway and Terminals—</i> Construction and Betterments.....		928 15
81	<i>Miscellaneous Services—</i> Railways.....	5 14	
	Lake Champlain Waterway Investigations.....	1,493 94	
	Beauharnois Power Canal.....	189 18	
			1,688 26
128	<i>Investigation of Water Levels—St. Lawrence River</i>		252 99
241	<i>Travel Bureau</i>		45 89
259	<i>Canals and Harbours—Operation and Maintenance—</i> Canals—General.....	3,324 98	
	Bronson Ave. Bridge—Rideau Canal.....	90 44	
	Newboro Bridge, Rideau Canal.....	42 07	
	Churchill Harbour.....	385 73	
	Hogsback Dam—Final Plans.....	110 80	
	Hogsback—Black Rapids Survey.....	442 13	
			4,396 15
260	<i>Elevators—Operation and Maintenance—</i> Churchill.....		583 86
76	<i>Civil Aviation</i>		8 40
240	<i>St. Lawrence Deep Waterway</i>		151 39
130(36)	<i>Aids to Navigation—</i> Buoy Bank Beacons.....		618 55
	<i>National Harbours Board—</i> Quebec Harbour—Princess Louise Dock.....	83 81	
371B	Montreal Harbour—Alexandra Pier Reconstruction.....	499 66	
373E	Montreal Harbour—Sections 30-31.....	890 44	
376J	“ “ —Sections 38-40.....	141 32	
376J	“ “ —Shed 5 Extension.....	458 62	
No vote	“ “ —Sutherland Pier Extension.....	499 79	
No vote			
Special Act.			
No. 1	Three Rivers Harbour.....	345 81	
No vote	Saint John Harbour, N.B.—Shed, Berth No. 1.....	1,832 09	
			4,751 54
	<i>Departmental Miscellaneous—</i> Investigation of various projects— Dam—Prince Albert.....	39 80	
	Storehouse, Saint John, N.B.....	71 26	
	Wharf—Wolfeville, N.S.....	31 17	
	Slipway—Charlottetown, P.E.I.....	25 65	
			167 88
	General.....	951 03	
	Interruptions to staff due to tearing down partitions in draughting office.....	675 81	
	Transfer of elevators and harbours at Prescott, Port Colborne, Churchill, to National Harbours Board.....	130 71	
			1,925 43
	Sick Leave.....	693 80	
	Annual Leave.....	294 09	
	Special Leave.....	44 50	
			1,032 39
	Total.....		16,383 00

The above total should be credited as follows:—

To Vote 240.....	\$ 4,393 75
“ “ 77.....	4,172 50
“ “ 25.....	6,745 00
“ “ 15.....	1,071 75
	<u>\$16,383 00</u>

MARINE SERVICES

SIR,—I have the honour to submit herewith the annual reports for the fiscal year ended March 31, 1937, of the following branches of the Marine Services of the Department of Transport, and of certain activities connected with marine services and reporting to the undersigned as director:—

- Aids to Navigation Branch—J. G. Macphail, Chief;
- Pilotage—Captain G. E. L. Robertson, Supervisor;
- Nautical Services—Captain L. G. Dixon, Supervisor;
- Marine Agencies—T. F. McVeigh, Supervisor;
- Steamship Agencies—F. McDonnell, Chief of Steamship Inspection and Chairman of the Board;
- Sorel Government Shipyard—D. B. Carswell, Marine Superintendent;
- River St. Lawrence Ship Channel—N. B. McLean, Chief Engineer;
- Report of Operations by Salvage Companies:
 - Pacific Salvage Company, Limited;
 - Quebec Salvage and Wrecking Company, Limited;
 - Reports of Canadian Shipbuilding firms.

I have the honour to be, sir,

Your obedient servant,

R. K. SMITH,

Director of Marine Services.

V. I. SMART, Esq.,
Deputy Minister of Transport,
Ottawa, Ontario.

AIDS TO NAVIGATION BRANCH

REPORT BY J. G. MACPHAIL, B.A., B.S.C., M.E.I.C., CHIEF OF AIDS TO NAVIGATION

This branch of the Marine Services, Department of Transport, resulted from the amalgamation on November 2, 1936, of three branches of the former Department of Marine, viz, Commissioner of Lights, Chief Engineer, and the Supervisor of Harbour Commissions.

This branch has charge of the construction, repairs, and maintenance of all lighthouses, fog alarms, and other aids to navigation such as lightships, buoys and beacons, and the Sable Island Humane Establishment; the surveying, registration, and recording of all lands acquired for lighthouse sites; the checking and recording of all applications for water lots in public harbours; the publication of "List of Lights," three volumes; the issuing of Notices to Mariners; the maintenance and inspection of some 924 public wharves; the supervision of Harbour Commissions other than those under the National Harbours Board; the removal of wrecks which are obstructions to navigation; the supervision of ice-breaking in the harbours of Fort William and Port Arthur; and the administration of all agency shops and the Dominion Lighthouse Depot at Prescott.

The Lighthouse Service of Canada is distributed over a large part of the coastline of Canada, which extends some 52,800 miles, not including the south and east coasts of Newfoundland and Newfoundland-Labrador. The Service comprises 1,978 lighthouses, 11 lightships, 386 fog signals, 610 gas and signal buoys, and approximately 9,330 unlighted aids to navigation of various kinds, a total of some 12,300 aids to navigation of all kinds.

When one thinks of the Lighthouse Service, he is apt to associate it with some particular light or buoy with which he is familiar, and, viewing lighthouse establishments from the deck of a steamer, the individual establishments may appear small and trivial, but those flashing gas buoy lights are quite complex in their arrangement. River buoys weigh from 5 to 8 tons; the lantern is equipped with polished cut glass lens and flashing apparatus, the whole costing about \$3,000. Gas buoys employed on the open sea coast vary in size up to 19 tons, with an overall length of 60 feet, and having a draught of 30 feet. They are moored in depths of water up to 52 fathoms, the weight of chain mooring being approximately 5 tons.

The lightships, of which there are 11 in the service, are self-propelling and are equipped with electric lights, fog signals and some with radio beacons and submarine bells. They are for the most part of the trawler type, while in the more exposed positions of the Atlantic coast they are more powerfully constructed. A lightship carries a crew numbering from 8 to 15 men depending on the location and type of vessel.

As an example of a principal coast station, possibly Cape Race, being one of the largest and best known in the world, will serve best. It has a light of 1,100,000 candle power, gives a flash every $7\frac{1}{2}$ seconds and has been seen from a distance of 76 miles. The apparatus and enclosing lantern required to produce this result weigh 42 tons and cost \$40,000. The fog signal has been heard 45 miles. Four lightkeepers maintain continuous watch.

While the lighthouse service is in operation every day in the year, strictly speaking that applies only to the Atlantic and Pacific coasts. But, while the interior services are laid up in December and again placed in operation in April, the actual management of the service is continuous. Before these services are finally laid up in the fall, arrangements must be under way to place them in operation again on the opening of navigation the following spring. Operations attending the closing and opening of navigation place a heavy strain on the lighthouse service. From the gulf of St. Lawrence to the head of Lake Superior some 2,800 floating aids to navigation must be removed, including 7 lightships, over 300 gas and signal buoys, and over 2,500 unlighted buoys. This work must be accomplished at and after the actual close of commercial navigation.

All aids to navigation are maintained in operation until actually threatened by ice, and, after commercial navigation has ceased, the steamers and men of the lighthouse service must do the best they can to recover these floating aids to navigation and place them in winter quarters to be prepared for service on the opening in the spring. Thus, long after commercial vessels are safe in winter quarters, the vessels and men of the lighthouse service are contending against extreme weather and ice conditions in the performance of their allotted tasks.

By the very nature of the service, the principal light stations are situated in far isolated places, coast stations occupying the headlands, promontories and islands of the sea. The lighthouse service is an exacting and insistent one, in operation 365 days in the year and 24 hours every day.

PUBLICATIONS

During the fiscal year 1936-37 eighty-five "Notice to Mariners," comprising 200 subjects, were issued.

The annual edition of the "List of Lights, Fog Signals and Radio Aids to Navigation," in three parts, was issued.

GOVERNMENT WHARVES

This service includes 924 Government wharves, the management of which presents peculiar problems in respect of leases, commutations, storage and berthing rates and control of traffic, also minor repairs varying up to \$10,000 a year and lighting, also in two cases travelling cranes for handling lumber. Major repairs are done by the Public Works Department. Wharfage collections 1936-37 amounted to \$179,357.09.

PUBLIC HARBOURS

Involves supervision of certain harbours under Harbour Commissions which are not under the control of the National Harbours Board—Toronto, Hamilton, Belleville, Trenton, Winnipeg and St. Boniface, New Westminster, and North Fraser—includes also the administration of some 300 public harbours not under Commissions with 160 harbour masters. Supervision of Harbour Commissions involves examination of the purposes of the administrative acts of the Commissions as expressed in by-laws which they are authorized to enact under the legislation creating them including harbour regulations, financial transactions entailing the contracting of debt, imposition of harbour charges. The by-laws to effect those purposes must have the approval of the Minister and be confirmed by the Governor in Council before becoming effective. Responsibility also is involved for carrying out the provisions of the proclamation of public harbours, appointment of harbour masters, erecting harbour regulations and collecting harbour dues, all as required under Part X of the Canada Shipping Act.

REMOVAL OF OBSTRUCTIONS IN NAVIGABLE WATERS

Includes determination whether a wreck constitutes an obstruction to navigation, and, if so, taking measures to having it removed. While the money involved in this part of the work does not amount to much, the service is of first rate importance. Legislation provides that the owner of a wreck must remove it and very difficult problems arise in making that legislation effective. It is only when the owner cannot be compelled to take action that the Department does the work, and, in this case, seeks to collect the cost of the work from the owner.

REMOVAL OF DERELICTS

Is a function of the Aids to Navigation Branch, very considerable work in that direction having been done this year at Fort William, Port Arthur, Sarnia and Sorel, expenditure approximately \$60,000.

DOMINION LIGHTHOUSE DEPOT, PRESCOTT

The work performed at the depot is principally the manufacture of lighthouse apparatus, equipment for fog signals and buoy service.

Experimental work and tests are carried out with a view to improving the lighthouse service and notable results have been achieved.

Statistics with regard to Aids to Navigation are set forth in tabular form in the statement attached.

STATEMENT BY DISTRICTS, SHOWING THE NUMBER OF LIGHTS OF THE SEVERAL ORDERS, LIGHTSHIPS, LIGHTKEEPERS, FOG SIGNALS, BUOYS, SUBMARINE BELLS, ETC., FOR THE FISCAL YEAR ENDING MARCH 31, 1937

Districts	1st Order lights	2nd Order lights	3rd Order lights	4th Order lights	5th Order lights	6th Order lights	7th Order lights	Gas Beacons	Pressed lens and other minor lights	Catoptric lights	Electric lights	Total lights	Lightships	Lightkeepers	Diaphones	Explosive signals	Fog Whistles
New Brunswick.....		4	3	23	22	31	62	4	12	11	12	184	1	171	28	1	
Nova Scotia.....	3	3	3	33	15	19	35	8	26	50	9	209	2	179	20	2	1
Prince Edward Island	2	7	8	32	6	11	39	10	32	119	4	270		184	12	2	
Quebec.....	3	1	10	27	11	17	46	10	66	116	28	335	6	242	31	4	5
Montreal.....				6	7	6	20	7	30	160	10	246		166			
Prescott.....			3	15	2	7	17	36	7	15	8	110		40	11		
Parry Sound.....		4	10	20	16	10	41	59	45	69	31	305	7	149	30		2
Kenora.....								3	2	2	2	11		5			
Manitoba.....					3		4		2	2	1	25		13			
Victoria.....	3		3	8	7	1	5	108	20	6	26	187	1	61	26		
Prince Rupert.....	1		3	4		1	2	49	5	4		69		17	10		
Northwest Territories.....								13		6		19					
Hudson Strait and Bay.....								6			2	8					
Total.....	12	19	48	168	89	103	274	312	253	567	133	1,978	11	1,227	168	9	8

Districts	Sirens	Fog bells	Hand fog horns	Hand fog bells	Total fog signals	Fog signal stations only	Gas buoys	Gas and whistling buoys	Gas and bell buoys	Whistling buoys	Bell buoys	Total gas and signal buoys	Lightship submarine bells	Lighted spar buoys, floats and dolphins	Unlighted buoys	Stakes, bushes, and balizes	Unlighted dolphins, spindles and beacons
New Brunswick.....		11	23		64	6	5	15	9	8	38	75			607	528	65
Nova Scotia.....		2	45	1	70	3	9	21	19	25	63	135		1,175	41	5	
Prince Edward Island	1		10		25		3	4	6	5	11	29		969	1,796	7	
Quebec.....			26	3	69	1	80	1	11		2	94	2	303	101	96	
Montreal.....							109					109		3	645	170	424
Prescott.....		4	6		21		50		3			53		1	588		6
Parry Sound.....		6	34		72		45	4	13		5	67		31	689	68	71
Kenora.....															439		
Manitoba.....			6		6										70		11
Victoria.....	1	11	5		43	1	17	5	5	3	7	37		15	195		120
Prince Rupert.....		3	3		16	2	1	8	2			11			35		42
Northwest Territories.....																	
Hudson Strait and Bay.....																	2
Total.....	2	37	158	4	386	13	319	58	68	41	126	610	2	51	5,715	2,704	849

SABLE ISLAND

The lightstations and life-saving equipment at Sable Island are under the jurisdiction of the agency of the Department of Transport, at Dartmouth, N.S. The large number of shipwrecks at this place in times past gained for Sable island the name of "Atlantic Graveyard," but, with the passing of sailing vessels, the advent of steam power, the improvement of aids to navigation, and the art of navigation, the graveyard aspect of Sable island is a thing of the past.

The island, about 22 miles in length and a mile at its widest part at the centre is somewhat crescent-shaped, consisting wholly of sand, in places almost 100 feet high and for the most part covered with a rank growth of vegetation. Sand bars extend several miles from each end of the island. There are two first class lightstations, several watch towers, and life-saving stations maintained at strategic points.

In clear weather the entire coast line is under observation from the lighthouse and watch towers. During fog or thick weather, mounted men patrol every mile of the coast. All stations are connected with telephone.

A sufficient stock of clothing, blankets, and food is maintained to meet any possible emergency. The island was patrolled 80 times last year for fog, heavy rain and snow. The bars were patrolled twice daily from east to west and once a day during thick weather.

All necessary repairs to the buildings, etc., have been attended by the staff at the island.

The personnel on the island totalled 31 persons, including the families of the keepers.

PILOTAGE REPORT

CAPTAIN G. E. L. ROBERTSON, SUPERVISOR

The Honourable the Minister of Transport is the Pilotage Authority, appointed under the provisions of Part VI of the Canada Shipping Act, for the Districts of Sydney, Halifax, Saint John, Quebec, Montreal, St. Lawrence-Kingston-Ottawa, Churchill, and British Columbia, the latter district including all the coastal waters of the province of British Columbia, including Vancouver island, with the exception of the Pilotage District of New Westminster (Fraser River). All matters relating to pilotage in the above named districts are dealt with through the local superintendents.

There are in addition thirty-two pilotage districts which are established in pursuance of the provisions of the Canada Shipping Act, 1934. By provinces they are as follows:—

Nova Scotia.—Bras d'Or, Digby, Annapolis and Bear River, Economy, Glace Bay, Inverness Southern, Louisburg, Minas, Parrsboro, Pictou, Port Medway, Pugwash, Richmond County, St. Anne, St. Mary's Bay, St. Mary's and Liscombe, Tatamagouche and Brulé, Tidnish and Northport, and Wallace.

New Brunswick.—Baie Verte and Cape Tormentine, Bathurst, Buctouche, Caraquet, Charlotte County, Chignecto, Cocagne, Miramichi, Restigouche river, Richibucto, and Shediac.

Prince Edward Island.—Prince Edward island.

British Columbia.—New Westminster.

All the pilotage authorities of the above districts report to the minister through this office, annually, as to the number of pilots, their earnings, and any other information which may be required.

During the year assistance was given to some of these pilotage districts in the preparation of their by-laws, and in the interpretation of the law and the by-laws.

The Canada Shipping Act, 1934, was proclaimed and came into effect on August 1, 1936. Owing to the fact that Part VI (Pilotage) of this Act had been completely re-written, all of the above named Pilotage Authorities were forwarded a copy of this Part.

DISTRICT OF SYDNEY

There were 12 pilots and 2 probationary pilots at the beginning of the year. During the year 1 pilot resigned and was placed on pension, two probationary pilots were given their licences as pilots, and two probationary pilots were appointed.

The season of navigation opened on March 25, 1936, one month earlier than in 1935, and closed on January 28, 1937, two weeks earlier than in 1936.

The gross revenue of the district amounted to \$64,958.18, an increase of \$10,353.69 over the year 1935-36. The total expenses, including the amount paid into the Pension Fund, the cost of maintaining the pilot boat and the pilot stations was \$11,346.78. For the first time the pilots of this district earned the maximum of \$3,600 allowed under the by-laws.

The total number of ships which paid pilotage dues was 1,058 inwards and 1,058 outwards, making a total of 2,116 ships with a total net tonnage of 2,411,820. In addition to the above the ss. *Kyle* and ss. *Caribou*, which by special arrangement pays a lump sum in lieu of pilotage per trip, made 122 trips in and out during the 1936-37 season, an increase of 7 trips over the previous year. This makes a total of 2,238 ships, with a total net tonnage of 2,566,588, an increase of 225 ships and 349,627 net tons over 1935-36.

The pilots maintained their two pilot stations, at Whitney Pier (Sydney) and at Cranberry Head in excellent condition and in excellent repair and fully insured as in past years.

The Pilot tender *H. M. Whitney* was hauled out and thoroughly repaired during the past season. This boat is also insured against marine casualties and fire.

Captain Norman Noel is the Superintendent of Pilots. His office is located at Whitney Pier, Sydney.

The Sydney Pilots' Pension Fund is administered for the pilots, without charge, by the Departments of Transport and Finance. This Fund amounted to \$78,065.70 on March 31, 1937. Contributions to the Fund are made up by the interest on investments and by ten per cent of the gross revenue of the district.

The sum of \$4,216.62 was paid by the department out of the Vote "Administration of Pilotage" in the administration of the district.

DISTRICT OF HALIFAX

There were 21 pilots in this district throughout the whole year.

The gross revenue of the district for the year 1936-37 amounted to \$84,646.26. The total expenses, including repayment of loans, maintenance of the two pilot tenders, and the amount paid into the Pension Fund was \$23,087.59, leaving a balance to be divided among the pilots of \$61,558.67. The gross revenue shows an increase over 1935-36 of \$1,178.36.

The total number of ships paying pilotage was 1,106 inwards and 1,079 outwards, making a total of 2,185 ships with a total net tonnage of 7,340,044, compared with 2,266 ships with a total net tonnage of 7,103,215 in 1935-36, a decrease of 81 ships but an increase of 236,829 net tons.

At various times throughout the year, owing to extremely severe weather conditions pilots have been carried out of the district. One was carried to England, one was absent at sea for several days on the cable ship, while several others were carried to ports in the New England States.

The pilot tenders *Hebridean* and *Nauphila* are equipped with the short-wave radio telephones and are in constant communication with the Signal Station at the Halifax Citadel and the Camperdown Wireless Station. Both these tenders were kept in excellent repair by the pilots throughout the year and are a credit to the port and the pilotage service.

The Halifax Pilots' Pension Fund amounted to \$127,185.12 on March 31, 1937. It is administered, without charge, by the Departments of Transport and Finance. It is made up of five per centum from the gross earnings of the district and the interest on investments.

Captain D. A. Reside is the Superintendent of Pilots.

The pilotage offices are located in the Custom House Building, Halifax.

The department expended the sum of \$5,883.37 for the upkeep of the office and the salaries of the staff out of the Vote "Administration of Pilotage."

DISTRICT OF SAINT JOHN

At the beginning of the year there were 11 pilots and one apprentice pilot in this district. There were no changes during the year.

The gross revenue of the district was \$48,826.06, a decrease of \$1,779.37 from 1935-36. The pilotage rates in this district were subject to a reduction of 4 per cent during the year. The total expenses, including the upkeep of the pilot boat, the repayment of loan made to the pilots, and the amount paid into the Pension Fund was \$13,120.69, leaving a balance to be divided among the pilots of \$35,705.36.

The total number of ships piloted inward was 431 and outward 429, a total of 860, with a net tonnage of 2,626,362, being a decrease of 40 ships and 182,861 net tons from the year 1935-36.

The Saint John Pilots' Pension Fund is administered for the pilots, without charge, by the Departments of Transport and Finance. This Fund amounted to \$61,989.80 on March 31, 1937. Contributions to the fund are made up by the interest on investments and by eight per cent of the gross revenue of the district.

The pilot tender *Alex Johnston* was kept in first-class repair by the pilots throughout the year. This vessel is equipped with full diesel engines and is a credit to the pilotage service at Saint John.

Mr. J. C. Chesley, agent of the department, is the Acting Superintendent of Pilots. The pilotage offices are located in the Custom House Building at Saint John, N.B.

The sum of \$1,869.06 was expended out of Government funds, Vote 134, Administration of Pilotage, for the upkeep of the offices and the salaries of the staff.

DISTRICT OF QUEBEC

On April 1, 1936, there were 57 pilots and 14 apprentice pilots in this district. One apprentice pilot was licensed as a pilot during the season and one had his indenture cancelled for continued misbehaviour. There were, therefore, 58 pilots and 12 apprentice pilots on the establishment on March 31, 1937.

The Pilotage Station at Father Point was opened on April 1, 1936, and closed on December 31, 1936.

The first ship, the ss. *Rosecastle*, passed Father Point on April 11, 1936 (the same date as in 1935), and the last ship, ss. *Sedgepool*, left Quebec on December 15, 1936, three days later than in 1935.

The total number of ships piloted inward and outward was 3,888 of a total net tonnage of 13,996,541, as compared with 3,528 ships of 11,973,157 net tons in 1935; an increase of 360 ships and 2,023,384 net tons.

The gross earnings of the pilots were \$290,080.49 for the season, as compared with \$255,900.87 in 1935, an increase of \$34,179.62 over 1935. All pilotage dues (with the exception of moorage charges and minimum tariff) were subject to a reduction of four (4%) per centum from April 11, 1936.

The pilot tender *Jalobert* left for Father Point on April 13, 1936, arriving there the same day. This vessel was replaced by the C.G.S. *Citadelle*, which had been thoroughly overhauled and new accommodation built, on September 2, 1936.

The latter vessel is more powerful and is capable of withstanding the ice-conditions which prevail at Father Point in the spring and late fall. The radio telephones which had been installed on the *Jalobert* were transferred to the *Citadelle* and continued to give splendid service not only to the Pilotage Service but to the other government services at Father Point.

The launch *Abraham Martin* was overhauled in the spring and was in service throughout the season, and was then hauled out on the slip at Father Point as formerly.

The Quebec Pilots' Pension Fund, which is administered by the Quebec Pilots' Corporation, amounted to \$161,847.63 on December 31, 1936, an increase of approximately \$8,500 over 1935.

DISTRICT OF MONTREAL

There were 70 pilots and 13 apprentice pilots in this district on April 1, 1936. During the season seven apprentice pilots were licensed as pilots, and two new apprentice pilots were appointed. There were, therefore, 77 pilots and 8 apprentice pilots on the role on March 31, 1937.

The first sea-going ship to arrive at Montreal was the ss. *West Wales* on April 13, 1936, two days earlier than in 1935. The first ship to arrive, however, was the ss. *Gaspesia* on April 8, 1936.

The last departure was the sea-going ship *Sedgpool* on December 11, 1936, two days later than in 1935.

There were 2,825 ships piloted inward and 2,932 ships piloted outward, a total of 5,757 ships, having a total net tonnage of 14,553,618, as compared with 4,705 ships of a total net tonnage of 12,203,629. This is an increase of 1,052 ships and 2,349,990 net tons over 1935.

The gross earnings of the pilots were \$347,258.58 as compared with \$301,083.64 for 1935, an increase of \$46,174.94. All pilotage dues (with the exception of moorage charges and minimum tariff) were subject to a reduction of four (4%) per centum from April 11 to December 31, 1936.

The Montreal Pilots' Pension Fund, which is administered by the Departments of Transport and Finance without charge, amounted to \$181,064.95 on March 31, 1937, an increase of \$14,406.02 over 1936. Seven per centum (7%) of the gross earnings of the pilots is deducted for this Fund.

GENERAL—MONTREAL AND QUEBEC DISTRICTS

Mr. R. A. Wiillard, agent of the department, is the Superintendent of Pilots. His office is located in the Old Customs House Building, Place Royale, Montreal.

Mr. Albert Hamel, formerly despatching clerk in the Pilotage office, Quebec, was promoted to the position of Assistant Superintendent of Pilots, formerly held by Mr. F. J. Boulay, deceased.

Mr. Raoul Lachance is the officer in charge at Father Point.

All expenses for the pilotage services at Montreal, Quebec and Father Point are paid out of public funds. These amounted to \$68,759 for the District of Montreal and Quebec, the latter sum including the cost of maintenance of the offices and salaries of staffs at Father Point and Quebec, and the cost of maintaining the pilot tenders *Jalobert* (which was replaced by the *Citadelle* on September 2, 1936), and the *Abraham Martin*.

The pilot tenders *Citadelle* and *Abraham Martin* in addition to embarking and disembarking the pilots also attended to the Quarantine Service for the Department of Pensions and National Health, medical doctors being attached

to the *Citadelle*, allowing of pratique being given to ships, provided, there is no contagious disease on board. This does away with ships having to stop at Grosse Isle.

The *Citadelle* lands the mails for all eastern points, and also handles mails between ships and aeroplanes, and vice versa, for the aerial mail service, which was started in 1927. There was a total of 7,997 bags of mail inwards, 1,669 bags of parcel post inwards, 1,094 bags of air mail inwards and 1,032 air mail outwards, 49 parcels of parcel post outwards, and 370 bags of parcel post outwards, a total of 12,111 bags of mail and parcel post.

The officers of the Department of National Revenue (Customs) and of the Department of Immigration are put on and taken off ships. There are now six services centralized at Father Point: Pilotage, Quarantine, Customs, Immigration, Agriculture, and two mail services for the Post Office Department.

Great satisfaction has been given to the shipping interests and considerable economy effected by the centralization of these services at Father Point.

The Nautical School, the Inspector of Radio for Quebec, the Examiner of Masters and Mates, as well as the pilotage offices and the pilots' waiting rooms are housed in the Pilotage building, which has been kept in first-class repair, and partially redecorated during the year.

The embarking and disembarking of pilots at Quebec both for the Montreal and Quebec districts is done by gasoline launches at the dock immediately adjacent to the Pilotage building.

ST. LAWRENCE-KINGSTON-OTTAWA DISTRICT

The payment of pilotage dues in this district is not compulsory. Under the regulations masters and officers of ships may pilot their own ships, but if a pilot is used, such pilot must have a licence issued by the Pilotage Authority.

There were 193 pilots on the roles on March 31, 1936. During the year three pilots died and three resigned; one pilot was examined and received his licence, which left 188 pilots on the role on March 31, 1937.

Several sections of the by-laws for this district were revised and one inserted giving the rates to be paid if a pilot is used.

The pilots' waiting room at Kingston, Ont., are located in the Post Office building.

Mr. John Bain, of Kingston, Ont., was appointed officer in charge, at Kingston.

There was spent \$1,229.96 out of the Vote Administration of Pilotage, for salaries, etc., in this district.

DISTRICT OF CHURCHILL

This port during the 1936 season of navigation was under the immediate control of the officials of the Department of Railways and Canals. All pilotage dues collected are used to maintain the pilot boat.

One pilot was employed during the season of navigation.

The first ship to arrive at Churchill was the ss. *Firby* on August 9 (five days earlier than in 1935), and the last ship to leave was the ss. *Charles L. D.* on October 1 (one day earlier than in 1935).

Fifteen ships were piloted inward and fifteen outward. The net tonnage of these ships was 45,555 and the same outward. This is an increase of eight ships inward and eight outward, and an increase in the total net tonnage inward and outward of 18,435.

DISTRICT OF BRITISH COLUMBIA

There were 31 pilots and 2 probationary pilots on the role on April 1, 1936. Two probationary pilots having completed their period of probation were licensed as pilots. Two pilots died during the year. Four applicants were appointed as probationary pilots. There were, therefore, 31 pilots and 4 probationary pilots on the role on March 31, 1937.

The gross earnings of the pilots for the year ending March 31, 1937, was \$282,004.26, which is an increase of \$41,680.33 over 1935-36. The total expenses, including the upkeep of the four pilot launches, repayment on loans, salaries of launchmen, etc., amounted to \$91,187.40, the amount paid into the Pension Fund was \$19,147.42. The total amount distributed equally amongst the pilots, in proportion to the time worked by each during the year, was \$190,816.86.

The total number of ships piloted was 3,953 of a total net tonnage of 15,594,831, an increase of 685 ships and 2,419,902 net tons over the year 1935-36. These increases were due to a natural increase in business and also to the protracted strike in the United States of America, which caused shipowners to send their ships to ports in British Columbia. A pilot was stationed during the year at Prince Rupert to take care of ships at this port and in the Queen Charlotte islands.

The British Columbia Pilots' Pension Fund amounted to \$106,556.04 on March 31, 1937, and is administered without charge by the Departments of Transport and Finance. Seven per cent of the gross revenue of this district is deducted for this fund.

The pilots maintain an agent at Port Alberni and the superintendent reports a gradual increase in business from this port as well as from the ports of Cowichan Bay, Crofton, Chemainus, Ladysmith, Nanoose, and Englewood.

The offices for this district were removed on December 31, 1936, to the new Dominion public building, located at the corner of Granville and Hastings streets, Vancouver, B.C.

Captain F. T. Saunders, who had been on retiring leave, went on superannuation, and Captain Cecil Claxton was appointed superintendent on November 1, 1936. Mr. W. J. Anderson, pilotage clerk, was acting superintendent from the time of the retirement of Captain Saunders to the appointment of Captain Claxton.

The expenses incurred by the department for the upkeep of the office and the salaries of the staff were \$7,895.39.

The following is a comparative statement of the number of ships and net tonnage for the years 1935-36 and 1936-37:—

District	1935-36		1936-37	
	Ships	Tonnage	Ships	Tonnage
Sydney.....	2,013	2,216,961	2,238	2,506,588
Saint John.....	900	2,809,223	860	2,626,362
Halifax.....	2,366	7,103,215	2,185	7,340,044
Quebec.....	3,528	11,973,157	3,888	13,996,541
Montreal.....	4,705	12,203,629	5,757	14,553,619
Churchill.....	18	54,240	30	91,110
British Columbia.....	3,268	13,175,029	3,953	15,594,831

NAUTICAL SERVICES

REPORT OF CAPT. L. G. DIXON, SUPERVISOR

PORT WARDENS

The duties of port wardens are to survey, when required, inward cargoes on ships, including surveys of hatches; to be responsible for the enforcement of the regulations for the loading and carriage of grain and timber deck cargoes; to survey and approve stowage of other cargoes in accordance with the regulations or approved practice; to survey damage to ships or cargo as required and to check ships' draught and freeboard.

Reports were received from sixteen port wardens: six from Nova Scotia, four from British Columbia, four from Quebec, one from New Brunswick, and one from Ontario.

NOVA SCOTIA

Halifax.—No cattle or horses were shipped from Halifax during the 1936 season.

Of grain shipped, there were 1,911,052 bushels, of which 303,500 bushels of wheat to Genoa, Italy.

Fees collected amounted to \$3,436.

Louisburg.—Fourteen ships were surveyed and the fees collected amounted to \$124.

North Sydney.—No collections.

Parrsboro.—Two ships surveyed. Fees charged \$30; balance outstanding \$15.

Pictou.—Fees collected \$102. Ten surveys made.

Whitney Pier, Sydney.—Collections by port warden for fees totalled \$948.

BRITISH COLUMBIA

Prince Rupert.—Nine ships were surveyed. Collections amounted to \$224.

New Westminster.—Surveys 357. Collections \$5,701.

Vancouver.—Grain shipments have increased during the past year. There was also an increase in lumber and general cargo business. Thirty-seven full cargoes of grain were shipped and 451 part cargoes; reports were issued and 4,987 inspections made of ships and cargoes. The fees are reported as follows:—

Balance of fees outstanding December 31, 1935..	\$ 1,035 00
Earned during the year..	20,325 00
	21,360 00
Received and deposited in bank..	19,988 50
	\$ 1,371 50

Victoria.—Fees collected at Victoria totalled \$2,200 and 249 ships were surveyed.

QUEBEC

Montreal.—This year (1936) shows an increase in overseas shipping as compared with any previous year since 1928 and the third best year in the history of the port. During the season of 1936 vessels reported from overseas numbered 1,133 with an aggregate tonnage of 4,403,508, an increase of 116 vessels and 444,485 tons over 1935. Four hundred and fifteen (415) ships reported for lower and gulf ports with an aggregate tonnage of 854,245, being an increase of 33 vessels and 107,884 tons. A total of 1,548 vessels and 5,257,753 tons, an increase of 149 ships and 552,369 tons over last season. Tonnage as above all net register.

Of the total overseas vessels reported, 129 were regular passenger liners, an increase of 9. Four hundred and nine (409) were regular cargo liners, an increase of 39; 421 were tramp steamers, an increase of 57, and 174 were oil tankers, an increase of 11. The increase in cargo liners was due mainly to extra sailings to far and near East, Australia, New Zealand and African trades.

Of the 421 tramp steamers entered, 197 entered with full coal cargoes, 6 less than last season. Fifty-six (56) arrived in ballast, an increase of 46 over last year and 168 entered with general and bulk cargoes, 17 more than last season.

Tank steamers entered 174, of which 164 had crude oil, an increase of 16; 9 had gasoline, a decrease of 6, and one arrived in ballast.

Tramp steamers cleared, 421; loaded with full grain cargoes 167 and 64, of which 29 were from Great Lakes, completing grain loading at Montreal, and 5 partially loaded at the latter place, completing at Sorel and Quebec.

A total of grain-laden tramps of 201, an increase of 138. Tramps cleared in ballast 178, a decrease of 60; the remaining 42 cleared with general and bulk cargoes, 21 less than last season.

Of the total 1,133 overseas vessels cleared, 378 sailed in ballast, of which 168 were tank steamers, 16 more than 1935. Thirty-two (32) were cargo liners, viz., 4 for Three Rivers, 1 for Rimouski, 4 for Port Alfred, 10 for United States ports, 3 for Newfoundland, 3 for Nova Scotia and New Brunswick, 4 for British West Indies, 1 for United Kingdom and 2 for Europe.

Tramps to various ports: 178, viz., 51 for Sorel; 20 to Three Rivers; 25 to Quebec; 1 to Churchill; 67 to lower ports, Port Alfred, Nova Scotia and New Brunswick ports; 10 to United States ports; 1 to Antwerp; 1 to Canal Zone and 2 to British West Indies. Of the 51 ballast steamers cleared to Sorel, 51 loaded grain; the 25 for Quebec, 14 loaded grain; of the 20 for Three Rivers, 6 loaded grain.

Of the 1,133 reported, 608 were registered in Britain and 95 in Canada. Other nationalities, 430. An increase of 61 registered in Britain, a decrease of 4 registered in Canada and an increase of 59 of foreign registry over last season 1935, Norway showing the greater increase due to their number of canal-sized ocean vessels operating to transit to upper lakes ports.

Of the 197 tramp steamers entered from overseas with full coal cargoes, 116 were with Welsh coal, 25 Scotch, 32 German, 4 Belgium, 10 Chinese, and 10 Dominion.

Overseas vessels with cargoes both inwards and outwards were 1,133.

The fees collected for 1936 amounted to \$41,855.85, being an increase of \$3,501.56 over 1935.

Wheat shipments in 1936 were 57,528,649 bushels, being an increase of 28,173,581 bushels over 1935.

March 18.—At 4.30 p.m. ss. *N. B. McLean*, Government ice breaker, arrived at the McColl-Frontenac Oil wharf, seven days earlier than last year.

April 7.—6 p.m. ss. *Gaspesia* arrived from Lower Ports, the first arrival for this season, eight days earlier than last season.

April 8.—SS. *Gaspesia* cleared for lower gulf ports, fifteen days earlier than last season.

April 13.—5.55 p.m. ss. *West Wales*, British tramp, arrived at No. 3 elevator with a cargo of linseed from Argentine. The first vessel to arrive from overseas, two days earlier than last season. This is the earliest arrival on record from Overseas.

April 17.—8.35 p.m. The ss. *Duchess of Bedford* arrived at shed 8, the first transatlantic mail and passenger steamer to arrive this season, four days earlier than 1935.

April 19.—SS. *Beaverbrae* arrived at shed 7, the first overseas cargo liner, one day earlier than 1935.

April 21.—SS. *Lido* of Oslo, received certificate of readiness to load full grain cargo, the first for this season, four days earlier than 1935.

April 24.—SS. *Ingor*, first cargo liner to clear this season, one day later than 1935.

April 24.—SS. *Antonia* sailed, first transatlantic passenger vessel to sail this season, two days earlier than 1935. The *Antonia* was followed on same date by ss. *Duchess of Bedford* and ss. *Ascania*.

Ice conditions were exceptional this season, this Gulf and River being clear of ice before the first vessels arrived.

November 28.—The ss. *Alaunia* sailed for overseas, the last passenger liner to sail this season, five days later than 1935.

December 3.—SS. *Grey County*, the last cargo liner sailed, four days earlier than 1935.

December 6.—SS. *Penhale* sailed for overseas via Quebec with grain cargo, the last grain vessel for this season, the same date as 1935.

December 7.—SS. *Sedgepool* arrived with coal from overseas, last arrival for this season, two days later than 1935.

December 11.—SS. *Sedgepool* sailed for Quebec in ballast to load grain, the last sailing from Montreal this season, 2 days later than 1935.

For the last week of November ice was reported in the river between Sorel and Quebec. Government ice breakers were in attendance, giving valuable assistance to vessels in and out bound till last vessel cleared.

CASUALTIES REPORTED BETWEEN MONTREAL AND QUEBEC

April 23.—SS. *Ellerdale* stranded at Isle St. Therese, slight damage.

April 29.—SS. *Streonshalh* stranded at Contrecoeur. No damage.

June 3.—SS. *Ullapool* stranded off Cape Charles, N.E. St. Lawrence, remaining fast aground till June 7, was refloated after lightering considerable cargo. Proceeded to Quebec for survey and drydocking and repairs. Extensive damage reported.

June 8.—SS. *Frankfurt* and ss. *Cymbeline* collided near Red Island L.-ship. Both vessels damaged.

June 21.—SS. *Leise Maersk* and ss. *Airthria* collided near Red Island. Both vessels slightly damaged.

July 14.—SS. *Ekaterine Coumantarou* stranded at Cape Chat, vessel making water. Arrived July 16, drydocked for survey and repairs.

July 15.—SS. *Rosecastle* and ss. *Chr. Sass* collided in Lake St. Peter. Both vessels damaged and drydocked for repairs.

August 19.—SS. *Panagiotis Th Coumantaros* touched submerged obstruction opposite shed 19 in harbour, proceeded to Quebec for survey. Vessel damaged.

September 1.—SS. *Ashby* stranded at Matane, proceeded to Montreal, arriving September 3. Discharged cargo and proceeded to Vickers' drydock for survey and repairs. Considerable damage.

September 19.—SS. *Mary N* stranded at Grondines, remaining fast till September 22. After transferring part cargo to lighters and assisted by ss. *Lord Strathcona* vessel refloated and proceeded to Montreal. Discharged and drydocked for survey and repairs. Considerable damage.

November 29.—SS. *Avon Valley* stranded off Sault-au-Cochon, refloated, vessel leaking. After survey at Quebec, proceeded to Montreal, discharged cargo and sailed for Quebec December 11, to drydock. On way down vessel again stranded near St. Nicholas Point, was refloated and arrived at Quebec for survey and repairs. Considerable damage.

In the later months of this season, October and November, the water in the ship channel showed a foot higher than last season 1935 and at least two feet higher than 1934. This was very beneficial to the larger passenger and general cargo liners and avoided transfer of freight to Quebec.

Quebec.—Vessels, all of 1,000 tons and over cleared for sea, 145; hatches and cargoes examined, 99.

Vessels surveyed for grain fittings, etc., 18.

Fees received amounted to \$1,450.

Sorel.—The first vessel to load grain was the ss. *Kurdistan* which arrived in ballast from South Shield in the afternoon of April 22 and cleared the next day with 331,859 bushels of wheat.

The last vessel to load grain was the ss. *Porsanger* which arrived from Montreal on December 4 at 1 p.m. and cleared at 6 p.m. December 5, with 240,191 bushels of wheat.

Ninety-five (95) vessels loading grain were inspected and granted certificates.

	Tons
Vessels clearing inwards, 1,096	1,854,929
Vessels clearing outwards, 1,100	1,850,193

The imports amounted to 339,285 tons and the exports to 867,839 tons.

Three Rivers.—The first steamer to load grain was the ss. *Lurigethan*, of Belfast, which arrived in ballast from Port Talbot, on August 10, and vessel cleared on the 13th August with 213,920 bushels of wheat. The last ship to clear was the ss. *Kalliopi S*, of Piraeus, for Gibraltar, via Sydney, C.B., the 8th December, with 268,721 bushels of wheat. Seventeen (17) vessels loaded grain.

	Tons
Vessels cleared inwards, 1,717	1,851,394
Vessels cleared outwards, 1,734	1,832,746

Imports of 187,076 tons consisted principally of maize, linseed, sulphur, coal, molasses and sand. The exports principally, paper, lumber, wheat, maize and linseed amounted to 353,013 tons.

The receipts were, for Sorel \$675 and \$163 for Three Rivers.

NEW BRUNSWICK

Saint John.—Collections amounted to \$3,184.50 and surveys were made to 318 ships.

ONTARIO

Fort William and Port Arthur.—During the season of 1936, 31 Norwegian ships loaded at these ports, 25 carrying grain in bulk and 6, cargoes of flour.

No charges were made for surveys of these vessels. Previous to 1936, the largest number of foreign vessels in one season, was 7; there is a probability of more than 40 loading here in 1937.

SURVEYORS OF TIMBER DECK CARGOES

Port Alberni, B.C.—A surveyor of Timber Deck Cargoes at Port Alberni replaces the Port Warden. Vessels surveyed amounted to 157 and fees received \$1,570.

Victoria, B.C.—Collected: \$1,430. Vessels surveyed 143.

MASTERS AND SEAMEN DIVISION

Navigation Schools were in operation at Saint John, N.B., at Halifax and Yarmouth, N.S., at Quebec, P.Q., at Prince Rupert, B.C., and at Kingston, Ont.

Examinations for Masters' and Mates' Certificates were held at Halifax, Yarmouth, Digby, Weymouth, Lunenburg and North Sydney, N.S., at Saint John, N.B., at Quebec and Montreal, P.Q., at Ottawa, Kingston, Midland, Toronto, Owen Sound, Collingwood, Port Arthur and Kenora, Ont., and at Vancouver, Victoria and Prince Rupert, B.C.

Issued during the year were 9 masters', 4 mates', and 7 second mates' foreign-going certificates of competency; 2 masters' foreign-going certificates of service; 24 masters' and 37 mates' coasting certificates of competency; 62 masters' and 46 mates' home trade certificates of competency; 350 masters' home trade certificates of service; 23 masters' and 24 mates' inland waters certificates of competency; 43 masters' and 16 mates' minor waters certificates of competency; 28 masters' minor waters certificates of service and 57 masters' temporary certificates.

RETURNS OF SHIPPING MASTERS FOR THE YEAR ENDING DECEMBER 31, 1936

Province	Seamen shipped	Seamen discharged	Amount
			\$ cts.
Quebec.....	10,507	8,079	7,847 00
New Brunswick.....	877	516	694 30
Nova Scotia.....	8,431	13,386	6,547 40
Prince Edward Island.....	41	20	28 50
British Columbia.....	9,125	8,229	7,056 20
Ontario.....	71	39	37 70
	29,052	30,269	22,221 10

SHIPMENT OF LIVE STOCK TO PORTS IN GREAT BRITAIN DURING 1936-37

AS REPORTED BY THE LIVE STOCK INSPECTORS

Port of Shipment	Cattle	Horses
Montreal, P.Q.....	31,709	308
Halifax, N.S.....		
St. John, N.B.....	3,795	
	35,504	308

REPORT OF WRECKS

STATEMENT OF FORMAL INVESTIGATIONS AND PRELIMINARY INQUIRIES
HELD DURING THE FISCAL YEAR 1936-37

Name of ship and official number	Port of registry	Remarks
<i>Avon River</i> , 142711..	Bristol, Eng.	On September 16, 1936, stranded and became a total loss on Mansel Island, Hudson Bay. Preliminary inquiry was held at Montreal, P.Q., on October 16, 1936, by Captain J. O. Grey.
<i>Avon Valley</i> , 139910.	Bristol, Eng.	On December 11, 1936, stranded at Pointe Aubin, almost 3 miles W. of St. Nicholas Point, St. Lawrence River. Preliminary inquiry was held at Quebec, P.Q., on the mornings of December 23 and 24, 1936, by Mr. B. J. Kaine.
<i>Cymbeline</i> , 149647, and <i>Frankfurt</i> , D.O.I.S.	Liverpool, Eng. Bremen, Ger.	On June 8, 1936, collided near Red Island, River St. Lawrence. Formal investigation was held at Montreal, on June 12, 13, 15 and 16, before Honourable Mr. Justice Errol M. McDougall, assisted by Captain F. C. Bayliss and Captain E. C. Sears, acting as Nautical Assessors. <i>Finding:</i> The Court finds the collision was due to the fault and negligence of Pilot Charles H. Keonig of S.S. <i>Frankfurt</i> in failing to observe Rule No. 16 of the International Rules of the Road. A copy of the Report was transmitted to the German Government, for such action as it may deem fit in reference to the Master of the German S.S. <i>Frankfurt</i> .
<i>Casca</i> , 103919.	Victoria, B.C.	On July 9, 1936, struck obstacle in Rink Rapids and sank in 5 minutes. Preliminary inquiry was held at Vancouver, B.C., on February 22 and 24, 1937, by Captain Lionel H. Lindsay.
<i>Fred A. Lee</i> , 134379.	Sault Ste. Marie, Ont.	On November 13, 1936, foundered some 13 miles N.E. of Point Aux Barques, Mich., Lake Huron (5 lives lost). Preliminary inquiry was held at Toronto on December 11, and at Sault Ste. Marie on December 14 and 15, 1936, by Captain Henry W. King. Formal investigation was held at Sarnia on Feb. 10, 11 and 12, 1937, and at Toronto on February 18 and 19, before Honourable Mr. Justice Ainslie W. Greene, assisted by Captain G. D. Frewer and Captain Wendell J. Brown, acting as Nautical Assessors. <i>Finding:</i> The Court fines Captain Thomas B. Climie, as owner and person in charge, the sum of \$100.00, because the voyage made by the <i>Fred A. Lee</i> from Sault Ste. Marie on August 16, 1936, without a certificate is contrary to the provisions of Section 387 of the Canada Shipping Act. The Court also fines Wallaceburg Sand and Gravel Company, Limited, as person in charge, the sum of \$500.00, because the voyage made by the <i>Fred A. Lee</i> from Sarnia on November 12, 1936, without a certificate, is contrary to the provisions of Section 387 of the Canada Shipping Act.
<i>Hibou</i> , 122260.	Owen Sound, Ont. . .	On November 21, 1936, foundered S.W. off Squaw Point, about 2 miles from Owen Sound Harbour. Preliminary inquiry was held at Owen Sound on November 30 and December 1, by Captain H. W. King.
<i>Klondike</i> , 116627. . . .	Dawson, Y.T.	On June 12, 1936, struck rock bluff 5 miles below Hootalinqua, Yukon River, and is reported a total loss. Preliminary inquiry was held at Vancouver, B.C., on November 28 and 29, by Captain Lionel H. Lindsay.
<i>Lafayette</i> and <i>Benmaple</i> , 146135.	LeHavre. Toronto, Ont.	On August 31, 1936, collided 6 or 7 miles West of Bic Island, River St. Lawrence. Preliminary inquiry was held at Quebec, P.Q., on September 1 and 3, by Mr. B. J. Kaine.
<i>Metis</i> , 158060 and <i>Manchester Spinner</i> , 140566.	Montreal, P.Q. Manchester, Eng.	On August 26, 1936, collided between buoys 26 and 51, Gently Range Lights, St. Lawrence River. Preliminary inquiry was held at Montreal, P.Q., on September 23 and 26 and October 15, by Captain J. O. Grey.
<i>Magdalen</i> , 85405.	Magdalen Islands. . .	On September 7, 1936, foundered between Canso and Petite de Grat, N.S. Preliminary inquiry was held at Halifax, N.S., on October 20 by Captain Chas. L. Waterhouse.
<i>Ontario No. 2</i> , 137978	Montreal, P.Q.	On February 26, 1936, stranded near Braddock's Point, Lake Ontario. Preliminary inquiry was held at Cobourg, Ontario, on September 9, by Captain H. W. King.
<i>Rose Castle</i> , 137438, and <i>Chr. Sass</i> , A.Z.A.E.	London, Eng. Copenhagen.	On July 15, 1936, collided near St. Francis Port, River St. Lawrence. Preliminary inquiry was held at Montreal on July 26 and August 1, by Captain J. O. Grey.
<i>Sand Merchant</i> , 153443.	Montreal, P.Q.	On October 17, 1936, foundered in Lake Erie, whilst en route from Point Pelee, Ontario, to Cleveland. Preliminary inquiry held at Toronto, Ont., on October 28, by Captain H. W. King. Formal investigation was held at Toronto, on November 12, 13 and 16, before Honourable Mr. Justice Errol M. McDougall, assisted by Captain G. D. Frewer and Mr. L. McMillan,

STATEMENT OF FORMAL INVESTIGATIONS AND PRELIMINARY INQUIRIES
HELD DURING THE FISCAL YEAR 1936-37—*Concluded*

Name of ship and official number	Port of registry	Remarks
<i>Ullapool</i> , 139246....	West Hartlepool....	acting as Nautical Assessors. <i>Finding</i> : The Court finds the loss of the S.S. <i>Sand Merchant</i> due to shifting of her cargo of sand. The loss of life (19) must be laid to the First, and to a lesser degree of the Second Officers who were over-confident and not sufficiently alert in obeying the Master's orders to get the life boats out and the crew aboard. The Court exonerates the Master from blame but considers he should be warned and is open to censure for failing to have life-boat drill aboard his vessel and in permitting an unauthorized person to be on board. The operators of the vessel are held without blame.
<i>Zenda</i> , 161567.....	Halifax, N.S.....	On June 3, 1936, stranded off Cape Charles, north side of channel, St. Lawrence River. Preliminary inquiry was held at Quebec, on June 27, by Mr. B. J. Kaine. On April 22, 1936, struck Split Rock, Reversing Falls, St. John, N.B. Preliminary inquiry was held at St. John, N.B., on May 6, by Captain R. J. Pollock.

SHIPBUILDING

There is a very favourable and encouraging trend in shipbuilding at the present time judging by Lloyd's Register of Shipping regarding merchant vessels. The statistics emanating from that office indicate that merchant vessels under construction exceed 172,093 tons (being more than 20 per cent) the tonnage which was being built at the end of March, 1936, and it is the first since 1930 to exceed a million tons. It is considerably over the aggregate tonnage now under construction in the four leading countries abroad. Of course, vessels less than 100 tons are not included in Lloyd's Shipbuilding Returns.

STATEMENT SHOWING NUMBER OF VESSELS REMOVED FROM THE REGISTRY BOOKS OF THE DOMINION OF CANADA DURING THE YEAR ENDED DECEMBER 31, 1936

Sold to foreigners, 18; wrecked, 52; broken up, 108; burnt, 20; transferred to Great Britain, 1; transferred to Newfoundland, 6; transferred to British West Indies, 4, supposed to be out of existence, 1; registry no longer required, 5; total, 215.

Estimated number of men and boys, etc., inclusive of masters, employed on ships registered in Canada during the year 1936, 44,649. It is figured approximately that there were 11,824 in Ontario, and the three western provinces of Manitoba, Alberta, and Saskatchewan.

STATEMENT SHOWING THE NUMBER OF VESSELS AND NUMBER OF TONS ON THE REGISTRY BOOKS OF THE DOMINION OF CANADA ON DECEMBER 31, 1936

Provinces	Sailing Vessels			Steam Vessels		
	No.	Gross Tons	Net Tons	No.	Gross Tons	Net Tons
New Brunswick.....	377	25,259	24,731	626	31,248	19,716
Nova Scotia.....	441	36,484	33,061	1,072	99,560	61,593
Quebec.....	464	118,976	114,417	929	572,525	342,812
Ontario.....	439	100,591	93,629	1,334	516,263	326,582
British Columbia.....	1,027	188,641	186,367	2,367	254,225	139,170
Prince Edward Island.....	79	4,577	4,313	64	12,844	6,935
Saskatchewan.....	1	145	145	4	447	252
Manitoba.....	15	3,564	3,564	116	7,123	4,605
Yukon Territory.....	12	2,650	2,650	6	3,496	2,529
	2,855	480,887	462,877	6,518	1,497,731	904,194

DEPARTMENT OF TRANSPORT

COMPARATIVE STATEMENT OF VESSELS BUILT AND REGISTERED IN THE DOMINION OF CANADA AND THEIR NET TONNAGE DURING THE YEAR ENDED DECEMBER 31, IN EACH YEAR FROM 1932 TO 1936, BOTH INCLUSIVE

Province	1932		1933		1934		1935		1936	
	Vessels	Tons	Vessels	Tons	Vessels	Tons	Vessels	Tons	Vessels	Tons
New Brunswick.....	42	627	32	601	43	621	39	614	40	1,448
Nova Scotia.....	14	2,045	43	559	38	767	75	1,435	120	2,147
Quebec.....	64	4,219	35	1,028	23	1,008	47	6,153	23	2,990
Ontario.....	20	1,126	21	766	23	351	29	1,430	28	1,310
Prince Edward Island.....	5	98	2	16	6	39	1	28	3	178
British Columbia.....	57	1,810	28	1,161	48	1,585	48	1,910	77	2,208
Manitoba.....	5	81	2	28			9	434	1	12
Yukon District.....										
Saskatchewan.....										
	207	10,006	163	4,249	181	4,371	248	12,004	292	10,293

MARINE AGENCIES

T. F. McVEIGH, SUPERVISOR

Principal Marine Agencies were maintained and operated at Saint John, N.B., Halifax, N.S., Charlottetown, P.E.I., Quebec, P.Q., Montreal, P.Q., Parry Sound, Ont., Victoria, B.C., and Prince Rupert, B.C., and Subsidiary Agencies at Port Arthur, Kenora, and Amherstburg, Ont.

The functions of these agencies are, broadly, to represent the department within districts which are defined, and which, as a whole, encompass the whole coastline and all of the navigable inland waters of Canada, and to a limited extent the west coast of Newfoundland also, and to direct and administer all departmental activities pertaining to the construction, operation and maintenance of aids to navigation, the operation of Dominion (departmental) steamers, and the operation and maintenance of Government wharves.

All Dominion steamers are attached to and are operated from the principal agencies, and workshops were maintained for the care and repair of these steamers, as well as for the care and repair of aids to navigation, and for the performance of such other work as may be required.

Each principal agency functioned in the usual way as a supply depot for construction purposes, the lighthouse service and for Dominion steamers.

Principal works performed under the direction of these various agencies are outlined in the report of the Chief of Aids to Navigation.

BOARD OF STEAMSHIP INSPECTION

REPORT OF CHAIRMAN, FRANK McDONNELL, M.E.I.C.

LEGISLATION

A considerable amount of work was done during the fiscal year in connection with the drafting and issue of regulations under the provisions of the Canada Shipping Act, 1934.

ENGINEER EXAMINATIONS

During the fiscal year 219 candidates for certificates of competency were granted certificates as marine engineers, also 46 certificates to motor engineers. In addition, 73 temporary engineer certificates were issued.

STEAMSHIP INSPECTION OFFICES

Steamship inspection offices are maintained at the following ports: Halifax, N.S.; Saint John, N.B.; Quebec, Sorel, and Montreal, P.Q.; Kingston, Toronto, Midland, Collingwood, and Port Arthur, Ont.; Vancouver and Victoria, B.C.

Appended will be found a table showing the number of inspections made, fees collected, etc.

TABLE SHOWING THE NUMBER OF INSPECTIONS MADE, FEES COLLECTED, ETC., DURING THE YEAR ENDING MARCH 31, 1937

Divisions	Number of inspections made, with gross tonnage of vessels inspected		Number of vessels not inspected, with gross tonnage		Total number of vessels subject to inspection when in commission, with gross tonnage		Number of vessels added to the Dominion, with gross tonnage		Number of vessels lost, broken up or destroyed, with gross tonnage	
	Vessels registered or owned in the Dominion		Vessels registered or owned elsewhere		No.	Gross ton	No.	Gross ton	No.	Gross ton
	No.	Gross ton	No.	Gross ton	No.	Gross ton	No.	Gross ton	No.	Gross ton
Halifax.....	101	127,837	15	50,009	116	178,446	3	102	2	1,478
Saint John.....	37	49,973	4	17,449	37	86,947	2	485		
Quebec.....	54	36,197			64	39,323	1	22		
Sorel.....	73	45,535			121	69,747				
Montreal.....	115	109,085			196	121,762			1	1,981
Kingston.....	72	95,244	13	785	102	115,924	2	17	3	2,104
Toronto.....	240	464,352	28	85,176	285	513,877	5	9,469	4	1,874
Midland.....	105	53,889	2	4,939	144	85,306			4	193
Collingwood*.....										
Port Arthur.....	62	58,147			131	63,776	1	103	5	708
Vancouver.....	215	100,680	13	82,129	238	196,588	5	243	16	12,391
Victoria.....	70	89,478	6	28,212	105	133,960	1	2,054	4	6,324
	1,144	1,230,423	81	219,299	1,649	1,604,956	20	12,555	39	27,053

During the year the inspector work at Collingwood was merged with that of Toronto and Midland. According to departmental records the following fees have been collected on account of steamboat inspection:—

Annual.....	\$ 107,555 84
Incidental.....	8,581 70
For approval of plans.....	1,624 00
For examination of engineers.....	1,378 00
	<u>\$ 119,139 54</u>

SOREL GOVERNMENT SHIPYARD**REPORT OF D. B. CARSWELL, MARINE SUPERINTENDENT**

The operations of the Sorel Shipyard, during the fiscal year ending March 31, 1937, consisted chiefly in maintaining the fleet of the St. Lawrence Ship Channel Branch in good order and carrying out the necessary winter repairs and operating repairs.

Work was also done for the Dominion steamers, the Maintenance of Lights Branch, the Maintenance of Buoys Branch, and the Signal Service.

Minor repairs were made to the C.G.S. *Verchères*, *Argenteuil*, *Bellechasse*, *Berthier*, *Frontenac*, *Detector*, *Safeguarder*, *Lavaltrie*, and ice-breakers *Sauvel* and *Lady Grey*, to the tugs *Becancour*, *Lanoraie II*, *Deschailions*, *Lac St. Pierre* and to the dredges, scows, etc.

The coal barge *No. 7* was converted into a buoy-boat under the name of *Alberni* for the Prince Rupert Agency, B.C.

The C.G.S. *Citadelle*, previously used as a fire-boat in Quebec harbour, was fitted for service at Father Point, and work was done on the tug *Lanoraie II* to enable her to act as a fire-boat in Quebec harbour.

The C.G.S. *Jalobert*, retired from Father Point, was fitted for staff dredging inspector work on the St. Lawrence.

The buildings, wharves, sheerlegs, hauling ways and fire protection appliances, etc., were kept in good condition.

The force employed at the shipyard during the fiscal year 1936-37 varied from a minimum of 297 at September 25, 1936, and a maximum of 492 at April, 3, 1936, with an average of 368 for the year.

The total amount expended for shipyard operations during the fiscal year was \$186,092.13.

The total amount expended including operation, fleet repairs, etc., was \$1,082,247.80.

RIVER ST. LAWRENCE SHIP CHANNEL**REPORT OF N. E. McLEAN, M.E.I.C., CHIEF ENGINEER****DREDGING OPERATIONS—SEASON, 1936**

During the season of 1936 the following dredging work was carried out in the River St. Lawrence Ship Channel.

The department operated two dredges above Quebec, working 12 hours per day. The first dredge went into commission on the 5th of May and work ended at the end of October.

A stone lifter, equipped with sweeping bar and breasting cables was operated as an independent unit for cleaning up boulders, and was found efficient.

Two dredges were put in operation in the north channel, below Quebec, May 1 and 5 and worked twelve hours a day until October 23 and 29, respectively, save when one of them was moved to clean up sand at Beaujeu Bank.

These dredges moved 707,311 cubic yards place measurement of original dredging, and 45,571 cubic yards place measurement of cleaning up, totalling 752,882 cubic yards place measurement. The progress was considered satisfactory.

The first of the contract drills began work April 6 and the last two dredges were taken in December 4. Eight dredges, two drill scows and one drag were operated by the contractors. Very satisfactory progress was made. The work at Barre à Boulard was completed this season.

The Montreal Harbour Contract, provided for by the Supplementary Public Works Construction Act, 1935, Item No. 3, was transferred to the Ship Channel Appropriation.

The total quantities moved by the contractors during 1936 amounted to 709,954, cubic yards place measurement.

RIVER ST. LAWRENCE SHIP CHANNEL—PROGRESS OF DREDGING OPERATIONS AT END OF SEASON 1936
 WORK PERFORMED BY SHIP CHANNEL PLANT

Locality	Miles dredged in 1936	Miles dredged to date	Miles yet to be dredged	Cubic yards dredged in 1936, place measurement	Total cubic yards dredged to date, place measurement	Cubic yards yet to be dredged, place measurement	Nature of remaining work
35-FOOT PROJECT ABOVE QUEBEC							
<i>Division I—</i> Montreal to Sorel.....		25.85			10,712,721		Cleaning up
<i>Division II—</i> Sorel to Batiscan..... (not including Lake St. Peter)		19.23			7,450,475		Cleaning up
<i>Division III—</i> Lake St. Peter.....		18.32			8,666,576		Cleaning up
<i>Division IV—</i> Batiscan to Quebec..... (St. Antoine).....		1.59	0.20	80,775	489,814	66,314	Cleaning up Work not yet undertaken
Cleaning up—above Quebec.....					193,958		
TOTAL—35-foot Project above Quebec.....		64.49	0.20	80,775	27,513,644	66,314	
35-FOOT PROJECT BELOW QUEBEC							
<i>Division V—</i> Quebec to Goose Cape, North Channel— Madame Reef Shoal.....		2.27	2.27		1,705,196	996,522	
West Sand and East Narrows.....		5.35	0.90	495,393	15,436,824	242,924	
Total—35-foot Project below Quebec.....	0.40	7.62	3.17	495,393	17,142,010	1,239,446	
TOTAL—SHIP CHANNEL FLEET 35-FOOT PROJECT.....	0.40	72.11	3.37	576,168	44,655,654	1,305,760	

SHIP CHANNEL FLEET—Concluded

END OF SEASON 1936

Locality	Cubic yards dredged 1936, place measurement	Total cubic yards dredged to date, place measurement	Remarks
<i>Improvements to and Maintenance of 35-foot Channel—</i>			
Nicolet Traverse Widening.....	131,143		
Barre à Boulard cleaning to 30 feet.....		6,213	Maintenance
West Sand and East Narrows cleaning.....	7,357	702,678	Maintenance
Cap Brulé.....		3,750	
Cap Gribanne.....		1,429	
<i>Improvements to and Maintenance Outside of 35-foot Channel—</i>			
Champlain Dry Dock.....		123,607	
Beaujeu Bank cleaning.....	38,214	325,768	Maintenance
Sorel, Richelieu River.....		1,286	
Fly Bank (Wolfe's Cove) cleaning.....		108,893	Maintenance
Total.....	176,714	1,273,624	

TOTAL—ALL WORK SHIP CHANNEL FLEET, SEASON 1936..... 752,882 cu. yds. place measurement

CONTRACT OF 1930, RIVER ST. LAWRENCE SHIP CHANNEL—35-FOOT PROJECT ABOVE QUEBEC, END OF SEASON 1936

Locality	Miles dredged	Cubic yards dredged, place measurement	Remarks
<i>Division I—</i>			
Longueuil Shoal.....	1.60	578,154	Completed
<i>Division II—</i>			
Batture Perron.....	1.59	314,504	Completed
<i>Division IV—</i>			
Batiscan Curve.....	1.94	376,704	Completed
Batiscan-Traverse.....	1.37	344,091	Completed
Cap Levrard Channel.....	2.17	217,615	Completed
Cap à la Roche Curve.....	2.06	981,868	Completed
Cap Charles Channel.....	1.42	446,115	Completed
Cap Sainte-Ste. Croix.....	4.06	1,284,429	Completed
TOTAL, 35-Foot Project.....	16.21	4,543,480	

WORK OUTSIDE SHIP CHANNEL PROPER

Fairchild Airport.....		106,829	Completed
Montreal East Channel and LaSalle Basin.....		863,261	Completed
Fly Bank.....		555,659	Completed
TOTAL, Outside Ship Channel.....		1,525,749	Completed

TOTAL, 1930 CONTRACT..... 6,069,229

CONTRACT OF 1934, RIVER ST. LAWRENCE SHIP CHANNEL—35-FOOT PROJECT ABOVE QUEBEC, END OF SEASON 1936

Locality	Miles dredged 1936	Total miles dredged to date	Miles yet to be dredged	Cubic yards dredged 1936, place measurement	Total cubic yards dredged to date, place measurement	Cubic yards yet to be dredged, place measurement
<i>Division IV—</i>						
Barre-à-Boulard.....	0-04	0-74	.....	7,226	252,954	.....
St. Augustin Bar.....	0-17	1-25	0-12	132,774	599,566	60,603
TOTAL, 35-Foot Project.....	0-21	1-99	0-12	140,000	852,520	60,603
Lake St. Peter, widening.....	.....	.....	.....	.....	5,428,545	7,671,455
TOTAL, 1934 CONTRACT.....	0-21	1-99	0-12	140,000	6,281,065	7,732,058

CONTRACT OF 1935, RIVER ST. LAWRENCE SHIP CHANNEL—MONTREAL HARBOUR—END OF SEASON 1936

Locality	Miles dredged 1936	Total miles dredged to date	Miles yet to be dredged	Cubic yards dredged 1936, place measurement	Total cubic yards dredged to date, place measurement	Cubic yards yet to be dredged, place measurement
Area "A".....	1-33	1-83	0-37	447,409	743,565	259,825
Area "B".....	.....	.....	.....	0	84,638	112,441
Area "C".....	.....	.....	.....	122,545	438,218	112,404
Area "D".....	.....	.....	.....	0	0	359,096
Area "E".....	.....	.....	.....	0	55,951	1,653,823
TOTAL, 1935 CONTRACT.....	1-33	1-83	0-37	569,954	1,322,372	2,497,589

SUMMARY—35-FOOT PROJECT

Locality	Miles dredged 1936	Total miles dredged to date	Miles yet to be dredged	Cubic yards dredged 1936, place measurement	Total cubic yards dredged to date, place measurement	Cubic yards yet to be dredged, place measurement
<i>Above Quebec—</i>						
Ship Channel Fleet.....	.....	64-49	0-20	80,775	27,513,644	66,314
1930 Contract.....	.....	16-21	.....	.....	4,543,480	+ clean up
1934 Contract.....	0-21	1-99	0-12	140,000	852,520	Completed
Total above Quebec.....	0-21	82-69	0-32	220,775	32,909,644	60,603
<i>Below Quebec—</i>						
Ship Channel Fleet.....	0-40	7-62	3-17	495,393	17,142,010	1,239,446
Total, 35-foot Project.....	0-61	90-31	3-49	716,168	50,051,654	1,366,363

IMPROVEMENTS TO AND MAINTENANCE OF WORK OUTSIDE SHIP CHANNEL PROPER

Ship Channel Fleet.....	.....	.....	.....	176,714	1,273,624	.....
1930 Contract.....	.....	.....	.....	.....	1,525,749	Completed
1934 Contract.....	.....	.....	.....	.....	5,428,545	7,671,455
1935 Contract (Montreal Har.).....	1-33	1-83	0-37	569,954	1,322,372	2,497,589
Total.....	1-94	92-14	3-86	746,668	9,550,290	10,169,044

Total Yardage Dredged, Season 1936 = 1,462,836 cubic yards place measurement

ABSTRACT OF WORK OF SHIP CHANNEL DREDGING FLEET DURING FISCAL YEAR ENDING MARCH 31, 1937

Dredges	Locality of dredging	Time of service days	Working hours, 12 per day	Hours actual dredging	No. scoops filled	Cubic yards dredged	Depth of dredging at E.L.W.	Width in feet	Character of soil
Dredge No. 14.....	Vercheres-Contrecoeur Channel..... Pte. aux Trembles Channel..... Nicolet Transverse.....	37 6 78	444 72 936	322½ 53 694	190 6 408	(Place meas.) 37,321 1,179 131,143	36 36 36	Cleaning... "..... Widening...	Clay. Clay, stones and shale. Clay, stones and boulders.
Dredge No. 17.....	Bellmouth..... Contrecoeur..... Lanoraie..... Cap de la Madeleine..... Three Rivers.....	6 38 3 71 7	72 456 36 852 84	48½ 331½ 22½ 690 52½	13 111 3 86 6	169,643 2,554 21,804 589 15,929 1,179	36 36 36 36 36	Cleaning... "..... "..... "..... ".....	Clay. Clay. Clay and stones. Clay, hardpan, stones and boulders. Stones and boulders.
Dredge No. 8.....	North Channel West Sand..... South Channel Beaujeu Bank.....	113 32	1,230 354	870½ 295½	*432 *107	154,286 38,214	37 37	1,000 Cleaning...	Sand and clay. Sand.
Dredge No. 16.....	North Channel, East Narrows..... North Channel, East Narrows.....	147 4	1,590 48	1,157½ 39	*708 *15	192,500 341,107 7,357	37 37	1,000 Cleaning...	Sand, clay and stones. Sand, clay and stones.
Stone Lifter No. 4..	35 Foot Project above Quebec.....	151	1,638	1,196½	*723	348,464	36	Cleaning...	Boulders.
Stone Lifter No. 5..	35 Foot Project above Quebec.....					176			Boulders.
						44			
						44			
	Total cubic yards dredged (place measurement).					752,882			

* Hopper Barges.

DETAILS BY LOCALITIES ALL DREDGING—SEASON 1936

SHIP CHANNEL FLEET

Locality	No. of dredges elevator type	Days actual work	Cubic yards dredged Place measurement	Material
<i>35 Foot Project above Quebec—</i> Montreal-Quebec cleaning.....	2	168	80,775	Sand, clay, stones, boulders, shale, hardpan.
<i>35 Foot Project below Quebec—</i> North Channel, East Narrows and West Sand.....	2	260	495,393	Sand, clay and stones.
Total all 35 Foot Project.....			576,168	
<i>Improvement and Maintenance of 35 Foot Channel—</i> Nicolet Traverse widening.....	1	78	131,143	Clay and stones.
West Sand and East Narrows cleaning	1	4	7,357	Sand, clay and stones.
<i>Improvements and Maintenance Outside 35 Foot Channel—</i> Beaujeu Bank cleaning.....	1	32	38,214	Sand.
Total Yardage Dredged SHIP CHANNEL FLEET, 1936.....			752,882	

CONTRACTOR'S FLEET

On the majority of the Contractor's dredges two shifts of men were employed. The remainder of the dredges worked 24 hours a day.

Locality	No. of dredges	Type of dredges	Cu. yards dredged Place measurement	Material
<i>1934 Contract—</i> Barre a Boulard.....	1	Dipper...	7,226	Clay, hardpan, stones, boulders, some shale. Hardpan, boulders, stones, some sand.
St. Augustin Bar.....	1	Dipper...	132,774	
Total.....			140,000	
<i>1935 Contract—</i> Montreal Harbour.....	7 1	Dipper... Clam....	569,954	
Total.....			569,954	
Total Yardage Dredged CONTRACTOR'S PLANT, Season 1936, Place Measurement.....			709,954	

COST OF SHIP CHANNEL FROM YEAR 1851 TO MARCH 31, 1937

Cost of dredging.....	\$53,327,959 96
Expenditure for plant, shops, surveys, etc.....	15,227,938 39
Quantities dredged.....	117,927,554 cu. yds.

NOTE: Detailed statements of above figures shall be found in the reports previous to 1930-31. Those for the last six years follow:—

	Cost of dredging	Expenditures for plant, shops, surveys, etc.	Quantities dredged, place measurement cubic yards
	\$	\$	
Fiscal year 1931-32.....	5,127,395 83	699,205 24	3,558,125
“ 1932-33.....	5,653,490 63	268,867 58	2,661,012
“ 1933-34.....	2,920,569 66	210,176 57	1,633,233
“ 1934-35.....	5,629,176 24	190,856 51	1,867,448
“ 1935-36.....	5,114,132 25	235,769 33	6,676,342
“ 1936-37.....	2,895,997 70	187,430 44	1,462,836

TIDAL SEMAPHORES

The tidal semaphores were put in to operation on the following dates:—
Crane Island, April 17, 1936; St. Nicholas, April 27, 1936.

The tidal semaphores at Grondines, St. Jean and Pointe Citrouille were discontinued, the completion of the 35 foot channel in this vicinity rendering them unnecessary.

AVERAGE DEPTH FOR EACH MONTH IN THE 30 FOOT CHANNEL
(30 Feet at Extreme Low Water of 1897)

FROM SOREL GAUGE EACH YEAR, MAY TO NOVEMBER

Year	May		June		July		Aug.		Sept.		Oct.		Nov.		Highest	Lowest		
	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.	ft.	in.				
1930.....	36	4	35	5	35	2	33	2	32	1	31	8	31	1	38	9	30	3
1931.....	33	2	32	5	31	5	31	4	31	6	31	5	31	8	35	3	30	9
1932.....	34	11	33	3	32	10	33	0	33	10	34	3	35	1	40	9	32	3
1933.....	37	5	33	10	32	6	32	3	31	7	31	1	30	10	40	4	30	1
1934.....	36	5	33	7	32	3	30	11	30	9	30	8	30	8	41	11	29	8
1935.....	34	0	32	10	32	10	31	11	31	5	31	0	31	5	36	3	30	3
1936.....	38	3	35	0	32	5	31	6	31	6	32	4	33	0	42	0	30	11

The lowest reading for the season was 30' 11" on August 28 and 29, and September 27, 1936.

ICE-BREAKING OPERATIONS, 1936-37

At the end of the season of 1936 the following Icebreakers were detailed for work: the *McLean*, *Lady Grey*, and *Bellechasse*. Towards the end of November the weather became cold with a great deal of snow, rapidly creating a bad ice condition, which necessitated escorts for vessels both above and below Quebec. Great difficulty was experienced with the Lachine and Soulanges canals. These canals became completely blocked before a decision was reached to clear all outbound traffic.

The last ship left Montreal December 11, and the last two ships cleared Quebec outwards January 2. These vessels had been in drydock. After the last ships had arrived at Quebec, the *Lady Grey* took up station at Three Rivers and the *McLean* and *Sauvel* at Quebec.

As the winter was exceptionally mild the icebreakers had very little to do up to the end of February beyond slicing and breaking up a few battures.

On March 1 the work of opening the river from two miles above Three Rivers to Montreal was begun by the *McLean* and *Sauvel*. Victoria Pier, Montreal, was reached on March 24.

In the meantime the situation below had become very bad, the ice being blocked from the Sorel Islands to the foot of lake St. Peter. This was due to the fact that the *Lady Grey* was not allowed to carry out widening at the foot of the Lake as was customary in order that the lake ice may get away freely when the first movement occurs. As a result, when the Lake ice moved on March 17, the ice jammed very badly. The *Sauvel* was not able to get through working downstream, and it was unsafe for the *McLean*, as this vessel had lost one blade. On March 20 instructions were issued to allow the *Lady Grey* to work. This vessel was able to clear a lot of jammed ice but was greatly delayed due to breaking blades. Eventually the propellers of the *Grey* became so bad that she could not work. The *Lady Grey* being disabled, occasioned further delay in clearing the Lake of ice as this vessel is sent in on the flats to start the north side ice running.

The *Sauvel* finally succeeded in getting through the jammed ice on April 9 followed by the *McLean* on the 11th. From that time on, operating from below, the work went well.

The first vessel, the *Duchess of York*, arrived in Montreal on April 18. The north side ice in Lake St. Peter was still holding on this date.

The river, and lake St. Peter, were practically clear on April 21.

The *Lady Grey*, after repairs to her propellers, proceeded to the foot of the Soulanges Canal on April 22 and cleared out a heavy bank of frazil ice, finishing the work April 24.

The *Sauvel* began the work of opening the Saguenay River April 26 and finished May 2.

The *Montcalm* alone carried out the gulf patrol as conditions were very good and the assistance of the *McLean* was not required.

MARINE SIGNAL SERVICE

Signal stations have been established for the purpose of maintaining communications between ship and shore by means of flag signals.

This system of stations extends from Cape Race, Nfld., and Belle Isle, up the gulf and river St. Lawrence, and through the Great Lakes to Port Arthur and Fort William, Ont.

The following stations are under the Chief Engineer, River St. Lawrence Ship Channel, as they are used extensively in connection with the dredging and other works in Ship Channel from Montreal down:—

Name of station	Location	Nautical miles	Means of communication
		East of Quebec	
Crane Island.....	Lighthouse.....	32	Telephone
St. Jean, I.O.....	Shore end of wharf.....	14	"
Quebec, P.Q.....	Custom House Bldg.....	0	"
		West of Quebec	
St. Nicholas, P.Q.....	At Tidal Semaphore.....	12	"
Grondines, P.Q.....	In Old Windmill Tower.....	41	"
Deschaillons, P.Q.....	On site Tidal Semaphore.....	45	"
Pointe Citrouille, P.Q.....	In Lighthouse.....	55	"
Three Rivers, P.Q.....	Abreast west end of extension Bureau Wharf.....	68	"
Sorel, P.Q.....	East end of new Government Wharf.....	100	"
Cap St. Michel, P.Q.....	Abreast East end of Ile Deslauriers.....	125	"
Longue Pointe, P.Q.....	Point between wharves.....	134	"
Montreal, P.Q.....	Aldred Bldg., Place d'Armes.....	139	"

BRIEF SUMMARY OF WORK PERFORMED

1. Stations report movements of vessels to Montreal and Quebec.
2. Stations report weather conditions daily to Montreal and Quebec.
3. Montreal and Quebec publish daily bulletins, giving weather and ice conditions and movements of vessels.
4. Montreal and Quebec publish daily bulletins showing depths of water at various points in the River St. Lawrence Ship Channel.
5. The Signal Service offices at Montreal and Quebec are open day and night for the purpose of furnishing the public with information of shipping matters.
6. The Telegraph System of the Department of Public Works on the north shore of the gulf of St. Lawrence reports the movements of vessels engaged in the coasting trade to the Signal Service at Quebec.
7. The Government Grain Elevator at Port Colborne reports to Montreal the arrival and departure of vessels engaged in the upper lakes grain trade.
8. The collectors of customs at Fort William and Port Arthur report to Montreal the arrival and departure of vessels engaged in the Canadian grain trade.
9. The collectors of customs at all the seaports in the river and gulf of St. Lawrence, on the Atlantic coast, report the arrival and departure of vessels engaged in the overseas trade.
10. Lloyd's agent at Quebec is furnished daily with full information of the movements of vessels engaged in the overseas trade to and from ports in the province of Quebec.

THE INTERDEPARTMENTAL MONTREAL AND SHIP CHANNEL WATER LEVELS BOARD

The Interdepartmental Montreal and Ship Channel Water Levels Board was appointed on January 19, 1934, by the Honourable A. Duranleau, Minister of Marine. This board was instructed by the minister "to gather all necessary information and data, and after consideration and study to report in writing its conclusions as to the cause of low water conditions in the St. Lawrence Ship Channel and the Harbour of Montreal and what action, if any, should be taken to improve these conditions."

Work began immediately after the appointment of the board, January 19, 1934, and was carried on for a period of slightly over three years. During this time all available information was studied and extensive investigations were made in the field.

The first board meeting was held on February 14, 1934, and the last on January 28, 1937.

The final report of the board was handed to the Minister of Transport, the Hon. C. D. Howe, on January 30, 1937.

N. B. McLEAN,
Chairman.

PACIFIC SALVAGE COMPANY, LIMITED

REPORT OF SALVAGE OPERATIONS FOR THE FISCAL YEAR ENDING
MARCH 31, 1937

May 8, 1936.—SS. *Salvage King* left port at 6.30 a.m. to go to the assistance of the ss. *Gray* disabled five miles off Adrian Brook light near Rivers Inlet. May 10, ss. *Salvage King* returned to Port at 7.00 p.m. with the ss. *Gray* in tow.

May 14, 1936.—SS. *Salvage King* notified to stand by, ss. *North Sea* ashore near Ketchikan. Order cancelled when vessel refloated and out of danger.

July 25, 1936.—Tug *Superior* left port at 10.45 a.m. to go to the assistance of the M/V *Marauder* ashore near Jordan River. Tug *Burrard Chief* was notified at 11.15 a.m. to also proceed to scene of wreck. July 26 tug *Burrard Chief* arrived in Port at 10.00 p.m. with the M/V *Marauder* in tow.

August 25, 1936.—SS. *Salvage King* left Port at 12.00 noon to go to the assistance of the ss. *Atlantic City* in trouble off Race Rocks. SS. *Salvage Queen* dispatched at 2.30 p.m. August 26, ss. *Salvage King* returned to Port at 6.15 p.m. after towing the ss. *Atlantic City* to Esquimalt.

September 1, 1936.—Tug *Island Planet* left Port at 3.45 a.m. to go to the assistance of the M.S. *Clermont* ashore near Trial Island. At 3.20 p.m. M.S. *Clermont* pulled clear of reef and at 6.30 p.m. vessel proceeded to her destination.

September 3, 1936.—Tug *Island Comet* ashore near the North Arm of the Fraser River. Tug *Helac 2* dispatched from Vancouver to render assistance, and vessel was successfully refloated.

November 17, 1936.—SS. *Salvage King* left Port at 4.30 p.m. to go to the assistance of the Barge *Dunsyre* adrift about fourteen miles from Tatchu Point, after her tow line had parted while being towed by the Tug *Anyox*. SS. *Salvage King* returned to Port at 6.15 a.m. November 20, 1936, after the Barge *Dunsyre* had gone ashore near the entrance to Quatsino Sound.

December 10, 1936.—SS. *Salvage King* left port at 1.00 p.m. to proceed to Astoria, Oregon to tow the ss. *Noumea* to Vancouver. SS. *Salvage King* arrived in Vancouver at midnight, December 13, 1936 with her tow.

December 14, 1936.—SS. *Salvage King* left Vancouver after delivering her tow the ss. *Noumea*, for the Queen Charlotte Islands to search for the barge *Island Gatherer* which broke loose from her tow on the 11th December, 1936. SS. *Salvage King* returned to Port at 1.30 p.m. December 18, 1936 after an unsuccessful attempt to locate the barge *Island Gatherer*.

January 5, 1937.—SS. *Salvage King* left port at 9.00 p.m. to go to the assistance of the ss. *Kinshu Maru* ashore near Mathews Point, Active Pass. SS. *Salvage King* returned to Port at 11.00 a.m. January 6, 1937 after pulling the *Kinshu Maru* off.

March 14, 1937.—SS. *Salvage King* left port at 1.15 a.m. to go to the assistance of the ss. *Queen Anne*, ashore on Rose Islets, North West of Reid Island. SS. *Queen Anne* floated without assistance.

QUEBEC SALVAGE AND WRECKING COMPANY LIMITED

REPORT OF SALVAGE OPERATIONS FOR THE YEAR 1936

April 5.—At 2 p.m. M.V. *Traverse* left berth in Louise basin to go to the assistance of the M.V. *Miron L*, reported ashore off Grondines. At 7.30 p.m. anchored off wreck. At 8.20 p.m. started to pull on wreck, swung ship some, but unable to float her on this tide. At 9.10 p.m. stopped pulling.

April 6.—Started to pull again at 6.45 a.m., and floated the ship at 7.30 a.m. and both vessels started for Quebec. At 1 p.m. M.V. *Traverse* arrived at berth in Louise Basin.

April 15.—The Tug *Lord Strathcona* placed in commission.

June 3.—Tug *Lord Strathcona* sailed at 5.10 a.m. to assist ss. *Ullerpool* ashore off Grondines. At 9.40 a.m. arrived off wreck and found ashore near Buoy 76 Q, nearly broadside to the tide. Two anchors and cables were laid to the stern of the wreck and about 1,600 tons of grain were placed on lighters. At 12.15 a.m., June 5, the M. V. *Traverse* arrived to assist, and the ship was floated at 9.30 a.m. June 7. The wreck was towed to Shed 18, Louise Basin, Quebec. At 4.30 p.m. *Lord Strathcona* arrived at berth, and *Traverse* arrived at 8 p.m.

June 16.—Our diver examined the propellers of the M.V. *Nicoline Maersk*.

June 18-19.—M.V. *Traverse* dragging for anchor of ss. *Cymbeline*, off King's Wharf. Did not find same.

June 28.—Tug *Lord Strathcona* pumped water out of Bateau *Métis* at Levis. Left berth 9.25 a.m. and returned 2 p.m.

July 21.—11.55 p.m. Tug *Strathcona* left berth to assist yacht *Oiseau Blanc* ashore off Grondines, Buoy 52 Q.—July 22, 4.30 a.m. *Lord Strathcona* anchored off yacht, the vessel on North side of Channel, listed 40 degrees to starboard and full of water, at high tide water over port rail aft and water up to starboard anchor davit. July 23, at 8.15 p.m., *Traverse* arrived to assist. Vessel pumped out and floated July 26, and delivered to drydock at Quebec the same day. *Traverse* arrived at berth 7.30 p.m. and the *Lord Strathcona* arrived at berth at 8.15 p.m.

August 20-21.—Our diver examining bottom of ss. *Pangiotis Th Coumantaros*, and stopping leaks.

August 27.—Tug *Lord Strathcona* left berth at 6.25 a.m. to go to the assistance of the M.V. *Havprins* reported ashore one mile east of St. Johns, Isle of Orleans. At 7 a.m. ship reported afloat, returned to dock at 7.20 a.m.

September 2.—Diver installed screw rivet in bilge of ss. *Coumantaros*.

September 10.—At 1.25 a.m. tug *Lord Strathcona* sailed to assist M.V. *Grainmoter* ashore near Saint Lawrence, Isle of Orleans. At 2.30 a.m. anchored off wreck and found No. 1 hold full of water, diver stopped part of leak, water was pumped out and ship floated at 1.30 p.m. *Lord Strathcona* towed the vessel to Quebec and arrived at berth at 3.30 p.m.

September 20.—Two p.m., *Lord Strathcona* left berth to assist Greek ss. *Mary N*. At 8.15 p.m. *Lord Strathcona* anchored off wreck, unable to float wreck without lightening cargo, as No. 1 tank and forepeak full of water, and No. 1 hold leaking. Ship loaded with linseed. Pumped water from forepeak and some from No. 1 hold, lightered about 1,000 tons of cargo. Floated ship at 12.20 a.m. September 23, and convoyed her to Three Rivers, where diver examined her bottom, the vessel then proceeded to Montreal. At noon, September 24, *Lord Strathcona* arrived at berth.

November 3.—Diver cleared 8-inch manila rope from propeller of ss. *Antonia* at Quebec.

December 2.—1.30 a.m. *Lord Strathcona* left to assist ss. *Queen Victoria* ashore off Beauport Flats; River full of ice. Ship floated with rising tide and went to dock at 7.30 a.m. At 8.15 a.m., *Lord Strathcona* returned to berth.

December 3.—At 4.15 a.m. *Lord Strathcona* took diver and gear alongside ss. *Lurigethan* to place a patch over intake, to enable machinists to weld broken intake pipe. Work was completed and patch removed, and *Lord Strathcona* returned to berth at 9 a.m. December 5.

December 6.—At 9 a.m. *Lord Strathcona* went alongside ss. *Welcombe* with diver. Diver examined the suction inlet and found it all clear. One thirty p.m. *Lord Strathcona* returned to berth.

December 15.—Three p.m. order received to lay up salvage plant for the Winter.

The two vessels laid up until March 31, 1937.

REPORT BY CANADIAN SHIPBUILDING FIRMS

CANADIAN VICKERS LIMITED, MONTREAL, P.Q.

SHIPBUILDING

Dismantled Canadian Pacific Railway steel car transfer barge, 230 feet by 43 feet by 8 feet 6 inches, at Kootenay Lake, B.C. Removed 9 feet from centre and rebuilt vessel at Okanagan Lake, B.C.

REPAIR WORK

Forty (40) vessels were docked during season 1936, including all types of ocean and lake steamers and miscellaneous smaller craft.

Repairs covered from extensive bottom damage to minor jobs.

In addition to vessels dry-docked, a number of vessels were repaired afloat.

BURRARD DRY DOCK COMPANY, LIMITED, NORTH VANCOUVER, B.C.

Steamers repaired 209, with 894,965 gross tonnage. The principal ones were: M.S. *Amerika*, 10,110 tons; ss. *Calgarolite*, 11,941 tons; M.S. *Loch Monar*, 9,412 tons; ss. *Nebraska*, 8,263 tons; ss. *Narenta*, 8,266 tons; M.S. *Nictheroy*, 8,265 tons; M.S. *Nordanger*, 9,297 tons; M.S. *Ontariolite*, 8,889 tons; M.V. *Siantar*, 8,667 tons; ss. *Tyndareus*, 11,361 tons; and the ss. *Wisconsin*, 8,062 tons.

PRINCE RUPERT DRY DOCK AND SHIPYARD, PRINCE RUPERT, B.C.

There were 402 vessels repaired during the fiscal year; cleaning, painting and repairs to hull and engine.

One hundred and one (101) ships were docked.

DAVIE SHIPBUILDING AND REPAIRING COMPANY, LIMITED,
LAUZON, LEVIS, P.Q.

Fifty-two (52) ships received hull and machinery repairs during the fiscal year.

PORT ARTHUR SHIPBUILDING COMPANY, PORT ARTHUR, ONTARIO

During the fiscal year 1936-37, there were 49 boats undergoing repairs at the Shipyard, including hull, engine, boiler and miscellaneous. Twenty-nine (29) boats were dry-docked, having a gross tonnage of 108,294 tons.

SAINT JOHN DRY DOCK AND SHIPBUILDING COMPANY, LIMITED,
SAINT JOHN, N.B.

Twenty-one (21) vessels having a total of 101,327 gross tonnage were dry-docked during the fiscal year, and 37 went on the Marine Railway Slip for repairs, totalling 13,556 gross tons. The principal ships dry-docked were: M.V. *Canadolite*, 11,309 tons; M.V. *Montrolite*, 11,309 tons; R.M.S. *Lady Hawkins*, 7,988 tons; R.M.S. *Lady Drake*, 7,988 tons; R.M.S. *Lady Nelson*, 7,988 tons; M.V. *Reginolite*, 9,069 tons, and the M.V. *Ontariolite*, 8,889 tons.

HALIFAX SHIPYARDS, LIMITED, HALIFAX, N.S.

Thirty-two (32) vessels were dry-docked during the fiscal year ending March 31, 1937; the total tonnage was 192,725 tons, running from 1,000 to 11,309 tons. In addition, considerable repairs were carried out to vessels afloat. One hundred and sixty-eight (168) vessels with a total tonnage of 48,278 gross tons were hauled out on the marine railway.

MIDLAND SHIPBUILDING COMPANY, LIMITED, MIDLAND,
ONTARIO

Repairs were effected on Upper Lake bulk and package freighters and also one dredge and one passenger vessel.

CANADIAN TRAVEL BUREAU

SIR,—I have the honour to submit the following report upon the work of the Canadian Travel Bureau for the fiscal year ended March 31, 1937:—

Since its establishment in 1934 the Canadian Travel Bureau has taken an active part in furnishing leadership in the development of tourist traffic and has built up an efficient organization to advertise in various countries Canada's recreational attractions. Close co-operation has been maintained with provincial and local tourist bureaus and with the tourist departments of the various inter-provincial transportation companies.

The bureau also has maintained and extended its contact with resort and travel organizations in the United States, including railways and steamship companies, automobile clubs, hotels, travel bureaus, etc.

The advertising campaign of the bureau during the year consisted of 127 insertions of display advertisements in 50 national magazines having a total circulation of 31,516,641, and 310 insertions of display advertisements and 338 insertions of smaller advertisements in 64 leading newspapers with a total circulation of 19,401,711. The effective results of this advertising is seen in the increase of 80 per cent over the previous fiscal year in the number of inquiries directed to the Bureau, namely 62,769 inquiries in 1936-37 as compared with 34,900 in 1935-36. In addition, the bureau published and distributed automobile road maps, reports, pamphlets and monographs covering such subjects as motoring, fishing, hunting, canoeing and other various phases of holidaying in Canada. Large quantities of these publications were supplied on request to hundreds of tourist bureaus, automobile clubs and similar organizations in the United States for the information of persons interested in visiting Canada. In addition, large numbers of publications were furnished to certain organizations in the United Kingdom and other European countries.

During the year new avenues to increase Canada's tourist business were explored, new publications issued, and a number of others revised and reprinted, and new contacts formed or old ones renewed with organizations in the United States which are in touch with prospective tourists.

A considerable factor in the expansion of tourist traffic to Canada has been the wide distribution in the United States of our series of road maps showing the main connecting highways between Canada and that country. These maps illustrate the ease with which a visit to Canada may be included in a motor tour. The demand for these publications during the year was so great that reprints of a number of the maps had to be issued. Particularly interesting were the large number of inquiries regarding a trip across Canada, and a small folder descriptive of the Trans-Canada Highway trip was issued to provide information on this subject. In all, approximately 700,000 publications of various kinds were distributed from the Bureau to prospective tourists during the last fiscal year.

An outstanding and distinctive feature of the work was the preparation and placing of seasonal and special articles presenting different phases of Canada's tourist attractions. These were given wide publicity in a large number of leading newspapers of the United States, thus creating a reader interest in Canada's vacation facilities.

Hunters, anglers and canoeists are among the best paying tourists who visit Canada as their disbursements may include expenditures for licences, transportation, numerous articles of equipment, and frequently the employment of guides and the services of outfitters. During the year reprints were issued of

the booklets "Sport Fishing in Canada," "Canada's Game Fields" and "Canoe Trips in Canada," which contain much useful information regarding these phases of Canada's recreational attractions.

A booklet "Canada Your Friendly Neighbour Invites You" was issued during this year. This was an especially attractive and well-prepared publication which gave a comprehensive view of what Canada has to interest the visitor, and supplied a wealth of pertinent information which answered many of the questions the prospective tourist has in mind. Its distribution was supervised to the greatest possible extent to see that it was placed only in the hands of persons genuinely interested in a trip to Canada, but demand has been so great that the supply has been completely exhausted. The matter of a new and revised edition is now under consideration.

In the carrying out of a promotional campaign to create a greater tourist consciousness among the people of Canada, the chief of the bureau gave addresses at various points in Canada before service clubs, tourist associations, automobile clubs and similar bodies. They were intended to establish in the minds of Canadians a comprehension of the value of the tourist industry and to show how it may be developed. These addresses also urged the importance of a friendly attitude, courtesy and fair-dealing with the visitor. The chief of the bureau also spoke at a number of special meetings and conventions in the United States and thus had an opportunity to present to advantage Canada's tourist attractions to those who come in contact with a high class of potential tourist.

Another phase of work inaugurated during the year related to the preparation of an inventory of Canada's recreational resources. Appreciable progress was made in this connection and the ground work laid for the survey by means of a specially prepared questionnaire sent to municipal clerks, boards of trade, chambers of commerce and similar sources of local information.

I have the honour to be, sir,

Your obedient servant,

D. LEO DOLAN,

Chief.

V. I. SMART, Esq.,

Deputy Minister, Department of Transport,

REPORT OF THE CHIEF TREASURY OFFICER

DEPARTMENT OF TRANSPORT

SIR,—I have the honour to submit herewith my report on the accounting for the Department of Transport for the fiscal year ending March 31, 1937.

In the time available since the inception of the Department of Transport, November 2, 1936, it has not been possible completely to consolidate the accounts of the former departments of Marine and Railways and Canals and the Civil Aviation Branch of the Department of National Defence, consequently the information presented herewith exhibits the accounts of the two former departments and the Civil Aviation Branch in the form in which they were presented heretofore.

The departmental accounts herewith consist of:

1. Balance sheet of Railways and Canals Service and supporting statements as formerly, extended to March 31, 1937.
2. Summary statement of expenditures by the Marine Service—1936-37, (formerly the Department of Marine).
3. Summary statement of expenditures by the Air Service—1936-37, (formerly Civil Aviation Branch of the Department of National Defence, and Radio and Meteorological divisions of the former Department of Marine).

The continuity of accounting was affected during the period in respect of: Hydrographic Service of the Department of Marine, transferred to the Department of Mines and Resources, as of December 2, 1936.

Port Churchill, Port Colborne and Prescott elevators, transferred to the National Harbours Board as of January 1, 1937.

The departmental accounts are as formerly preceded by the report of the Railway Auditor covering matters under departmental accounting and auditing attention relative to the Canadian National Railways, the Canadian Government Merchant Marine Limited and the Canadian National (West Indies) Steamships Limited, the Railway Auditor dealing with such matters as affecting the calendar year 1936.

The following brief review of the matters under accounting attention during the year in respect of the former Department of Railways and Canals is given in the order in which the items appear in the balance sheet; the explanations are based upon the change in the accounts as shown in the balance sheet column headed "1936-37."

In respect of expenditures by the former Department of Marine and the former Civil Aviation Branch of the Department of National Defence, the information is referenced to the appropriations and other authorities under which these services operated.

It was considered to be advisable to continue to exhibit in the investment account of the Railways and Canals service the accounts heretofore maintained in respect of the elevators at Port Colborne and Prescott, Ontario, and the Port of Churchill, Manitoba. These items will, however, be dropped from the reporting of the Department of Transport as at April 1, 1937.

RAILWAYS AND CANALS SERVICE

<i>Investment—Railways</i>		Increase	\$5,166,537 03
As follows:			
<i>Hudson Bay Railway—</i>	Increase	82,380 76	
As per statement No. 1			
<i>Hudson Bay Railway, Churchill Terminal—</i>	Increase	116,681 40	
As per statement No. 1A			
<i>Canadian Government Railways—</i>			
Intercolonial Railway	Decrease	30 88	
Sale of land at Halifax			
<i>Canadian National Railways—</i>			
Loans during 1935-36..		7,011,230 75	
Less: Refund previous loans..		2,043,725 00	
	Increase	4,967,505 75	
<i>Investment—Canadian National Steamships</i>		Decrease	1,753,778 90
Surplus—Canadian Government Merchant Marine, 1936..		87,398 55	
Surplus—Canadian National (W.I.) Steamships, 1936..		303,505 13	
Proceeds of liquidation of assets other than sale of vessels..		1,365,762 27	
Loan for additions and betterments..		2,887 05	
<i>Investment—Canadian Government Merchant Marine—</i>		Decrease	429,865 00
Proceeds from sale of vessels.			
<i>Investment—Canals—</i>		Decrease	128,901 67
Trent Canal..	Decrease	36 00	
Sale of land and stone.			
Rideau Canal..	Decrease	1 00	
Sale of land.			
Welland Canal..	Decrease	2,363 43	
Sale of land and stone.			
Welland Ship Canal..	Decrease	126,501 24	
Settlement of outstanding accounts as between Railways and Canals and Canadian National Railways <i>re</i> construction and maintenance of bridges Nos. 10 and 20..		174,532 50	
Sale of equipment, land, etc..		3,913 61	
Less: expenditure, per Vote 78..		51,944 87	
The increase of \$52,269,268.19 in Consolidated Revenue Fund for accounts administered by the Department of Railways and Canals is made up as follows:			
<i>Canadian National Railways—</i>			
Deficit 1936:			
System ex Eastern Lines..		37,449,321 57	
Eastern Lines ex P.E.I. Car Ferry..		5,550,632 36	
Prince Edward Island Car Ferry..		303,439 89	
			43,303,393 82
<i>Maritime Freight Rates Act—</i>			
Canadian National Railways—Eastern Lines..		1,816,014 46	
Other Companies..		689,808 59	
			2,505,823 05
<i>Civil Government and Administration—</i>			
Salaries—departmental staff..		168,238 75	
Salary—Minister..		9,499 92	
Contingencies..		22,011 11	
Miscellaneous Civil Service Gratuities..		2,295 00	
Miscellaneous Services..		37,174 62	
			239,219 40
<i>Income Appropriations—</i>			
Railways—			
Railway Commission..		271,999 48	
Intercolonial and Prince Edward Island Railway Pro- vident Fund..		25,206 59	
			297,206 07
Canals—			
Improvements..		223,780 77	
Improvements—Vote 418 (S.P.W.C.A. revote)..		76,429 87	
Improvements—Vote 421 (new funds)..		125,282 26	
Trent Canal—grant to Orillia..		7,500 00	
			432,992 90
<i>Collection of Revenue Appropriations—</i>			
Hudson Bay Railway..		252,854 81	
Canals, Harbours and Elevators..		2,392,340 83	
			2,645,195 64

RAILWAYS AND CANALS SERVICE—*Concluded**Miscellaneous Appropriations and other Authorities—*

<i>Railway Grade Crossings:—</i>		
Railway Grade Crossing Fund..	53,965	57
Railway Grade Crossings—Relief Act, 1930.. . . .	70	00
Railway Grade Crossings—Relief Act, 1931.. . . .	13,644	56
S.P.W.C.A. Revote..	444,634	08
Special Supplementary Estimate, Vote 420.. . . .	38,216	21
Canadian Travel Bureau..	249,743	19
Employees Compensation Act..	273,081	69
St. Lawrence Investigations..	14,085	65
Special Railway maintenance work, Vote 419.. . . .	2,662,084	27
Interest on rail orders..	54,566	29
Printing and Stationery..	4,742	32
		3,808,833 83
<i>Revenues—</i>		
Canals..	1,003,765	16
(increase of \$114,000.68)		
Miscellaneous..	15,653	61
(increase of \$2,792.18)		
Interest on railway subsidies..	125,153	14
(increase of \$2,424.69)		
		1,144,571 91
<i>Changes in Current Assets—</i>		
	Net Decrease	\$ 181,567 76
Canal Stores, etc.	Decrease	62,986 64
Reduction in returns of relief appropriations.		
Accounts Receivable..	Decrease	124,071 66
Improved collections.		
Advances to Workmen's Compensation Boards..	Increase	5,490 54
<i>Sundry adjustments.</i>		402 37
		\$ 52,269,268 19

MARINE SERVICE

The statements of expenditure and receipts of Railways and Canals are followed by a statement of expenditure and revenue of Marine and a similar statement of the Air service.

It has not been considered advisable to attempt at this early stage of consolidation to support these statements with supplementary information exhibiting the history of the various activities comprised within these services.

The lack of basic permanent ledgers imposes the necessity of considerable research to establish contact with such records as are available in Public Accounts and the annual reports of the Auditor General, and it is hoped that considerable additional information of value will be ready for the next report.

A statement of expenditure relative to the St. Lawrence Ship Channel is included notwithstanding that it has not been found possible to completely accord the same with Public Accounts. The total, however, agrees reasonably with Public Accounts. Although the appropriations for the St. Lawrence Ship Channel have in the past been uniformly charged to capital account, it is known that such appropriations included provision for a fairly important amount of maintenance expenditure which in the future will be provided by specific maintenance appropriations.

Prior to the inception of the Department of Transport considerable attention had been devoted by the Treasury staff servicing the Department of Marine towards improvement of methods relative to the collection of revenue. Some improvement had been attained at the time of the setting up of the new department, at which time the situation was again affected by questions of the possibility of standardization of methods in all the departmental services. The revenue collections in the Marine service improved somewhat during 1936-37 partly because of improved methods but possibly due also to increased commercial activities generally.

AIR SERVICE

For practical reasons the Treasury staff servicing the Department of National Defence continued to supervise an important proportion of the expenditure of the Civil Aviation Branch down to March 31, 1937, and beyond the statement of expenditure and revenue contained in this report there is nothing in this connection upon which comment need be made at this time. The financial history of Civil Aviation will be summarized in all necessary detail in the next annual report of the Department of Transport. Reports on expenditure down to March 31, 1937, will be found in the reports of the Department of National Defence.

During the year under review the establishment of the Canadian Broadcasting Corporation occasioned a change in the accounting disposition of the revenue from the sale of radio receiving licences, etc. A material increase in this revenue developed during the year and an analysis was made of the cost of collection for the purpose of compliance with the terms of the Canadian Broadcasting Act, 1936.

CANADIAN NATIONAL RAILWAYS

Appendix No. 1 presents a reconciliation of figures shown in the annual report of the Canadian National Railways for the year 1936 and the comparative information exhibited in Public Accounts for year ended March 31, 1937.

In the remarks contained in the report for last year the amount of the railway securities guaranteed by the Dominion as to principal and interest held by the public at March 31, 1937, as shown in Public Accounts, differs from the amount shown in the annual report of the Canadian National Railways for year ended December 31, 1936, by the net of any transactions during the period between December 31, 1936, and March 31, 1937.

The date of the enactment of the Canadian National Railways Capital Revision Act, April 10, 1937, precluded any possibility of the adjustments authorized therein being made in the accounts for the fiscal year ending March 31, 1937. The legislation will be applied to the accounts of the National Railways for the calendar year 1937 and to the accounts of the Dominion for the fiscal year 1937-38. The principal feature is of course the elimination of the duplication of debt. In addition, the following are some of the more important other features:—

1. The position of the Government as proprietor of the National Railways is clarified for accounting purposes.
2. The equity remaining from all loans presently included in the net debt of Canada will be represented by the capital stock of the Canadian National Securities Trust. The Trust will take over all claims of the Government and hold same at the original values against the various railways that received the loans. The equity so represented will be shown in the Public Accounts of Canada in substitution for the present "Loans Schedule," the difference being written into the Consolidated Debt of Canada.
3. The existing capital stock of the Canadian National Railway Company will be cancelled; the existing Canadian Northern Railway Company capital stock will be reduced from \$100,000,600 to \$18,000,000 and then exchanged for an issue to the Dominion of \$18,000,000 (new) capital stock of the Canadian National Railway Company, this being the entire capital stock of the Canadian National Railway Company.

4. The accounts between the Dominion and the Canadian National Railways in respect of the Canadian Government Railways, which have since 1923 been in an indeterminate position because of obscurities arising out of intervening appropriation acts and legislation since the entrustment of the Canadian Government Railways to the National Railways, will be adjusted in conformity with the statement of the investment of the Dominion in the Canadian Government Railways as to be taken to account upon the application of the provisions of the Capital Revision Act.
5. Public Accounts will include an appendix exhibiting the assistance that has been afforded by the Dominion to all railways in Canada and the manner in which such assistance is represented in Public Accounts.

CANADIAN GOVERNMENT RAILWAYS

In previous reports considerable attention has been given to correlation of the annual net surplus of the Canadian Government Railways, included in the accounts of the Canadian National Railways, with the ultimate adjustment that would have been required as between these accounts and the Public Accounts in the event of the entrustment of the Canadian Government Railways to the Canadian National Railways ever being rescinded. This feature was in effect an academic requirement since the inception of the practice of voting Canadian National Railways deficits as a direct charge to Consolidated Fund. Nevertheless the accounting was obliged to follow established legislation which has now been clarified by the enactment of the Canadian National Railways Capital Revision Act and it therefore becomes unnecessary to maintain hereafter the suspense accounts in respect of Canadian Government Railways' matters contained in previous reports.

The accounting contact between the Department of Transport and the Canadian Government Railways will continue to be maintained in respect of the investment by the Dominion in Canadian Government Railways.

CANADIAN NATIONAL STEAMSHIPS

The Railway Auditor's statement supplies details of the current year's financial transactions affecting the accounts between the Dominion and the Canadian National (West Indies) Steamships Limited and Canadian Government Merchant Marine Limited.

Notwithstanding the fact that the Canadian Government Merchant Marine fleet was sold during the year, it was not found possible to close out the accounting completely by March 31, 1937. The matters remaining to be adjusted are, however, of comparatively minor nature and will not materially affect the statement of cost of the Canadian Government Merchant Marine to the Dominion as exhibited in Appendix No. 2. Legislation will probably be required at the next session of Parliament to enable the balance of the loans standing on the books of the Dominion against the Canadian Government Merchant Marine to be written into the net debt.

HUDSON BAY RAILWAY

The transfer of the harbour facilities at Churchill, Man., to the National Harbours Board as of January 1, 1937, includes the facilities formerly known as the Hudson Bay Railway-Churchill Terminal. This transfer has not affected the duties of the departmental audit staff maintained at The Pas in connection with the Hudson Bay Railway. An unusually early movement of grain to Churchill coupled with an early reduction in maintenance staffs to winter basis produced especially favourable operating results during the year.

GOVERNMENT EMPLOYEES' COMPENSATION

Statements Nos. 5 and 5A exhibit details of expenditures and the classes and number of claims dealt with during 1936-37, and Appendices Nos. 15 and 15A exhibit summaries of comparative information since the inception of the Act.

The employees of the National Harbours Board were brought within the scope of operation of the Employees' Compensation Act as of the date of the establishment of the National Harbours Board. This occasions a very considerable increase in the work connected with the administration of the Government Employees' Compensation Act because of the comparatively large number of employees of the National Harbours Board in the Province of Quebec, in which province all compensation claims have to be dealt with in all matters of investigation, medical aid, hospitalization, payment of expenses and pensions, etc., entirely by the employer (in this case the Dominion), but of course subject to the approval of the Employees' Compensation Commission of the Province of Quebec.

Appendix 15C in last year's report is omitted this year because of inability to obtain accurate information in time for this report to exhibit the outstanding liability relative to the employees of the National Harbours Board. For accounting purposes the estimated liability used last year has been accepted as fairly representing the position this year. The necessary examinations will be completed during the current year and the schedules re-established in the next report.

Because of certain features connected with the administration of the Employees Compensation Act imposing definite administrative responsibilities of a decidedly departmental nature, the Employees' Compensation Branch was as at April 1, 1937, transferred from the jurisdiction of the Comptroller of the Treasury to the direct jurisdiction of the Department of Transport.

RELIEF EXPENDITURES

Expenditures of this nature made under departmental supervision amount to \$6,367,205.36 of which \$5,674,749.17 is ultimately recoverable under agreements between the Minister of Finance and the Canadian National Railway and Canadian Pacific Railway companies, and \$11,000 represents works performed for other governmental departments as noted.

Supplementary Public Works Construction Act, 1935—

Unemployment Relief Loans—

Acquisition of railway equipment to be leased to:

Canadian National Railways.....	\$2,838,760 81
Canadian Pacific Railway.....	2,281,288 36

Extra cost relative to utilization of labour from relief camps, etc.:

Canadian Pacific Railway.....	554,700 00
-------------------------------	------------

\$5,674,749 17*Work Performed for other Departments—*

Department of the Interior—

River protection works at Waterways, Alta.	1,000 00
Development of historic site at Fort Prince of Wales, Churchill, Man.	10,000 00

11,000 00*Railway Grade Crossings—*

Vote 417—(Revote).....	444,634 08
Vote 420—(new additional funds).....	38,216 21
Relief Act, 1931.....	13,644 56
Relief Act, 1930.....	70 00

496,564 85

Canals—Repairs and Improvements, Vote 418.....
 Extra sales tax on railway equipment acquired under authority of Section 9, Supplementary Public Works Construction Act, 1935.....

76,429 87

53,895 18

Interest on rail orders.....

54,566 29

\$6,367,205 36

GENERAL

The co-ordination of the accounting for the former departments and Civil Aviation Branch now comprised in the Department of Transport, and the accompanying reorganization of the accounting staffs servicing the department, occasioned considerable extra effort subsequent to the inception of the Department of Transport as of November 2, 1936. The establishment of the National Harbours Board did not affect the work of the Treasury staff servicing the former Department of Marine. The preparation of consolidated estimates for the new department also occasioned additional work to the accounting staffs. The facilities are being maintained and provided for without increase in personnel notwithstanding the fact that no transfers were made from the Treasury staff servicing the Department of National Defence relative to the Civil Aviation Branch, although there was a considerable increase in expenditures by this branch relative to the Trans-Canada Air Ways.

The Treasury staffs servicing the Department of Transport appreciate the large measure of co-operation that has been afforded by the administrative staffs in dealing with the problems connected with the development of uniform methods that will be adequate and satisfactory for the purposes of the various services. The effort to achieve uniformity will continue to receive attention during 1937.

The enactment of the Department of Transport Stores Act, shortly after the close of the fiscal year, should facilitate improvements and the securing of economies in connection with the purchasing, warehousing and distribution of materials and supplies, and in the salvaging of obsolete and surplus stocks.

While it was unavoidable that the Treasury organization servicing the Department of Transport in matters of accounting detail should be consolidated in the Hunter Building in order to service more efficiently the departmental branches located in that building, the fact that the general administrative staffs and the canals service staffs are located in the West Block occasions additional work and expense, as well as unavoidable delays which it will probably not be possible to eliminate until such time as the Department of Transport can be provided with sufficient space to enable the entire staff to be more efficiently located.

Respectfully submitted,

F. M. MACLENNAN,
Chief Treasury Officer.

V. I. Smart, Esq.,
Deputy Minister of Transport,
Ottawa, Ont.

**STATEMENT BY THE RAILWAY AUDITOR FOR THE
FISCAL YEAR 1936-37**

During the Government fiscal year 1936-37, financial provision relative to Railways was as follows:—

	Provided by	
	Cash	Guarantee of Securities
	\$ cts.	\$ cts.
<i>Canadian National Railways—</i>		
1. Budget Requirements.....	50,314,624 57	
2. Refunding of Securities.....		35,500,000 00
3. Unemployment Relief Grant.....	1,327,995 14	
4. Purchase of Railway Equipment.....	2,838,760 81	
4a. Additional 2% Sales Tax on Equipment.....	24,394 34	
Total, C.N.R.....	54,505,774 86	35,500,000 00
<i>Canadian Pacific Railway—</i>		
5. Unemployment Relief Grant.....	1,334,089 13	
6. Unemployment Relief Loan.....	554,700 00	
7. Purchase of Railway Equipment.....	2,281,288 36	
7a. Additional 2% Sales Tax on Equipment.....	29,500 84	
Total, C.P.R.....	4,199,578 33	

CANADIAN NATIONAL RAILWAYS

1. Budget Requirement:

This requirement covered the calendar year 1936 and comparison with the estimated figures presented to Parliament shows:—

	Estimate		Actual Expenditure	
	\$	cts.	\$	cts.
Net cash deficit (including interest due Public, Profit and Loss, but excepting non-cash charges)—				
System (excluding Eastern Lines).....	34,394,000 00		37,449,321 57	
Eastern Lines (excluding P.E.I. Car Ferry).....	5,200,000 00		5,550,632 36	
P.E.I. Car Ferry.....	306,000 00		303,439 89	
Total Deficit.....	39,900,000 00		43,303,393 82	
Maturing Obligations.....	7,459,000 00		7,052,494 98	
Capital Expenditures (including acquisition of securities).....	2,500,000 00		(Cr.) 41,264 23	
Grand Total.....	49,859,000 00		50,314,624 57	

The items making up the difference between the cash deficit and the book deficit as shown in the National Railways' report for 1936 are as follows:—

Cash Deficit.....	\$43,303,393 82
<i>Non-cash charges and credits—</i>	
Depreciation.....	334,087 24
Amortization of discount.....	6,540,746 71
Property retired and not replaced.....	5,957,676 52
Miscellaneous credits.....	253,740 00 (Cr.)
Interest on Government loans.....	36,428,873 59
Deficit per C.N.R. books.....	<u>\$92,311,037 88</u>

2. Refunding of C.N.R. Securities:

Under authority of the C.N.R. Refunding Act of 1935 the following securities were retired:—

4 % Qu'Appelle, Long Lake and Saskatchewan Debenture Stock, matured July 1, 1936.....	\$ 5,020,748 98
3½% Canadian Northern Ontario Debenture Stock, matured July 10, 1936.....	1,134,512 46
6 % Grand Trunk Sinking Fund Gold Debenture Bonds, matured September 1, 1936.....	24,220,000 00
4½% National Transcontinental Railway Branch Lines 1st mortgage Sinking Fund Bonds called for redemption October 1, 1936, at par.....	2,359,000 00
5 % Mount Royal Tunnel and Terminal 1st Mortgage rent charge bonds, called for redemption October 15, 1936, at 105%.....	760,173 33
2 % Temporary loan from Government.....	2,043,725 00
Total Retirements.....	<u>\$35,538,159 77</u>

The retirements were financed as follows:—

February 1, 1937, 2½% 7-Year Bonds.....	\$15,500,000 00
3% 15-Year Bonds.....	20,000,000 00
From Sinking Funds, reserves, etc.....	519,918 44
Total Cost of Retirements.....	<u>\$36,019,918 44</u>

The difference between "retirements" and "cost of retirements" is a discount of \$443,750 on the new securities, and a premium of \$38,008.67 on securities retired.

3. Unemployment Relief Grant:

To assist in the closing of relief camps, arrangements were made with the railway companies for a program of special maintenance work, for which labour would be provided by the Government free of cost to the companies.

The National Railways portion of this program (including Northern Alberta Railways) was as follows:—

Men required.....	5,000
Men actually supplied to fill requirement.....	7,987
Number who stayed until job completed.....	4,621
Total wages paid.....	\$1,309,774 86
Transportation and other costs.....	\$ 18,220 28
Total cost to Government.....	<u>\$1,327,995 14</u>

4. Purchase of Railway Equipment:

This expenditure covers balance of deliveries under the Supplementary Public Works Construction Act of 1935 as shown on page 20 of the Report of the Department of Railways and Canals for fiscal year 1935-36

Payments during 1935-36.....	\$3,884,489 20
Payments during 1936-37.....	2,838,760 81
Total.....	<u>\$6,723,250 01</u>

CANADIAN PACIFIC RAILWAY

5. Unemployment Relief Grant:

This item covers the Canadian Pacific portion of the free labour provided by the Government from relief camps for special maintenance work (similar to that provided the National Railways, as above—item 3).

Men required.....	5,000
Men actually supplied to fill requirement.....	8,344
Number who stayed until job completed.....	3,162
Total wages paid.....	\$1,310,575 93
Transportation and other costs.....	\$ 23,513 20
total cost to Government.....	<u>\$1,334,089 13</u>

6. Unemployment Relief Loans:

While the Government paid for the labour required for the special maintenance work, extra equipment was necessary to provide for the men and also supervisory staffs.

By agreement the extra labour costs were financed by the Government in the form of repayable loans. The National Railways absorbed their portion in their general requirements but the Canadian Pacific portion, \$554,700, was dealt with as being a "loan."

7. Purchase of Railway Equipment:

This item represents payments made during 1936-37 in connection with commitments entered into by authority of the Supplementary Public Works Construction Act of 1935, as detailed on page 21 of the Report of the Department of Railways and Canals for the fiscal year 1935-36.

All equipment has now been delivered with the exception of one Diesel Electric Locomotive.

Payments during 1935-36.....	\$3,359,211 64
Payments during 1936-37.....	2,281,288 36
One Diesel Electric Locomotive, chargeable to 1937-38.....	89,500 00
Total.....	<u>\$5,730,000 00</u>

CLASSIFICATION OF ACCOUNTS AND STATISTICS FOR CANADIAN RAILROADS

With a view to providing for a revision and extension of the prescribed classification of the accounts required to be maintained by all railways in Canada, the following committee was appointed to explore the subject and make recommendations as a basis for action by the Government:—

- G. S. Wrong (Chairman), Chief, Transportation and Public Utilities Branch, Dominion Bureau of Statistics.
- J. B. McLaren, Comptroller, Canadian National Railways.
- E. A. Leslie, Comptroller, Canadian Pacific Railway.
- C. P. Riddell, Secretary, Railway Association of Canada (representing the small railways).
- A. V. Franklin, Railway Auditor, Department of Transport.

The entire field of accounts is under review—both railway proper and ancillary operations—with the object of producing a standard classification of accounts that will embody features unique to Canadian railroads but still allow of comparisons with United States roads.

CANADIAN NATIONAL STEAMSHIPS

During the year a net return was made to the Government of \$2,133,643.90, as follows:—

<i>Canadian National (West Indies) Steamships—</i>		
Surplus, remitted to the Dominion.....	\$ 87,398 55	
Betterments to vessels, provided by the Dominion.....	2,887 05	
		\$ 84,511 50
<i>Canadian Government Merchant Marine—</i>		
Surplus, remitted to the Dominion.....	303,505 13	
Cash from liquidation of assets, remitted to the Dominion.....	1,745,627 27	
		<u>2,049,132 40</u>
Total.....		<u>\$2,133,643 90</u>

The surplus of \$87,398.55 for the West Indies fleet during 1936 compares with an estimated deficit of \$370,000. It is the first year since operation that there has been a surplus after interest due public, but it should be noted that same does not include depreciation on vessels or interest due the Government.

The Canadian Government Merchant Marine ceased operations during 1936 and the following ships were sold:—

	Sale Price (Net)
<i>Canadian Cruiser</i>	\$ 50,077 00
<i>Canadian Constructor</i>	50,077 00
<i>Canadian Challenger</i>	40,013 00
<i>Canadian Highlander</i>	40,013 00
<i>Canadian Leader</i>	40,013 00
<i>Canadian Scottish</i>	40,013 00
<i>Canadian Britisher</i>	40,013 00
<i>Canadian Conqueror</i>	39,823 00
<i>Canadian Victor</i>	39,823 00
	<hr/> \$379,865 00

Sold jointly to: Ellerman Bucknall Steamship Company Ltd., Commonwealth and Dominion Line Limited, and The New Zealand Shipping Company, Limited.

The *Canadian Planter* was disposed of at Boston by Sheriff's sale as the result of a collision and the proceeds withheld pending settlement of damage claims.

Cash receipts by the Government during the year were as follows:—

Operating Surplus during 1936, before disposal of fleet.....	\$ 303,505 13
Insurance Fund.....	800,000 00
Refund of Working Capital.....	565,762 27
Sale of Vessels.....	379,865 00
	<hr/>
Total.....	\$2,049,132 40

For total cost of the Merchant Marine to the Government, see Appendix "2."

A. V. FRANKLIN,
Railway Auditor.

Approved:

F. M. MACLENNAN.

DEPARTMENT OF TRANSPORT (RAILWAYS AND CANALS SERVICES) GENERAL BALANCE SHEET OF MARCH 31, 1937

ASSETS

Schedule	March 31, 1936		1936-37		March 31, 1937	
	\$	cts.	\$	cts.	\$	cts.
INVESTMENTS—						
Railways.....	1	1,222,701,997	48	5,166,537	03	1,227,868,534
Canadian National Steamships.....	2	15,507,970	14	1,753,778	90	13,754,191
Canadian Government Merchant Marine.....	3	55,628,500	44	489,865	00	55,198,635
Canals.....	4	250,942,881	92	198,901	67	250,813,980
		1,544,781,350	03	2,853,991	46	1,547,635,341
CURRENT ASSETS—						
Canadian Government Railways.....	5	15,748,921	60	.....	.....	15,748,921
Supplies and Materials on hand.....	6	392,454	24	62,986	64	329,467
Government Employees Compensation Act— Advances to Provincial Boards.....	7	60,950	05	5,490	54	66,440
Accounts Receivable.....	8	1,643,926	05	184,071	66	1,819,854
Accounts Receivable—Section 9, P.W.C.A., 1935.....		9,697,293	49	4,725,518	29	14,422,811
Accounts Receivable—Special Supp. Vote 427, (1936-37).....		.....	.....	554,700	00	554,700
Advances Outstanding.....		15	00	.....	.....	15
		27,543,560	43	5,098,650	53	32,642,210
CONTINGENT ASSETS—						
Department of Finance (Contractor's Security Deposits) (Contra).....		79,836	56	65,264	78	14,071
DEFERRED ASSETS—						
Elevator Overages.....		469	30	469	30	.....
Elevator Accrued Storage (Unbilled).....		154,366	84	154,366	84	.....
		154,836	14	154,836	14	.....
UNADJUSTED DEBITS—						
Sales Tax Suspense (C.N.R. and C.P.R.) (Contra).....		.....	.....	53,895	18	53,895
Canadian Government Railways Capital Suspense— Additions and Betterments (Net) to Can. Govt. Rlys. properties since April, 1923, financed by Canadian National Railways.....		17,999,307	79	163,703	11	18,163,010
Portion of Can. Govt. Rlys. properties transferred to Harbour Commissioners financed by Canadian National Railways.....		1,006,527	61	.....	.....	1,006,527
Hudson Bay Railway Capital Suspense— Additions and Betterments to Hudson Bay Railway subsequent to April 1, 1923, financed by Canadian National Railways.....		.....	.....	.....	.....	457,526
Stores and Open Accounts Suspense.....		.....	.....	.....	.....	76
Consolidated Revenue Fund Suspense.....		1,023,058	94	.....	.....	1,023,058
Contractors Retained Drawback (Contra).....		19,315	14	19,315	14	.....
Unclaimed Cheques Suspense (Contra).....		6,821	61	2,484	00	9,305
Outstanding Cheques Suspense (Contra).....		3,714	31	.....	.....	3,714
Uncollectable Suspense (Contra).....		142,008	20	158	61	141,849
Capital Expenditure Adjustment Suspense.....		165,360	96	.....	.....	165,360
Railway Grade Crossing Fund Suspense.....		986,017	94	561,899	61	1,547,917
Employees Compensation Suspense.....		795,149	17	.....	.....	795,149
		23,380,828	68	708,612	97	24,089,441
Total Assets.....						
		1,595,939,911	84	52,269,268	19	582,420,363
		530,151,095	15	60,764,317	41	2,186,855,324
CONSOLIDATED REVENUE FUND ACCOUNT.....						

DEPARTMENT OF TRANSPORT (RAILWAYS AND CANALS SERVICES) GENERAL BALANCE SHEET OF MARCH 31, 1937—*Contc.*

	March 31, 1936		1936-37		March 31, 1937		
	\$	cts.	\$	cts.	\$	cts.	
LIABILITIES							
DOMINION OF CANADA ACCOUNT—							
<i>Public Accounts Schedules—</i>							
Miscellaneous Current Accounts—							
R. and C. Items:—							
Canadian Govt. Rlys., Stores and Open Accounts.....	15,748,921	60			15,748,921	60	
Canadian National Railways Temporary Loans.....	34,346,479	25	7,011,230	75	41,357,710	00	
Canadian National Railways 2% and 3½%.....	2,043,725	00	2,043,725	00			
Canadian National Railways Loan under Sec. 9, S.P.W.C.A. 1935.....	5,068,081	85	2,444,229	93	7,512,311	78	
Canadian Pacific Rly. Loan under Sec. 9, S.P.W.C.A. 1935.....	4,629,211	64	2,281,288	36	6,910,500	00	
Canadian Pacific Rly Loan under Spec. Supp. Vote 427.....	241,382	671 95	554,700	00	554,700	00	
Public Works (Canals).....	442,910,909	24	199,031,28		241,253,770	28	
Less Items Burlington Bay & Lake St. Peters.....					443,109,940	52	
Public Works (Railways).....							
Public Works (Miscellaneous)—							
Part of Item Yukon Territory Works.....	283,323	55			283,323	55	
Government Shipbuilding Program.....	54,698,036	62	429,865	00	54,268,171	62	
Lower Lake Terminals.....	4,715,325	43			4,715,325	43	
Railway Accounts (Old).....	88,398,828	78			88,398,828	78	
Railway Accounts (Loans—non-active).....	655,527,455	83			655,527,455	83	
Canadian National Steamships (Loans—non-active).....	15,507,970	19	1,753,778	90	13,754,191	29	
Miscellaneous Investments and Other Accounts (Non-Active).....							
R. and C. Items:—							
Grand Trunk Railway Preference Stock.....	121,739	65			121,739	65	
Capital Expenditure from Unemployment and Farm Relief and Continuance Act and Public Works Construction Acts.....	836,324	03			836,324	03	
Consolidated Revenue Fund Account.....	1,566,219,004	61	8,134,209	75	1,574,353,214	36	
	552,248,440	49	52,087,700	43	584,336,140	92	
			60,221,910	18			
			2,098,467,445	10		2,158,689,355	28
EXPENDITURE BY IMPERIAL GOVERNMENT PRIOR TO UNION OF UPPER AND LOWER CANADA.....			4,173,921	47		4,173,921	47
CONTINGENT LIABILITIES—							
Railway Grade Crossing Orders.....	936,017	94	561,899	61	1,547,917	55	
Contractors Security Deposits.....	79,336	56	65,264	78	14,071	78	
Employees Compensation Awards.....	795,149	17			795,149	17	
			1,860,503	67		2,357,138	50

UNADJUSTED CREDITS—				
Sales Tax Suspense (C.N.R. and C.P.R.).....			53,895 18	53,895 18
Canadian National Railways Loans Suspense—				
Credits accrued for expenditure financed by Canadian National Railways:				
Hudson Bay Railway Capital.....	457,526 76			457,526 76
Hudson Bay Railway Deficits.....	202,843 20			202,843 20
Properties transferred to Harbour Commission.....	1,006,527 61			1,006,527 61
Additions and Betterments, Canadian Government Railways in excess of net surpluses.....	47,959 10	300,793 39		348,752 49
Consolidated Revenue Fund Suspense—		137,090 28		17,814,258 41
Canadian Government Railways net surpluses since April 1st, 1923..	17,951,348 69			
Canadian Government Railways Capital Suspense—				
Adjustments (net) by Canadian National Railways affecting Stores and Open Accounts, etc.....	1,596,235 99			1,596,235 99
Contractors Drawbacks retained.....	19,315 14			
Port Colborne Elevator Suspense Account.....	81,383 73			
Prescott Elevator Suspense Account.....	73,452 41			
Consolidated Revenue Fund for account of appropriations under Collection of Revenue.....	6,821 61	2,484 00		9,305 61
Canadian Government Railways Capital.....	3,714 31			3,714 31
Canals Revenue—Uncollectable.....	141,232 01	187 53		141,044 68
General —Uncollectable.....	776 19	28 72		804 91
		21,589,136 75	8,122 78	21,581,013 97
		2,126,091,006 99	60,764,317 41	2,186,855,324 40

EXPENDITURE AND REVENUE ACCOUNT—FISCAL YEAR 1936-37

EXPENDITURE

CAPITAL ACCOUNT

Vote No.	Dept'l. Schedule			
77	1	Railways—		
		Hudson Bay Railway (Statement No. 1)...	\$ 84,334 40	
77	1	Hudson Bay Railway—Churchill Terminals (Statement No. 1A).....	118,700 82	
				\$ 203,035 22
78	4	Canals—		
		Welland Ship Canal Construction (Statement No. 2).....		51,944 87
				\$ 254,980 09

ORDINARY ACCOUNT

Administrative

25	AA	Civil Government Salaries.....	168,238 75	
25	AA	Civil Government Contingencies.....	22,011 11	
Stat.	AA	Minister's Salary.....	9,499 92	
				199,749 78

Income Account

80 & 251	EE	Railways—		
		Board of Railway Commissioners, Maintenance and Operation.....	225,523 55	
Stat.	EE	Board of Railway Commissioners' Salaries..	46,475 93	
83	BB	Railway Employees Provident Fund, Canadian Government Railways to Supplement Pension Fund Allowances.....	25,206 59	
				297,206 07
79	DD	Canals—		
		Canals Income, Improvements (Statement No. 4).....	223,780 77	
Supp. #18	DD	Canals, Repairs and Improvements (Commitments incurred under Item No. 5, Supp. P. W. Constn. Act, 1935) (Statement No. 4).....	76,429 87	
Supp. 421	DD	Canals, Repairs and Improvements (Statement No. 4).....	125,282 26	
				425,492 90

Miscellaneous

Stat.	EE	Government Employees Compensation Act (Statement No. 5).....	273,081 69	
81	EE	Miscellaneous Services.....	37,174 62	
82	EE	Printing and Stationery.....	4,752 32	
				315,008 63

COLLECTION OF REVENUE

258	BB	Railways—		
		Hudson Bay Railway Operating Deficit....		252,854 81
259 & Supp. 513	DD	Canals—		
260		Canals and Harbours (Statement No. 6)...	2,139,119 84	
	DD	Elevators, Operation and Maintenance (Statement No. 6).....	253,220 99	
				2,392,340 83

MISCELLANEOUS ACCOUNT

240	DD	St. Lawrence Ship Canal—Surveys and Investigations.....	14,085 65	
241	EE	Promotion of Tourist Business in Canada..	249,743 19	
242	EE	Payments of Interest re Orders for steel rails for the Can. Nat'l. Rys.	54,566 29	
Stat.	EE	Railway Grade Crossing Fund (Statement No. 8).....	53,965 57	
Stat.	EE	Railway Grade Crossing Fund—Unemployment Relief, 1930 (Statement No. 8)...	70 00	
Stat.	EE	Railway Grade Crossing Fund—Unemployment Relief, 1931 (Statement No. 8)...	13,644 56	

EXPENDITURE AND REVENUE ACCOUNT—FISCAL YEAR 1936-37
—Continued

EXPENDITURE—Concluded

MISCELLANEOUS ACCOUNTS—Concluded

Vote No.	Dept'l. Schedule			
Supp. 417	EE	Railway Grade Crossing (Commitments incurred under Item No. 1, Supp. P.W.C. Act, 1935)	\$ 444,634 08	
Supp. 420	EE	Railway Grade Crossings.....	38,216 21	
Supp. 419	EE	Special Railway Maintenance Work— Can. Nat'l. Rlys.	\$1,327,995 14	
		Can. Pacific Rly.	1,334,089 13	
			<u>2,662,084 27</u>	
Supp. 502	EE	Trent Canal—Grant to Town of Orillia re Gull River.	7,500 00	
Stat.	AA	Gratuities to Dependents of Deceased Employees under Chap. 22, Sec. 56, R.S. of Canada, 1927.	2,295 00	
—	Contra	Canadian Government Railways Provident Fund.	1,579,766 75	
Supp. 413	Ex. Accts. of other Depts.	River Protection Works, Waterways, Alberta.	1,000 00	
Supp. 495	"	Development of Historic Sites (Fort Prince of Wales), Churchill, Man.	10,000 00	
			<u>\$ 5,131,571 57</u>	

CANADIAN NATIONAL RAILWAYS, CANADIAN NATIONAL STEAMSHIPS AND MARITIME FREIGHT RATES ACT ACCOUNT

84	BB	Maritime Freight Rates Act—Railways other than C.N.R. (Statement No. 3).....	689,808 59	
85	BB	Maritime Freight Rates Act—Eastern Lines (Statement No. 3).....	1,816,014 46	
Supp. 426 & 391	BB	Canadian National Railways Deficits, 1936..	43,303,393 82	
			<u>45,809,216 87</u>	
			<u>54,823,441 46</u>	

LOANS AND ADVANCES

282	2	Loan to Canadian National (West Indies) Steamships Ltd.	2,887 05	
Supp. 427		Special Railway Maintenance Work (Loan for Wages), Can. Pacific Rly.	554,700 00	
Supp. 428		Can. Nat. Rlys. Acquisition of Equipment.	\$2,838,760 81	
		Can. Pacific Rly. Acquisition of Equipment.	2,281,288 36	
			<u>5,120,049 17</u>	
Chap. 47/36	1	Canadian National Railways.....	7,011,230 75	
			<u>12,688,866 97</u>	

SUSPENSE ACCOUNT

Miscellaneous Open Account—Sales Tax—Suspense

Supp. 520		Acquisition of Railway Equipment Additional (Sales Tax)— Canadian National Railways.....	24,394 34	
		Canadian Pacific Railway.....	29,500 84	
			<u>53,895 18</u>	

RECEIPTS

CAPITAL ACCOUNT

Dept'l. Schedule			
		Refunds to Previous Year's Expenditure— Railways—	
1		Hudson Bay Railway (Statement No. 1).....	1,953 64
1		Hudson Bay Railway Churchill Terminals (Statement No. 1A).	2,019 42
1		Intercolonial Railway.	30 88
			<u>4,003 94</u>

EXPENDITURE AND REVENUE ACCOUNT—FISCAL YEAR 1936-37
—Concluded

RECEIPTS—Concluded

CAPITAL ACCOUNT—Concluded

Dept'l.
Schedule

	Canals—		
4	Welland Ship Canal Construction (Statement No. 2) ..	178,446	11
4	Welland Canal	2,363	43
4	Rideau Canal	1	00
4	Trent Canal	36	00
	Balance Dr. to Capital Account.....		
			180,846 54
			70,129 61
			<u>\$ 254,980 09</u>

ORDINARY ACCOUNTS

FF	Canals Revenue (Statement No. 7)—		
	Hydraulic Rents	159,351	12
	Land Rents	174,858	08
	Transmission Rents	14,862	28
	House Rents	9,267	83
	Elevator Fees	483,493	81
	Sundry	161,932	04
			1,003,765 16
FF	Miscellaneous Revenue—		
	Casual Revenue	14,149	24
	Fines and Forfeitures.....	1,465	00
	Premiums, Discount and Exchange.....	39	37
	Interest on Railway Subsidies.....	125,153	14
			140,806 75
Contra	Canadian Government Railways—		
	Provident Fund		1,579,766 75
	Balance Dr. to Consolidated Revenue Fund.....	52,088,102	80
	Balance Expenditure Account of Other Departments..	11,000	00
			52,099,102 80
			<u>\$54,823,441 46</u>

LOANS AND ADVANCES

	Refunds to Previous Year's Expenditure—		
3	Canadian Government Shipbuilding Program.....	429,865	00
2	Canadian Government Merchant Marine Ltd.	1,669,267	40
1	Canadian National Railways 2% and 3½% Loans..	2,043,725	00
	Canadian National Railways Loan under Sec. No. 9, S.P.W.C. Act, 1935	394,530	88
	Receipts on account of Operating Surpluses—		
	Canadian National (W.I.) Steamships Ltd.	87,398	55
	Balance Dr. to Accounts Receivable—		
	Supp. Vote 427, Special Railway Maintenance Work—		
	Canadian Pacific Railway.....	554,700	00
	Supp. Vote 428, Acquisition of Railway Equipment—		
	C.N.R. and C.P.R.	5,120,049	17
	Canadian National Railways Loan under Sec. 9, S.P.W.C. Act, 1935.....	394,530	88
			5,280,218 29
	Balance Dr. to Investment Account.....		2,783,861 85
			<u>\$12,688,866 97</u>

SUSPENSE ACCOUNT—(CONTRA)

Miscellaneous Open Account—Sales Tax Suspense

	Supp. 520, Acquisition of Railway Equipment—Additional Sales Tax—		
	Canadian National Railways.....	24,394	34
	Canadian Pacific Railway.....	29,500	84
			\$ 53,895 18
	Net Charges.....	\$60,287,207	73

DEPARTMENT OF TRANSPORT (MARINE AND AIR SERVICES)
STATEMENT OF EXPENDITURE AND REVENUE
FISCAL YEAR 1936-37

EXPENDITURE

Vote No.	—	Amount
		\$ cts.
	MARINE SERVICE	
	<i>Capital Account</i>	
127 and 389	Ship Channel.....	3,201,745 53
128	Investigation of Water Levels at St. Lawrence River.....	31,422 83
		3,233,168 36
	<i>Ordinary Account</i>	
15	Civil Government Salaries.....	263,357 13
15	Civil Government Contingencies.....	37,206 80
117	Dominion Steamers.....	1,304,112 11
118, 480 and 370	Navigation and Shipping.....	29,893 84
119	Distressed Seaman (Special).....	20 43
120	Subsidy to Wrecking Plants.....	45,000 00
121	Unforeseen Expenses.....	15,527 46
122 and 371	Lifesaving Service.....	45,793 44
123 and 377	Hydrographic Surveys.....	407,645 09
126	Allowance to L. Larsen.....	500 00
129	Agencies, Rents and Contingencies.....	196,853 93
130	Aids to Navigation.....	1,681,350 29
131	Allowance to J. Davidson.....	500 00
132	Allowance to E. J. McCoskrie.....	420 00
133 and 372	Marine Signal Service.....	99,482 14
134 and 481	Administration of Pilotage.....	90,281 11
135	Repairs to Wharves.....	7,135 51
136	Icebreaking in Thunder Bay.....	30,000 00
137	Pensions to Pilots.....	3,327 80
144 and 484	Steamboat Inspection.....	126,065 23
227	Expenses, P. R. Jack and C. A. Ackhurst.....	3,855 10
Statute	Gratuities to Dependents of Deceased Employees under Chap. 22, Sec. 56, R.S. of Canada, 1927.....	4,805 00
338	Construction, Repairs and Replacements of Aids to Navigation, Buildings and Structures used in connection therewith.....	294,404 60
339	Reconditioning and Conversion of Government Steamers.....	119,500 00
340	Removal of Derelicts in the Harbours of Canada.....	52,567 70
343	Assist in Provision of Transportation Facilities into Mining Areas..	4,394 82
		4,863,999 53
	Total Marine Service.....	8,097,167 89

DEPARTMENT OF TRANSPORT

AIR SERVICES

Vote No.	—	—	Amount
		\$ cts.	\$ cts.
	<i>Ordinary Account</i>		
76 and 458	Control of Civil Aviation, etc.....	203,329 37	
	Grants to Aeroplane Clubs.....	109,767 79	
	Airways, Government and Public Airports (including St. Hubert Airport).....	931,545 73	
			1,244,642 89
143 and 483	Meteorological Branch.....		393,755 54
124	Radio Telegraph Branch.....		552,950 10
125	Radio Reception.....		274,504 42
			2,465,852 95

DEPARTMENT OF TRANSPORT

RECEIPTS

MARINE SERVICES

Capital Account

	1935-36	1936-37	Increase	Decrease
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Receipts to previous year's expenditure— St. Lawrence Ship Channel.....	1,039 26	1,374 40	335 14	

Ordinary Account

Premiums, Discount and Exchange.....	5 85	7 58	1 73	
Steamboat Inspection—				
Plans.....	1,021 50	1,624 00	602 50	
Engineers.....	1,495 00	1,378 00		117 00
Incidentals.....	8,193 20	8,581 70	388 50	
Annual.....	96,967 51	107,555 84	10,588 33	
Wharfage.....	111,188 74	139,849 07	28,660 33	
Harbour Dues.....	2,807 00	4,271 70	1,464 70	
Casual Revenue—				
W/A Licences and others.....	11,314 50	14,285 50	2,971 00	
W/O Examination.....	642 00	614 50		27 50
Examination Fees—Masters and Mates.....	4,212 75	5,937 43	1,724 68	
Pilots Licence Fees.....	145 00	327 85	182 85	
Marine Registry.....	114 85	116 35	1 50	
Dominion Steamers.....	2,759 55	792 99		1,966 56
Radio Revenue Traffic.....	56,713 51	59,840 13	3,126 62	
Rentals.....	8,229 50	10,056 24	1,826 74	
Refund Previous Year's Expenditure.....	21,343 62	11,984 34		9,359 28
Sale of Publications—				
Miscellaneous.....	715 48	719 04	3 56	
Hydro.....	4,519 91	5,230 69	710 78	
Radio.....	624 67	730 32	105 65	
Sale of Sundries.....	1,254 43	4,102 19	2,847 76	
Signal Station Dues.....	1,097 00	1,053 00		44 00
Fines and Forfeitures—				
Radio.....	2,667 26	5,440 51	2,773 25	
Marine.....	697 01	558 59		138 42
Unclaimed Monies.....	26 90			26 90
Dividend on Departmental Claims.....		1 00	1 00	
Measuring Surveyors Fees.....		10 00	10 00	
Total Marine Services.....	338,756 74	385,068 56	46,311,82	

AIR SERVICES

Ordinary Account

Radio Receiving Licences.....	1,574,431 06	*1,900,704 30	326,273 24	
Private, Commercial and Amateur Broadcasting	3,500 00	3,555 00	55 00	
Revenue, Civil Aviation.....	3,823 52	10,772 24	6,948 72	
Casual Revenue, Civil Aviation.....		162 47	162 47	
Fines and Forfeitures, Civil Aviation.....		25 00	25 00	
Premiums, Discount and Exchange, Civil Aviation		0 45	0 45	
Total Air Services.....	1,581,754 58	1,915,219 46	333,464 88	

*Of this amount \$939,548.50 was transferred to Canadian Broadcasting Corporation, being the difference between amount collected in licence fees and the amount paid out of Appropriation No. 226, 1936-37, for the purpose of the Canadian Radio Broadcasting Commission.

DEPARTMENTAL CONSOLIDATED FUND ACCOUNT AS AT MARCH 31, 1937

	Dept'l. Schedule	RECEIPTS			Dept'l. Schedule	PAYMENTS			
		As at March 31, 1936	1936-37 Transactions	As at March 31, 1937		As at March 31, 1936	1936-37 Transactions	As at March 31, 1937	
		\$	cts.	\$		cts.	\$	cts.	
Revenue—									
Railway.....	F.F.	391,866,392 09		391,866,392 09	Administrative.....	7,893,450 53	305,097 50	8,198,548 03	
Canals.....	F.F.	32,504,192 47		33,507,957 63	Railway Income.....	264,661,562 03	48,496,507 73	313,158,069 81	
Miscellaneous.....	F.F.	733,919 97		15,653 61	Railway Revenue.....	445,191,230 11	252,452 44	(a) 445,443,682 55	
Interest on Railway Subsidies.....	F.F.	4,326,387 71		4,451,540 85	Railway Subsidies.....	78,610,471 09		78,610,471 09	
Balance—Expenditure over Revenue.....		532,248,440 49	52,087,700 43	584,336,140 92	Canals Income.....	19,063,211 17	363,610 35	19,426,821 52	
					Canals Revenue Staff pairs.....	41,655,261 04	1,508,525 33	43,163,786 37	
					Canals Revenue Re-miscellaneous.....	32,061,235 10	856,730 98	32,917,966 08	
					Miscellaneous.....	72,542,911 61	1,449,348 01	73,992,259 62	
						961,679,332 73	53,232,272 34	1,014,911,605 07	

As at March 31, 1936		As at March 31, 1937	
\$	cts.	\$	cts.
392,454 24		62,986 64	329,467 60
60,950 05		5,490 54	66,440 59
1,043,926 05		124,071 66	1,519,854 39
15 00			15 00
		2,097,345 34	
		530,151,095 15	52,260,268 19
			584,336,140 92

Proportion of Net Debt incurred on account of Railways and Canals..... 532,248,440 49

Less: Assets held by Department of Railways and Canals which are included in above—

Supplies and Materials on hand, Schedule No. 6..... 392,454 24

Government Employees' Compensation Act—

Advances to Provincial Boards Schedule No. 7..... 60,950 05

Accounts Receivable—Schedule No. 8..... 1,043,926 05

Advances outstanding..... 15 00

2,097,345 34

530,151,095 15

52,260,268 19

584,336,140 92

(a) Schedule "B.B." Railways Revenue Expenditure—

Total as at March 31, 1936..... 445,191,230 11

Less amount of \$402.37 deleted from this Schedule, previously charged to Canadian Government Railways—

Working expenses, in error..... 402 37

Add charges, fiscal year 1936-37..... 252,854 81

252,452 44

445,443,682 55

Total to March 31, 1937.....

SCHEDULES TO THE BALANCE SHEET OF MARCH 31, 1937

—	As at March 31, 1936		1936-37 Transactions		As at March 31, 1937		
	\$	cts.	\$	cts.	\$	cts.	
SCHEDULE NO. 1 — INVESTMENTS RELATIVE TO RAILWAYS							
Canadian Government Railways—							
A. Roads entrusted to Canadian National Railways—							
Intercolonial Railway System—							
Canada Eastern Railway.....	819,000	00			819,000	00	
Cape Breton Railway.....	3,860,679	14			3,860,679	14	
Drummond County Railway...	1,464,000	00			1,464,000	00	
Eastern Extension Railway....	1,324,042	81			1,324,042	81	
Montreal and European Rail- way.....	333,942	72			333,942	72	
Oxford and New Glasgow Rail- way.....	1,949,063	21			1,949,063	21	
Intercolonial Railway.....	122,532,924	90	30	88	122,532,894	02	
New Brunswick and Prince Edward Island Railway—							
Prince Edward Island Railway	16,500,276	50			16,500,276	50	
International Railway of New Brunswick.....	2,963,021	87			2,963,021	87	
National Transcontinental Railway—							
Moncton and Buctouche Rail- way.....	363,067	16			363,067	16	
Salisbury and Albert Railway..	437,647	60			437,647	60	
St. Martins Railway.....	302,045	64			302,045	64	
Elgin and Havelock Railway...	135,029	12			135,029	12	
York and Carleton Railway...	59,749	15			59,749	15	
Quebec and Saguenay Railway..	7,772,911	03			7,772,911	03	
Caraquet and Gulf Shore Rail- way.....	711,767	38			711,767	38	
Lotbiniere and Megantic Rail- way.....	360,008	39			360,008	39	
Cape Breton Railway (Ex- tension).....	107,646	73			107,646	73	
Canadian Government Rail- ways—							
Rolling Stock.....	35,900,094	75			35,900,094	75	
Miscellaneous.....	345	00			345	00	
Quebec Bridge.....	21,706,664	49			21,706,664	49	
Miscellaneous.....	148	09			148	09	
	388,880,002	78		30	88	388,879,971	90
B. Roads not Entrusted to Cana- dian National Railways—							
Hudson Bay Railway.....	32,555,942	50	82,380	76	32,638,323	26	
Hudson Bay Railway Nelson Terminal.....	6,240,200	86			6,240,200	86	
Hudson Bay Railway Churchill Terminal.....	13,147,077	37	116,681	40	13,263,758	77	
	51,943,220	73	199,062	16		52,142,282	89
Other Railways and Miscellaneous—							
Annapolis and Digby Railway....	660,683	09			660,683	09	
Central Canada Railway.....	175,000	00			175,000	00	
North Railway.....	250,000	00			250,000	00	
Governor General's Cars.....	71,538	82			71,538	82	
Yukon Territory Works—							
Stikine Teslin Railway.....	283,323	55			283,323	55	
Canadian Pacific Railway.....	62,791,435	25			62,791,435	25	
Grand Trunk Railway—							
Debenture Account.....	15,142,633	34			15,142,633	34	
Grand Trunk Railway—							
Interest Account.....	10,457,458	01			10,457,458	01	
Grand Trunk Railway—							
Special Account.....	7,302	18			7,302	18	
Grand Trunk Railway—							
Preference Stock.....	121,739	65			121,739	65	
Canadian Northern Railway—							
Purchase of Capital Stock.....	10,000,000	00			10,000,000	00	

SCHEDULES TO THE BALANCE SHEET OF MARCH 31, 1937—Continued

	As at March 31, 1936		1936-37 Transactions		As at March 31, 1937			
	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Other Railways and Miscellaneous— <i>Conc.</i>								
Loans to Railways per Public Accounts Schedules "Railway Accounts (Loans Non-Active) and "Miscellaneous Current Accounts"—								
Canadian Northern Railway...	255,408,804	28			255,408,804	28		
Grand Trunk Railway.....	118,582,182	33			118,582,182	33		
Grand Trunk Pacific Railway..	116,006,599	08			116,006,599	08		
Canadian National Railways..	134,994,073	57	4,967,505	75	139,961,579	32		
Loans to Railways—Purchase of Equipment.....	56,926,000	82			56,926,000	82		
	781,878,773	97	4,967,505	75			786,846,279	72
	1,222,701,997	48	5,166,537	03			1,227,868,534	51
SCHEDULE No. 2—CANADIAN NATIONAL STEAMSHIPS (LOANS)								
Canadian Government Merchant Marine Ltd.....	9,768,353	60	1,669,267	40	8,099,086	20		
Canadian National (West Indies) Steamships Ltd.....	5,739,616	59	84,511	50	5,655,105	09		
	15,507,970	19	1,753,778	90			13,754,191	29
SCHEDULE No. 3—CANADIAN GOVERNMENT MERCHANT MARINE								
Government Shipbuilding Program.....	54,698,036	62	429,865	00	54,268,171	62		
Residue of cost of Steamer <i>Sheba</i>	78,610	58			78,610	58		
Residue of capital cost of S.S. <i>Drummond</i> and S.S. <i>McKee</i>	851,853	24			851,853	24		
	55,628,500	44	429,865	00			55,198,635	44
SCHEDULE No. 4—INVESTMENTS RELATIVE TO CANALS								
Quebec Canals System—								
Carillon and Grenville Canal.....	4,191,756	51			4,191,756	51		
St. Ann's Lock.....	1,320,215	63			1,320,215	63		
Chambly Canal.....	780,996	52			780,996	52		
St. Ours Lock.....	735,964	04			735,964	04		
Lachine Canal.....	13,988,600	16			13,988,600	16		
Lake St. Louis.....	298,176	11			298,176	11		
Beauharnois.....	1,636,029	29			1,636,029	29		
Soulanges Canal.....	7,899,944	53			7,899,944	53		
	30,851,682	79					30,851,682	79
Ontario St. Lawrence System—								
Lake St. Francis.....	75,906	71			75,906	71		
Cornwall Canal.....	7,245,803	21			7,245,803	21		
Williamsburg Canal.....	1,334,551	80			1,334,551	80		
Farran's Point.....	877,090	57			877,090	57		
Galops Canal.....	6,143,468	11			6,143,468	11		
Rapide Plat.....	2,159,880	80			2,159,880	80		
	17,836,701	20					17,836,701	20
Ontario St. Lawrence River Canals—								
North Channel.....	1,995,142	87			1,995,142	87		
River Reaches.....	483,830	20			483,830	20		
Galops Channel.....	1,039,895	65			1,039,895	65		
	3,518,868	72					3,518,868	72

SCHEDULES TO THE BALANCE SHEET OF MARCH 31, 1937—Continued

	As at March 31, 1936		1936-37 Transactions		As at March 31, 1937			
	\$	cts.	\$	cts.	\$	cts.	\$	cts.
Port Colborne Elevator.....	2,356,217	60			2,356,217	60		
St. Lawrence Ship Canal.....	133,896	80			133,896	80		
St. Peters Canal.....	648,547	14			648,547	14		
Rideau Canal.....	4,214,211	99		1 00	4,214,210	99		
Tay Canal.....	489,599	23			489,599	23		
Murray Canal.....	1,248,946	71			1,248,946	71		
Trent Canal.....	19,962,730	27		36 00	19,962,694	27		
Welland Canal.....	27,542,750	01		2,368 43	27,540,386	58		
Welland Ship Canal.....	132,070,236	46		126,501 24	131,943,735	22		
Prescott Elevator.....	4,715,325	43			4,715,325	43		
Sault Ste. Marie Canal.....	4,935,809	42			4,935,809	42		
Culbute Lock and Dam.....	382,391	46			382,391	46		
Canals General.....	34,966	69			34,966	69		
	198,735,629	21		128,901 67			198,606,727	54
	250,942,881	92		128,901 67			250,813,980	25
SCHEDULE NO. 5—CANADIAN GOVERNMENT RAILWAYS "OPEN" AND "STORES" ACCOUNTS								
Canadian Government Railways "Open Accounts".....	6,042,932	52			6,042,932	52		
Canadian Government Railways "Stores Account".....	9,757,420	40			9,757,420	40		
St. John and Quebec Railway "Open Accounts".....	54,022	26			54,022	26		
St. John and Quebec Railway "Stores Account".....	2,590	94			2,590	94		
	15,748,921	60					15,748,921	60
SCHEDULE NO. 6 — MATERIALS AND SUPPLIES ON HAND								
Stationery Branch.....	8,146	53		38 89			8,107	64
Ontario St. Lawrence Canals Stores..	59,322	81		6,116 89			53,205	92
Carillon and Grenville Canals Stores..	9,323	70		977 21			10,300	91
Chambly Canals Stores.....	11,568	58		264 05			11,304	53
Quebec Dredging Fleet Stores.....	5,713	01		52 89			5,660	12
Lachine Canals Stores.....	21,933	36		3,466 10			18,477	26
Soulanges Canals Stores.....	29,154	27		662 65			29,816	92
St. Anne's Lock Stores.....	2,342	62		151 17			2,211	45
St. Ours Lock Stores.....	2,925	56		1,140 75			1,784	81
Rideau Canal Stores.....	14,595	22		2,040 82			12,554	40
Sault Ste. Marie Canal Stores.....	15,481	18		929 20			16,410	38
Trent Canal Stores.....	43,731	82		755 04			42,976	78
Murray Canals Stores.....				907 04			907	04
*Welland Canals Stores.....	131,280	79		15,531 55			115,749	44
Port Colborne Elevator Stores.....	26,020	44		26,020 44				
Prescott Elevator Stores.....	10,914	35		10,914 35				
	392,454	24		62,986 64			329,467	60
SCHEDULE NO. 7 — GOVERNMENT EMPLOYEES COMPANSATION ACT, ADVANCES TO PROVINCIAL BOARDS								
Workmen's Compensation Board of Nova Scotia.....	14,497	99		4,313 48			18,811	47
Workmen's Compensation Board of New Brunswick.....	13,185	48		215 92			13,401	40
Workmen's Compensation Commis- sion of Quebec.....								
Workmen's Compensation Board of Ontario.....	1,913	87		7,338 19			9,252	06
Workmen's Compensation Board of Manitoba.....	18,393	32		5,642 79			12,750	53

* NOTE.—Includes amounts previously reported under Welland Ship Canal and Welland Canals.

SCHEDULES TO THE BALANCE SHEET OF MARCH 31, 1937—Concluded

	As at March 31, 1936		1936-37 Transactions		As at March 31, 1937	
	\$	cts.	\$	cts.	\$	cts.
Workmen's Compensation Board of Saskatchewan.....	2,754	11	784	10	3,538	21
Workmen's Compensation Board of Alberta.....	6,860	18	1,996	75	4,863	43
Workmen's Compensation Board of British Columbia.....	3,345	10	478	39	3,823	49
	60,950	05	5,490	54		66,440 59
SCHEDULE No. 8 — ACCOUNTS RECEIVABLE						
Hudson Bay Railway and Terminals Railway.....						
Terminals.....	1,179	62	387	03	1,566	65
Welland Ship Canal Construction.....	338,096	02	279,788	61	58,307	41
Government Shipbuilding Pro- gramme.....	80,000	00	80,000	00		
Consolidated Revenue Fund.....	1,230	14	304	98	925	16
Canals Revenue.....	1,223,420	27	235,634	90	1,459,055	17
	1,643,926	05	124,071	66		1,519,854 39

DETAILS OF RECEIPTS AND EXPENDITURES

STATEMENT No. 1—HUDSON BAY RAILWAY (RAILWAY ONLY)

DISTRIBUTION OF CAPITAL EXPENDITURE, FISCAL YEAR 1936-37

	Amount	
	\$	cts.
Road—		
1. Engineering.....	3,963	91
2. Land for transportation purposes.....	6	00
3. Grading.....	66,925	72
6. Bridges, trestles and culverts.....	4,150	36
11. Ballast.....	1,721	44
12. Track laying and surfacing.....	109	78
14. Snow fences and snow sheds.....	1,950	19
16. Station and office buildings.....	1,297	26
17. Roadway buildings.....	201	34
47. Unapplied construction materials.....	350	76
Total Road.....	77,233	88
Equipment—		
57. Work Equipment.....	792	75
Total Equipment.....	792	75
General Expenditures—		
73. Law.....	4,354	13
Total General Expenses.....	4,354	13
Total Construction Cost.....	82,380	76
		\$ cts.
Expenditure charged to Vote No. 77.....	84,334	40
Less refunds to previous years expenditure.....	1,953	64
	82,380	76

See Appendix 10 for total expenditure to date.

STATEMENT NO. 1A—HUDSON BAY RAILWAY (CHURCHILL TERMINALS)

DISTRIBUTION OF CAPITAL EXPENDITURE—FISCAL YEAR 1936-37

	Amount	
	\$	cts.
Land Expropriation.....		130 86
Salaries and Wages.....	82,279	52
Materials and Supplies.....	18,513	58
Transportation and Travel Expenses.....	13,872	48
Advertising and Publicity.....		
Professional and Special Services.....	164	86
Miscellaneous Current Expenses.....	201	06
Rentals Equipment.....	197	06
Miscellaneous.....	1,305	69
Contracts and Agreements.....	346	01
	116,681	40
Expenditure charged to Vote No. 77.....	118,700	82
Less refund to Previous Year's Expenditure.....	2,019	42
	116,681	40

See Appendix No. 10 for total expenditure to date.

STATEMENT NO. 2—WELLAND SHIP CANAL CONSTRUCTION

DISTRIBUTION OF CAPITAL EXPENDITURE—FISCAL YEAR 1936-37

	Amount	
	\$	cts.
Headquarters General Engineering, etc.....	126,501	24
	126,501	24

Expenditure charged to Vote No. 78.....	\$	cts.
Less Previous Year's Expenditure.....	51,944	87
	178,446	11

126,501 24

See Appendix No. 11 for total expenditure to date.

STATEMENT NO. 3—MARITIME FREIGHT RATES ACT

DISTRIBUTION OF EXPENDITURE—FISCAL YEAR 1936-37

	Amount			
	\$		cts.	
Railways other than Canadian National:—				
Canada and Gulf Terminal Railway.....	4,255	25		
Canadian Pacific Railway.....	219,242	25		
Cumberland Railway and Coal Co.....	24,900	09		
Dominion Atlantic Railway.....	145,734	48		
Maritime Coal, Railway and Power Co.....	17,377	08		
Sydney and Louisburg Railway Co.....	262,184	21		
Temiscouata Railway Co.....	16,115	23	689,808	59
Canadian National Railways:—				
Eastern Lines, 20% Reduction in Tolls.....			1,816,014	46
Total.....			2,505,823	05

NOTE.—Expenditure relative to railways under Maritime Freight Rates Act, Fiscal Year 1936-37, covers the Railway Companies Accounts to December 31st, 1936.

See Appendix No. 13 for expenditure to date.

STATEMENT NO. 4—VOTE NO. 79 CANALS INCOME IMPROVEMENTS, VOTE NO. 418 CANALS, REPAIRS AND IMPROVEMENTS (ITEM 5 SUPP. P.W.C. ACT 1935) AND VOTE NO. 421 CANALS, HARBOURS AND ELEVATORS REPAIRS AND IMPROVEMENTS, DISTRIBUTION OF EXPENDITURE—FISCAL YEAR 1936-37

	Vote 79	Vote 418	Vote 421	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
<i>Quebec Canal System—</i>				
<i>Soulanges Canal—</i>				
Additions and Betterments.....			24,600 00	24,600 00
			24,600 00	24,600 00
Chamby Canal—				
Additions and Betterments.....		2,000 00	8,605 97	10,605 97
Repairs.....			23,759 78	23,759 78
		2,000 00	32,365 75	34,365 75
Beauharnois (Old)—				
Replacements.....			18,117 07	18,117 07
			18,117 07	18,117 07
St. Anne's Lock—				
Additions and Betterments.....			2,776 20	2,776 20
			2,776 20	2,776 20
Carillon and Grenville Canals—				
Additions and Betterments.....		12,498 32	10,084 66	22,582 98
		12,498 32	10,084 66	22,582 98
Hungry Bay and Ste. Barbe Dykes—				
Additions and Betterments.....			399 43	399 43
			399 43	399 43
<i>Ontario-St. Lawrence Canals—</i>				
Cornwall Canal—				
Replacements.....		999 61		999 61
Maintenance.....			544 25	544 25
		999 61	544 25	1,543 86
Williamsburg Canal—				
Replacements.....	2,058 92			2,058 92
	2,058 92			2,058 92
Welland Canals—				
Replacements.....	15,190 15			15,190 15
Additions and Betterments.....	22,863 24	2,600 00	23,386 04	48,849 28
Maintenance.....	16,767 89			16,767 89
	54,821 28	2,600 00	23,386 04	80,807 32
Rideau Canal (and Tay)—				
Additions and Betterments.....	86,311 99	604 17	1,000 00	87,916 16
Maintenance.....		217 97		217 97
	86,311 99	822 14	1,000 00	88,134 13
Trent Canal—				
Additions and Betterments.....	10,267 04			10,267 04
Maintenance.....	29,842 99		527 89	30,370 88
Replacements.....	40,478 55			40,478 55
Repairs.....			2,769 44	2,769 44
	80,588 58		3,297 33	83,885 91
Murray Canal—				
Repairs.....			4,055 34	4,055 34
Maintenance.....			1,633 84	1,633 84
			5,689 18	5,689 18

DEPARTMENT OF TRANSPORT

STATEMENT No. 4—Concluded

	Vote 79	Vote 418	Vote 421	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Churchill Terminals— Additions and Betterments.....		2,500 00		2,500 00
		2,500 00		2,500 00
Prescott Elevator— Additions and Betterments.....		55,009 80	3,022 35	58,032 15
		55,009 80	3,022 35	58,032 15
Total.....	223,780 77	76,429 87	125,282 26	425,492 90

RECAPITULATION

	Vote 79	Vote 418	Vote 421	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Additions and Betterments.....	119,442 27	75,212 29	73,874 65	268,529 21
Repairs.....			30,584 56	30,584 56
Maintenance.....	46,610 88	217 97	2,705 98	49,534 83
Replacements.....	57,727 62	999 61	18,117 07	76,844 30
	223,780 77	76,429 87	125,282 26	425,492 90

STATEMENT No. 5.—GOVERNMENT EMPLOYEES COMPENSATION ACT
CHAPTER 30, REVISED STATUTES 1927

STATEMENT OF EXPENDITURE—FISCAL YEAR 1936-37

Board	Dominion expenditure, including amounts advanced	Interest earned by Boards	Total Board receipts	Disbursements under the Act				Changes in advance accounts
				Compensation, pension, etc.	Proportion of administration expenses	Refund of accrued interest	Total	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Nova Scotia.....	32,632 49		32,632 49	21,803 29	6,515 72		28,319 01	4,313 48
New Brunswick....	13,917 61	43 39	13,961 00	6,661 09	7,040 60	43 39	13,745 08	215 92
Ontario.....	75,442 88		75,442 88	68,104 69			68,104 69	7,338 19
Quebec Commission.....	2,010 94		2,010 94		2,010 94		2,010 94	
Manitoba.....	25,934 07	245 25	26,179 32	26,584 06	4,992 80	245 25	31,822 11	5,642 79
Saskatchewan.....	7,981 99	59 38	8,041 37	6,407 58	790 31	59 38	7,257 27	784 10
Alberta.....	17,262 24	125 34	17,434 10	18,151 50	1,232 83	46 52	19,430 85	1,996 75
British Columbia..	26,715 61	35 29	26,750 90	25,299 01	938 21	35 29	26,272 51	478 39
Province of Prince Edward Island.....	1,715 98		1,715 98	1,715 98			1,715 98	
Province of Quebec.....	68,341 21		68,341 21	68,341 21			68,341 21	
Province of Ontario (Medical Aid).....	1,717 84		1,717 84	1,717 84			1,717 84	
Miscellaneous (Administration expenses).....	25 50		25 50		25 50		25 50	
Miscellaneous.....	565 67		565 67	565 67			565 67	
	273,081 69	555 17	273,636 86	244,220 58	23,495 91	429 83	268,146 32	5,490 54

STATEMENT No. 5A—GOVERNMENT EMPLOYEES COMPENSATION, ACT—CHAPTER 30, REVISED STATUTES 1927

NUMBER OF CLAIMS ON WHICH PAYMENTS WERE MADE AND AMOUNTS DISBURSED IN COMPENSATION, MEDICAL AID AND PENSIONS, FISCAL YEAR 1936-37

NOVA SCOTIA BOARD

Department	Number of Claims				Disbursements
	Compensation and Medical Aid	Medical Aid only	Pensions	Total	
Agriculture.....	1		1	2	\$ cts. 399 14
Fisheries.....	4	2	1	7	463 17
Interior.....	14	2		16	1,549 38
Marine.....	9	10	7	26	4,159 49
National Defence.....	15	13	6	34	2,686 04
National Harbours Board (Halifax).....	6	1		7	150 30
Pensions and National Health.....			1	1	118 80
Post Office.....	1	3		4	64 80
Public Works.....	92	16	19	127	12,212 17
	142	47	35	224	21,803 29

NEW BRUNSWICK BOARD

Fisheries.....	2		4	6	2,129 84
Interior.....	1			1	73 90
Justice.....	1			1	46 00
Marine.....	5	5	1	11	1,074 17
Mines.....		1		1	5 00
National Defence.....	2	1		3	53 16
National Harbours Board (Saint John).....	5	5		10	154 83
National Revenue.....		1		1	50 00
Post Office.....	1	9	2	12	925 00
Public Works.....	22	4	3	29	2,258 39
Transport (Civil Aviation).....	1			1	44 36
Outstanding Cheques.....					153 56
	40	26	10	76	6,661 09

ONTARIO BOARD

Agriculture.....	9	1	2	12	1,134 38
Finance.....		1		1	43 00
House of Commons.....	1			1	86 39
Indian Affairs.....	2			2	171 05
Interior.....	6	2	1	9	877 43
Justice.....	3	3	3	9	2,708 60
Labour.....		1		1	46 50
Marine.....	1	2	14	17	6,982 63
Mines.....	3	2		5	103 93
National Defence.....	30	11	8	49	7,170 55
National Research Council.....	2			2	24 50
National Revenue.....	1	1		2	36 50
Pensions and National Health.....	8		10	18	2,697 68
Post Office.....	91		2	93	5,037 56
Public Works.....	40	2	16	58	12,476 52
Public Printing and Stationery.....	4		1	5	587 36
Railways and Canals.....	76	5	42	123	26,998 33
Supreme Court.....	2			2	34 00
Trade and Commerce.....	1	1	1	3	477 97
Transport (Civil Aviation).....	8			8	409 81
	288	32	100	420	68,104 69

STATEMENT No. 5A—GOVERNMENT EMPLOYEES COMPENSATION ACT—CHAPTER 30, REVISED STATUTES 1927—Con.

NUMBER OF CLAIMS ON WHICH PAYMENTS WERE MADE AND AMOUNTS DISBURSED IN COMPENSATION, MEDICAL AID AND PENSIONS, FISCAL YEAR 1936-37—Con.

MANITOBA BOARD

Department	Number of Claims				Disbursements
	Compensation and Medical Aid	Medical Aid only	Pensions	Total	
					\$ cts.
Agriculture.....	3	7	1	11	233 41
Immigration and Colonization.....		1		1	25 17
Interior.....	16	4	6	26	5,683 30
Justice.....		1	2	3	697 96
Mines.....	5	3	1	9	854 82
National Defence.....	6	2		8	786 35
National Revenue.....		2		2	43 00
Pensions and National Health.....	1	1		2	102 00
Post Office.....	12	29		41	356 07
Public Works.....	7	2	8	17	2,913 86
Railways and Canals—					
Hudson Bay Railway.....	22	19	8	49	7,307 70
Hudson Bay Terminals.....	7	1	9	17	7,411 42
Trade and Commerce.....	2	7		9	169 00
	81	79	35	195	26,584 06

SASKATCHEWAN BOARD

Agriculture.....	4	13	1	18	1,162 23
Interior.....	19	5	3	27	2,184 52
Justice.....		2		2	65 00
Mines.....		1		1	3 00
National Defence.....	8			8	861 90
National Revenue.....		2		2	10 00
Post Office.....		31		31	1,123 15
Public Works.....	1	5	1	7	550 17
Trade and Commerce.....	2	2		4	447 61
	34	61	5	100	6,407 58

ALBERTA BOARD

Agriculture.....	2	5	3	10	1,139 96
Immigration and Colonization.....	1	1		2	43 00
Indian Affairs.....	1	1	1	3	505 88
Interior.....	73	16	16	105	11,451 32
Mines.....	2	1		3	31 63
National Defence.....	1			1	43 01
Post Office.....	14	23	1	38	1,127 36
Public Works.....	3		1	4	978 51
Soldiers Settlement Board.....		2		2	48 00
Trade and Commerce.....	9	3	3	15	2,309 43
Transport (Civil Aviation).....	1			1	36 00
Suspense Account.....					437 40
	107	52	25	184	18,151 50

STATEMENT No. 5A—GOVERNMENT EMPLOYEES COMPENSATION ACT—CHAPTER 30, REVISED STATUTES 1927—*Con.*NUMBER OF CLAIMS ON WHICH PAYMENTS WERE MADE AND AMOUNTS DISBURSED IN COMPENSATION, MEDICAL AID AND PENSIONS, FISCAL YEAR 1936-37—*Con.*

BRITISH COLUMBIA BOARD

Department	Number of Claims				Disbursements \$ cts.
	Compensation and Medical Aid	Medical Aid only	Pensions	Total	
Agriculture.....	7	3		10	629 97
Biological Board of Canada.....		2		2	33 50
Fisheries.....	6	9	7	22	3,777 96
Indian Affairs.....			2	2	1,048 30
Interior.....	27	18	6	51	4,691 70
Justice.....		1		1	5 00
Marine.....	7	2	3	12	2,222 19
Mines.....	5	6		11	1,128 53
National Defence.....	7	5		12	294 59
National Harbours Board (Vancouver).....	51	32		83	4,810 58
National Revenue.....		8	2	10	1,088 67
Pensions and National Health (Health Branch).....		1	1	2	462 84
Post Office.....	4	51	1	56	1,169 68
Public Works.....	16	20	5	41	3,830 56
Trade and Commerce.....		2		2	14 00
Transport (Civil Aviation).....	2	3		5	83 18
Investigation Expenses.....					7 76
	132	163	27	322	25,299 01

PROVINCE OF PRINCE EDWARD ISLAND

Agriculture.....	2			2	33 26
Fisheries.....			1	1	820 00
Marine.....	6	1		7	301 91
Public Works.....	5		3	8	560 81
	13	1	4	18	1,715 98

PROVINCE OF ONTARIO

Agriculture.....		10		10	91 50
Finance.....		1		1	6 00
House of Commons.....		1		1	5 00
Interior.....		5		5	28 69
Justice.....		3		3	28 00
Marine.....		14		14	89 50
Mines.....		2		2	47 50
National Defence.....		66		66	398 50
National Research Council.....		5		5	21 00
National Revenue.....		3		3	31 00
Post Office.....		54		54	271 25
Printing and Stationery.....		1		1	2 50
Public Works.....		27		27	168 50
Railways and Canals.....		77		77	491 40
Royal Canadian Mint.....		3		3	19 00
Trade and Commerce.....		2		2	5 00
Transport (Civil Aviation).....		2		2	13 50
		276		276	1,717 84

STATEMENT No. 5A—GOVERNMENT EMPLOYEES COMPENSATION ACT—CHAPTER
30, REVISED STATUTES 1927—*Con.*NUMBER OF CLAIMS ON WHICH PAYMENTS WERE MADE AND AMOUNTS
DISBURSED IN COMPENSATION, MEDICAL AID AND PENSIONS,
FISCAL YEAR 1936-37—*Con.*

PROVINCE OF QUEBEC

Department	Number of Claims				Disburse- ments
	Compensa- tion and Medical Aid	Medical Aid only	Pensions	Total	
					\$ cts.
Agriculture.....	9		1	10	1,823 55
Fisheries.....	1			1	27 50
Immigration and Colonization.....	1	1		2	279 39
Indian Affairs.....	1			1	1,702 40
Interior.....	4	3		7	1,202 80
Justice.....	3	5	1	9	1,176 98
Marine.....	36	52	15	103	9,724 43
Mines.....	1	2		3	44 00
National Defence.....	46	57	7	110	7,580 97
National Harbours Board (Montreal).....	36	24		60	6,534 18
National Harbours Board (Quebec).....	6	23		29	482 10
National Revenue.....	3	3		6	74 21
Pensions and National Health.....	4		1	5	675 38
Post Office.....	78	145	5	228	13,621 85
Public Works.....	78	24	10	112	10,914 33
Railways and Canals.....	73	28	9	110	12,304 09
Trade and Commerce.....		1		1	4 00
Transport (Civil Aviation).....	2	1		3	169 05
	382	369	49	800	68,341 21

MISCELLANEOUS

Agriculture.....					111 11
Labour.....					34 56
Marine.....					420 00
					565 67

MISCELLANEOUS—QUEBEC—ADMINISTRATION EXPENSES

Post Office (CR 31).....					8 50
Post Office (CR 32).....					8 50
Railways and Canals (CR 20).....					8 50
					25 50

SUMMARY

Agriculture.....	37	39	9	85	6,536 29
Biological Board of Canada.....		2		2	33 50
Finance.....		2		2	49 00
Fisheries.....	13	11	13	37	7,218 47
House of Commons.....	1	1		2	91 39
Immigration and Colonization.....	2	3		5	347 56
Indian Affairs.....	4	1	3	8	3,427 63
Interior.....	160	55	32	247	27,743 04
Justice.....	7	15	6	28	4,727 54
Labour.....		1		1	11 94

STATEMENT No. 5A—GOVERNMENT EMPLOYEES COMPENSATION ACT—CHAPTER
30, REVISED STATUTES 1927—*Conc.*NUMBER OF CLAIMS ON WHICH PAYMENTS WERE MADE AND AMOUNTS
DISBURSED IN COMPENSATION, MEDICAL AID AND PENSIONS,
FISCAL YEAR 1936-37—*Conc.*SUMMARY—*Concluded*

Department	Number of Claims				Disbursements
	Compensation and Medical Aid	Medical Aid only	Pensions	Total	
					\$ cts.
Marine.....	64	86	40	190	24,134 32
Mines.....	16	18	1	35	2,218 41
National Defence.....	115	155	21	291	19,875 07
National Harbours Board (Halifax).....	6	1		7	150 30
“ “ (Montreal).....	36	24		60	6,534 18
“ “ (Quebec).....	6	23		29	482 10
“ “ (St. John).....	5	5		10	154 83
“ “ (Vancouver).....	51	32		83	4,810 58
National Research Council.....	2	5		7	45 50
National Revenue.....	4	20	2	26	1,333 38
Pensions and National Health (Health Branch).....	13	1	12	26	3,593 86
Post Office.....	201	1	1	2	462 84
Public Printing and Stationery.....	4	345	11	557	23,696 72
Public Works.....	4	1	1	6	589 86
Railways and Canals (Canals).....	264	100	66	430	46,863 82
Railways and Canals (Canals).....	149	110	51	310	39,793 82
Hudson Bay Railway.....	22	19	8	49	7,307 70
Hudson Bay Terminals.....	7	1	9	17	7,411 42
Royal Canadian Mint.....		3		3	19 00
Soldiers Settlement Board.....		2		2	48 00
Supreme Court.....	2			2	34 00
Trade and Commerce.....	14	18	4	36	3,427 01
Transport (Civil Aviation).....	14	6		20	755 90
O/S Cheques N.B. Board.....					153 56
Investigation Expenses, B.C. Board.....					7 76
Suspense <i>re</i> Alta. Board.....					437 40
	1,219	1,106	290	2,615	244,220 58

STATEMENT NO. 6.—DISTRIBUTION OF EXPENDITURE FROM VOTE NO. 259 CANALS AND HARBOURS, OPERATION AND MAINTENANCE AND VOTE NO. 260 ELEVATORS, OPERATION AND MAINTENANCE

	Administration		Operation of Facilities		Maintenance of Properties		Replacements		Stores		Total		Chargeable to				
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	Staff	Repairs			
CANALS—																	
<i>Quebec Canals System—</i>																	
Head Office.....	33,109	45										33,109	45		143,261	46	
Lachine Canal.....	28,251	08	157,658	82	143,885	99	3,242	36	3,566	89	329,181	36	185,919	36	66,916	45	
Soulanges Canal.....	10,125	20	57,831	07	64,866	87	1,429	91	499	97	134,872	72	67,956	27	37,699	96	
Chambly Canal.....	6,035	45	27,515	67	37,913	63	488	75	702	42	71,851	08	34,151	12	4,963	72	
St. Ours Lock.....	2,079	30	2,822	86	6,004	47	54	45	1,095	20	9,875	88	4,912	16	4,892	59	
St. Anne's Lock.....	2,716	30	3,733	33	4,868	41	135	05	110	87	11,342	22	6,449	63	58,151	82	
Carillon and Grenville Canal.....	4,616	88	25,685	02	51,391	25	5,816	78	943	79	88,453	72	30,301	90	5,287	09	
Hungry Bay and St. Barbe Dykes.....					5,287	09					5,287	09					
Dredge Vessels.....	4,606	99	22,369	30	7,182	26	436	51	149	33	34,744	39	26,976	29		7,768	10
<i>Ontario St. Lawrence Canals—</i>																	
Head Office.....	31,677	29			8,512	99	66	23			40,256	51	31,677	29		8,579	22
Cornwall Canal.....	32,270	48	60,436	32	44,282	26	1,834	90	12,925	80	125,898	16	92,706	80		33,191	86
Williamsburg Canal.....	6,605	87	54,265	26	21,612	08	420	31	7,624	49	90,528	01	60,871	13		29,656	88
St. Peters Canal.....	1,611	43	5,663	39	2,942	71	13	10			10,250	63	7,294	82		2,955	81
Welland Canals.....	128,820	40	278,557	76	265,906	58	6,777	31	13,049	37	667,012	68	407,378	16		259,634	52
Sault Ste. Marie Canal.....	13,879	36	22,309	84	11,027	45	527	33	536	62	48,280	60	36,189	20		12,091	40
Rideau Canal (and Tay).....	16,397	84	71,506	72	62,186	89	1,741	14	1,643	25	150,189	34	87,904	56		62,284	78
Trent Canal.....	55,052	03	93,149	70	50,806	83	1,167	77	1,041	00	199,135	33	148,201	73		50,933	60
Murray Canal.....	1,935	34	4,454	33	4,607	34	74	70	589	59	10,482	12	6,389	67		4,092	45
Hudson Bay Terminals.....	10,745	06	49,451	94	7,897	28					68,104	28	60,207	00		7,897	28
Canals General.....	1,329	36									1,329	36					
ELEVATORS—																	
Churchill.....	12,728	07	73,462	74	11,881	47					98,072	28	86,190	81		11,881	47
Port Colborne.....	11,226	81	53,799	59	7,905	67			12,579	88	85,511	95	65,026	40		20,485	55
Prescott.....	12,727	81	40,629	73	9,997	69	11,167	71	4,048	63	78,571	67	54,226	20		24,345	47
Totals.....	429,157	90	1,105,343	39	830,587	21	35,394	01	8,141	68	2,392,340	83	1,535,369	85		856,970	98

* Expenditure to December 31, 1936, facilities transferred to National Harbours Board.

STATEMENT NO. 7.—DISTRIBUTION OF CANALS REVENUE RECEIVED,
FISCAL YEAR 1936-37

	Hydraulic Rents	Land Rents	Trans- mission Rents	House Rents	Elevator Fees	Miscel- laneous Rents	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
CANALS							
Quebec Canals System—							
Lachine Canal.....	32,815 34	120,539 90	7,546 76	460 00		25,730 88	187,092 88
Soulanges Canal.....	3,000 00	261 40	523 00	290 00		100 70	4,175 10
Chambly Canal.....	20 00	277 00	192 40	668 00			1,157 40
St. Anne's Lock.....		87 00	94 00	60 00			241 00
St. Ours Lock.....				60 00			60 00
Carillon and Grenville Canals.....	1,000 00	242 00	74 50	225 00		25 10	1,566 60
Beauharnois Canal.....	55,677 00	3,920 07	22 00				59,619 07
Ontario St. Lawrence Canals—							
Cornwall Canal.....	29,279 50	1,672 10	278 52	200 00		875 85	32,305 97
Williamsburg Canal.....	1,005 00	956 40	74 00	294 00		900 67	3,230 07
St. Peters Canal.....		53 12	20 17	96 00			169 29
Welland Canals.....	34,414 78	38,570 52	4,215 43	1,588 00		129,892 50	208,691 23
Sault Ste. Marie Canal.....	50 00	51 00	20 00	96 00			217 00
Rideau Canal.....	883 50	6,454 87	834 50	2,112 00		90 00	10,374 87
Trent Canal.....	1,206 00	1,574 70	840 00	2,850 83		40 00	6,511 53
Murray Canal.....		54 00	27 00	230 00			311 00
Chat Falls.....		1 00					1 00
Sundries.....		3 00					3 00
Churchill Terminals.....		125 00				2,239 55	2,364 55*
ELEVATORS							
Port Colborne Elevator.....					206,767 31		206,767 31*
Prescott Elevator.....		15 00	100 00	28 00	157,395 73	4,276 34	161,815 07*
Churchill Elevator.....					117,091 22		117,091 22*
Total.....	159,351 12	174,858 08	14,862 28	9,267 83	481,254 26	164 171 59	1,003,765 16

* Revenue to December 31, 1936. Facilities transferred to National Harbours Board.

STATEMENT NO. 8.—RAILWAY GRADE CROSSING FUND EXPENDITURE 1936-37

Payments to	Total expenditure, fiscal year 1936-37
	\$ cts.
Expenditure from Railway Grade Crossing Fund, Chapter 170 (Section 262 Revised 1927)—	
Canadian National Railways.....	29,116 91
Grand River Railway.....	560 00
Michigan Central Railway.....	4,880 48
New York Central.....	2,879 50
Department of Public Works—Alberta.....	1,515 16
Department of Highways—Nova Scotia.....	328 66
Department of Roads—Quebec.....	13,456 88
Department of Northern Development—Ontario.....	1,000 00
Municipal District of Wheatlands—Alberta.....	132 66
Corporation of City of London.....	95 32
	53,965 57
Expenditure from Grant of \$500,000 for Unemployment Relief 1930 (Railway Grade Crossing Fund)—	
Department of Highways—Ontario.....	70 00
Expenditure from Grant of \$500,000 for Unemployment Relief 1931 (Railway Grade Crossing Fund)—	
Department of Highways—Nova Scotia.....	13,644 56
Expenditure from Special Supplementary Vote No. 417, Railway Grade Crossings, Item No. 1, P.W.C.A., 1935—	
Canadian National Railway.....	50,961 72
Canadian Pacific Railway Co.....	48,216 68
Père Marquette Railway.....	2,878 40
Ada Nac Village—Saskatchewan.....	160 00

STATEMENT NO. 8.—RAILWAY GRADE CROSSING FUND EXPENDITURE 1936-37—
Concluded

Payments to	Total expenditure, fiscal year 1936-37
	\$ cts.
Expenditure from Special Supplementary Vote No. 417—Conc.	
Department of Highways—	
(1) Nova Scotia.....	29,919 83
(2) Ontario.....	137,916 38
(3) Saskatchewan.....	28,667 39
Department of Public Works—	
(1) British Columbia.....	5,460 00
(2) New Brunswick.....	1,462 20
City of Grand'Mère—Quebec.....	33,070 96
City of Port Arthur.....	34,443 74
City of Winnipeg.....	71,476 78
	444,634 08
Expenditure from Special Supplementary Vote No. 420, Railway Grade Crossings—	
Department of Highways—	
(1) Nova Scotia.....	29,398 50
(2) Saskatchewan.....	8,817 71
	38,216 21
Total.....	550,530 42

STATEMENT NO. 9.—EXPENDITURES BY DEPARTMENT OF TRANSPORT (RAILWAYS
AND CANALS SERVICES) ACCOUNT OF OTHER DEPARTMENTS,
FISCAL YEAR 1936-37

Vote No.		
Supp. 413	River Protection Works at Waterway, Alta.....	\$ 1,000 00
“ 495	Development of Historic Sites, Fort Prince of Wales, Churchill, Man.....	10,000 00
		\$ 11,000 00

NOTATIONS—

(A) Item Schedule "CC". This item voted under "Capital". Appropriation and is included in "Investments Railways" Contact with Public Accounts as follows:

Public Accounts show.....	\$	cts.
Public Accounts omit.....		76,115,221 09
Part of Item 40 Canadian Pacific Extension.....	970,000	00
Part of Item 14 Canadian Central Railways.....	1,525,250	00
As detailed in the Departmental Report for 1929-30.....	2,495,250	00
	<u>78,610,471</u>	<u>09</u>

(B) Includes contributions towards Railway Grade Crossing Fund on account of Hamilton Viaduct during Fiscal Year 1934-35.

Total as at March 31st, 1936.....	\$	cts.
Add charges—Fiscal Year 1936-37.....	961,079,332	73
Less amount of \$402.37 deleted from Schedule "BB" Railways Revenue Expenditure previously charged to Can. Govt. Rlys.—Working Expenses, in error	53,232,674	71
	<u>402</u>	<u>37</u>

Total as at March 31st, 1937.....

53,232,272 34

1,014,911,605 07

DEPARTMENT OF TRANSPORT

SCHEDULE "FF"—To consolidated Revenue Fund Account, Department of Transport (Railways and Canals Services) Revenue Receipts (By Years)

Year	Interest on Railway Subsidies	Miscel- laneous	Canals	Canadian Government Railways	Total
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1868 to 1900 inclusive....	Nil	39,594 52	12,326,470 76	73,226,382 16	85,952,447 44
1901.....	548 19	420 80	315,425 69	5,213,381 24	5,529,775 92
1902.....	1,057 14	22,651 87	300,413 68	5,918,990 43	6,243,113 12
1903.....	1,636 53	4,528 50	230,213 15	6,584,598 77	6,820,976 95
1904.....	5,687 13	5,135 61	(A) 79,536 51	6,627,255 51	6,717,614 76
1905.....	11,545 72	7,695 01	78,009 21	7,050,892 11	7,148,142 05
1906.....	20,028 23	8,260 75	108,067 76	7,950,552 97	8,086,909 71
1907.....	18,408 36	3,438 67	105,003 15	6,509,186 49	6,636,036 67
1908.....	47,431 50	22,686 13	144,882 13	9,534,569 04	9,749,568 80
1909.....	58,540 72	6,457 40	199,501 26	8,894,420 42	9,158,919 80
1910.....	68,505 45	13,051 42	193,409 28	9,647,963 71	9,922,929 86
1911.....	79,213 66	5,367 46	221,138 49	10,249,394 38	10,555,113 99
1912.....	81,934 26	41,488 07	263,716 75	11,034,165 83	11,421,304 91
1913.....	90,620 31	13,267 80	307,567 66	12,442,203 46	12,853,659 23
1914.....	101,986 34	19,411 51	380,188 06	13,394,317 37	13,895,903 28
1915.....	121,448 62	3,604 02	427,763 14	12,149,357 32	12,702,173 10
1916.....	163,027 75	7,896 45	446,722 21	18,427,908 65	19,045,555 06
1917.....	252,764 44	21,352 37	461,423 14	23,539,758 61	24,275,298 56
1918.....	227,850 32	3,455 78	414,868 22	27,240,956 87	27,887,131 19
1919.....	205,147 37	7,942 48	387,654 90	38,013,725 69	38,614,470 44
1920.....	296,751 63	6,266 33	441,926 36	41,402,061 36	42,147,005 68
1921.....	310,561 93	14,439 29	365,941 36	36,814,349 70	37,505,292 28
1922.....	220,356 13	5,692 10	804,515 58	(B)	1,030,563 81
1923.....	130,264 05	26,897 85	742,404 13	.....	899,566 03
1924.....	157,663 69	52,166 69	897,412 22	.....	1,107,242 60
1925.....	138,450 76	33,123 86	907,650 33	.....	1,079,224 95
1926.....	139,069 19	24,049 34	921,215 00	.....	1,084,333 53
1927.....	143,714 49	16,858 07	961,694 09	.....	1,122,266 65
1928.....	147,493 87	25,708 14	1,355,677 46	.....	1,528,879 47
1929.....	142,639 57	18,328 57	1,230,332 55	.....	1,391,300 69
1930.....	157,404 77	84,553 66	1,043,646 87	.....	1,285,605 30
1931.....	153,355 93	13,815 31	1,026,670 83	.....	1,193,842 07
1932.....	137,244 66	20,076 20	976,845 35	.....	1,134,166 21
1933.....	126,464 69	12,385 50	831,020 30	.....	969,870 49
1934.....	121,996 84	22,858 59	877,629 65	.....	1,022,485 08
1935.....	121,845 12	86,032 42	837,870 76	.....	1,045,748 30
1936.....	123,728 35	12,961 43	889,764 48	.....	1,026,454 26
1937.....	125,153 14	15,653 61	1,003,765 16	.....	1,144,571 91
	4,451,540 85	749,573 58	(C) 33,507,957 63	391,866,392 09	430,575,464 15

(A) Canals Tolls abolished this year.

(B) Under authority of item 341, Chap. 54, 1921, the receipts and revenues of Canadian Government Railways were from January 1, 1921, applied by the management toward payment of working expenditures.

(C) Revenue Receipts as indicated in Annual Report as at March

31, 1936.....	\$ 32,579,334 03
Receipts Fiscal Year 1936-37.....	1,003,765 16
Less: Burlington Bay Canal Revenue, period 1867-68 to 1885-86 inclusive.....	\$ 33,583,099 19
Plus: Adjustment to agree with Public Accounts—	99,278 19
Fiscal Year 1869-70.....	23,821 63
Fiscal Year 1925-26.....	315 00
	24,136 63
	\$ 33,507,957 63

APPENDIX No. 1.—RECONCILIATION—PUBLIC ACCOUNTS WITH CANADIAN NATIONAL RAILWAYS' BALANCE SHEET IN RESPECT OF THE INVESTMENT IN THE CANADIAN GOVERNMENT RAILWAYS AND CASH ASSISTANCE TO THE CANADIAN NATIONAL RAILWAYS.

1. PUBLIC ACCOUNTS AT MARCH 31, 1937—	
Canadian Government Railways—	
Capital Expenditure.....	\$ 388,879,971 90
Stores and Open Accounts.....	15,748,921 60
	<hr/>
	\$ 404,628,893 50
Canadian National Railways—	
Loans (Non-active).....	\$ 655,527,455 83
Less Purchase of Canadian Northern Stock.....	10,000,000 00
	<hr/>
	\$ 645,527,455 83
*Temporary Loans (excluding assistance under S.P.W.C.A., 1935).....	42,146,771 77
	<hr/>
	\$ 687,674,227 60
	<hr/>
Total per Public Accounts.....	\$ 1,092,303,121 10
<hr/>	
2. CANADIAN NATIONAL RAILWAYS' BALANCE SHEET, DECEMBER 31, 1936—	
Dominion of Canada Account—	
Temporary Loans.....	\$ 35,076,695 20
Canadian Government Railways Appropriation Account.....	405,062,244 06
Canadian National Railways Loans.....	686,007,330 03
Interest on Loans accrued but unpaid.....	530,832,597 67
	<hr/>
Total per C.N.R. Books.....	\$ 1,656,978,866 96
	<hr/>
Difference.....	\$ 564,675,745 86
<hr/>	
As follows (i.e., items unadjusted in Public Accounts or accruing between January 1, 1937, and March 31, 1937, in Public Accounts)—	
Canadian National Railway Company—	
Miscellaneous C.G.R. Investment and Working Capital Adjustments not taken into Public Accounts.....	\$ 573,177 05
Expenditures by C.N.R. for Hudson Bay Railway—Paid from loans by Dominion.....	660,369 96
Temporary Loans repaid January-March, 1937.....	35,076,695 20
Unpaid Interest.....	530,832,597 67
	<hr/>
	\$ 564,675,745 86
<hr/>	
*Assistance under Supplementary Public Works Construction Act of 1935 as follows:—	
Purchase of railway equipment.....	\$ 6,723,250 01

APPENDIX No. 2.—RECONCILIATION—PUBLIC ACCOUNTS WITH CANADIAN GOVERNMENT MERCHANT MARINE, LIMITED, BALANCE SHEET AT DECEMBER 31, 1936, IN RESPECT OF INVESTMENT IN CANADIAN GOVERNMENT MERCHANT MARINE, LIMITED.

	Original investment		Recovered through sales and insurance		Net cost to Dominion	
	\$	cts.	\$	cts.	\$	cts.
1. PUBLIC ACCOUNTS AT MARCH 31, 1937 (Original investment, 66 vessels)—						
Schedule "Public Works (Miscellaneous)" Government Shipbuilding Program	58,455,596	74	5,120,496	95	53,335,099	79
Schedule "Public Works (Railways)"—						
Vessels transferred from Hudson Bay Railway	151,099	90	72,489	32	78,610	58
Vessels transferred from Canadian Government Railways	1,071,853	24	220,000	00	851,853	24
Balance of Net Debt of Canada (part)—(War Appropriations)	19,983,371	90			19,983,371	90
Loans from Dominion during operation	79,661,921	78	5,412,986	27	74,248,935	51
Net Cost to Dominion at March 31, 1937					8,099,086	20
					82,348,021	71
2. CANADIAN GOVERNMENT MERCHANT MARINE, LIMITED, BALANCE SHEET AT DECEMBER 31, 1936—						
Dominion of Canada Account—						
Advances for Working Capital and Deficits					\$ 8,568,353	60
Interest Accrued Unpaid					8,426,637	44
Total Liabilities to Dominion					\$ 16,994,991	04

Difference between Public Accounts and C.G.M.M. (amount \$65,353,030.67) as follows:—

Capital Cost of vessels excluded from C.G.M.M. Accounts	\$ 74,248,935	51
Refund to Dominion of Loans, January-March, 1937	469,267	40
Interest due Dominion for Loans, accrued in C.G.M.M. Accounts but not in Public Accounts	8,426,637	44
Difference	\$ 65,353,030	67

APPENDIX No. 3.—Reconciliation—Public Accounts with Canadian National (West Indies) Steamships Limited, balance sheet at December 31, 1936, in respect of Assistance from Dominion of Canada.

1. PUBLIC ACCOUNTS AT MARCH 31, 1937—					
Schedule, "Public Works (Miscellaneous)"—					
Government Shipbuilding Program (part)—					
Vessels transferred from Canadian Government Merchant Marine			\$ 933,071	83	
Schedule, "Canadian National Steamships (Loans, non-active)", (part)—					
West Indies Steamships Limited—Loans to vessels transferred from Canadian Government Merchant Marine			\$ 457,274	37	
All other loans			5,197,830	72	
Total			5,655,105	09	
Total			\$ 6,588,176	92	
2. CANADIAN NATIONAL (WEST INDIES) STEAMSHIPS LIMITED BALANCE SHEET AT DECEMBER 31, 1936—					
Notes payable secured by mortgages on vessels			\$ 933,071	83	
Advances—					
Capital			\$ 679,655	65	
Deficits			5,059,960	94	
Interest accrued unpaid			5,739,616	59	
Total			1,592,821	99	
Total			\$ 8,265,510	41	
Difference			\$ 1,677,333	49	
Difference as follows—					
Loans, January-March, 1937—					
Capital			\$ 2,887	05	
Refund of Surplus (1936)			87,398	55	
Interest on loans from Dominion accrued unpaid			84,511	50	
			1,592,821	99	
			\$ 1,677,333	49	

APPENDIX No. 4.—Reconciliation—Investment Account of Canadian Government Railways as shown on Departmental balance sheet with Annual Report of Canadian Government Railways at December 31, 1936.

	As shown on Schedule to the Departmental Balance Sheet	Additions and Betterments by C.N.R., April 1, 1923, to Dec. 31, 1935	Adjustments and Transfers April 1, 1923, to Mar. 31, 1936	As shown on Canadian Government Balance Sheet, Dec. 31, 1936
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
INTERCOLONIAL RAILWAY SYSTEM—				
Canada Eastern Railway.....	819,000 00			
Cape Breton Railway.....	3,860,679 14			
Drummond County Railway.....	1,464,000 00			
Eastern Extension Railway.....	1,324,042 81			
Montreal and European Railway..	333,942 72			
Oxford and New Glasgow Railway..	1,949,063 21			
Intercolonial Railway.....	122,532,894 02			
	132,283,621 90	9,553,916 06	495,901 19	142,333,439 15
New Brunswick and Prince Edward				
Island Railway.....	925,266 60	762,821 09		1,688,087 69
Prince Edward Island Railway.....	16,500,276 50	961,857 32	2,179,321 68	15,282,812 14
International Railway of New Bruns- wick.....	2,963,021 87	289,249 29		3,252,271 16
National Transcontinental Railway..	168,350,660 50	8,715,814 76	4,297,841 78	172,768,633 48
Moncton and Buctouche Railway.....	363,067 16	270,212 02	173 08	633,106 10
Salisbury and Albert Railway.....	437,647 60	214,249 82	72,175 92	724,073 34
St. Martins Railway.....	302,045 64	87,787 06	1,736 96	388,095 74
Elgin and Havelock Railway.....	135,029 12	62,580 67	6,068 39	203,678 18
York and Carleton Railway.....	59,749 15	3,483 65	1,233 75	64,466 55
Quebec and Saguenay Railway.....	7,772,911 03	161,887 58	2,080 31	7,932,718 30
Caraquet and Gulf Shore Railway..	711,767 38	405,981 75	92,469 67	1,210,218 80
Lotbiniere and Megantic Railway....	360,008 39	169,051 91	4,620 32	186,336 16
Cape Breton Railway (extension)....	107,646 73	37,418 16	1,443 89	143,621 00
Canadian Government Railways				
Rolling Stock.....	35,900,439 75	10,878,337 70	2,241,277 89	22,780,824 16
Quebec Bridge.....	21,706,664 49			21,706,664 49
Miscellaneous.....	148 09	148 09		
Long Lac Cutoff.....		2,847,547 01		2,847,547 01
Lawlor Building, Toronto.....		1,243,834 59		1,243,834 59
Branch Line Aid.....			36,485 95	36,485 95
S.S. Charlottetown.....		6,078 79	2,179,608 64	2,185,687 43
Other floating equipment.....		6,005 70	1,407,607 59	1,413,613 29
Motor Trucks.....		3,245 00	6,724 96	3,479 96
Improvements on Leased Railway				
Property.....		46,739 83	1,306,078 04	1,352,817 87
Miscellaneous Physical Property.....		3,536,328 45	1,093,347 42	4,629,675 87
Investment in affiliated companies..			1,441,086 01	1,441,086 01
	388,879,971 90	18,163,010 90	589,708 38	406,453,274 42

APPENDIX No. 5.—Canadian Government Merchant Marine—Operating Results and Profit and Loss Account to December 31, 1936.

	Number of Vessels	Dead-weight Tonnage	Operating Results
			\$ cts.
OPERATING RESULTS—			
Year 1919.....	19	99,664	1,056,767 38 surplus
" 1920.....	47	256,678	1,293,525 55 surplus
" 1921.....	63	367,737	2,390,875 05 deficit
" 1922.....	64	378,237	2,327,351 23 deficit
" 1923.....	60	362,844	1,892,097 07 deficit
" 1924.....	57	355,450	1,440,880 21 deficit
" 1925.....	49	324,986	948,053 34 deficit
" 1926.....	46	312,090	168,543 82 deficit
" 1927.....	46	312,090	720,735 40 deficit
" 1928.....	38	275,697	1,209,083 02 deficit
" 1929.....	31	243,710	878,907 21 deficit
" 1930.....	30	239,170	834,210 89 deficit
" 1931.....	29	234,595	444,285 53 deficit
" 1932.....	23	178,414	326,613 14 deficit
" 1933.....	11	96,987	17,938 53 deficit
" 1934.....	10	88,579	127,265 81 deficit
" 1935.....	10	88,579	311,822 26 surplus
" 1936.....	10*	88,579	303,505 13 surplus
			10,761,219 93 deficit

*All vessels disposed of during 1936—Government operation discontinued.

PROFIT AND LOSS—		
Accrued deficit per above.....		\$ 10,761,219 93
Betterments written off vessels sold.....		125,092 31
Interest paid Government on capital liability.....		1,012,773 96
Less: Repayment to Government from Insurance Fund built up.....		\$ 3,800,000 00
Cash Deficit.....		\$ 8,099,086 20
Interest due Government.....		8,426,637 44
Total Book Deficit.....		\$ 16,525,723 64

APPENDIX No. 6.—Canadian National (West Indies) Steamships—Operating Results and Profit and Loss Account to December 31, 1936.

	Number of Vessels	
		\$ cts.
OPERATING RESULTS—		
Year 1929.....	12	862,269 91 Cash deficit
" 1930.....	12	992,730 62 "
" 1931.....	12	916,568 53 "
" 1932.....	11	753,715 97 "
" 1933.....	11	967,997 30 "
" 1934.....	11	566,678 61 "
" 1935.....	11	269,969 17 "
" 1936.....	11	87,398 55 Cash surplus
Total.....		5,242,531 56 Cash deficit
Add: Other non-cash charges—		
Depreciation on vessels.....		2,404,952 33
Interest due Government.....		1,592,821 99
Amortization of discount.....		21,145 37
		4,018,919 69
Total.....		9,261,451 25 Book deficit

NOTE.—The corresponding Profit and Loss Deficit, amount \$9,078,880.63, shown in the annual report of the West Indies Steamships, Ltd., does not include:—

Cash deficit for 1935, paid by Government.....	\$ 269,969 17
Cash surplus for 1936, paid to Government.....	87,398 55 (Cr)
	\$ 182,570 62

APPENDIX No. 7.—Statement of Loans to Canadian Government Merchant Marine Limited, and Canadian National (West Indies) Steamships Limited.

Fiscal Year	West Indies		Merchant Marine	
	\$	cts.	\$	cts.
1922-23.....			5,979,856	08
1923-24.....			1,500,000	00
1924-25.....			900,000	00
1925-26.....			668,000	00
1926-27.....			431,607	93
Refund.....			4,790	79
1927-28.....			1,000,000	00
Refund.....			163	57
1928-29.....			758,000	00
Supplementary Appropriation 1929-30.....			750,000	00
1929-30.....	862,389	98	878,907	21
1930-31.....	992,730	62	834,210	89
1931-32.....	*916,448	46	444,285	53
Transfer of Vessels.....	457,274	37	457,274	37
1932-33.....	753,715	97	326,613	14
Refund.....			2,624,280	73
1933-34.....	967,997	30	17,938	53
Refund (General).....			1,000,000	00
1934-35.....	609,901	41	127,265	81
Refund.....			250,000	00
1935-36.....	179,158	48		
Refund.....			611,822	26
1936-37.....	2,887	05		
Refund.....	87,398	55	1,669,267	40
Total—March 31, 1937.....	5,655,105	09	8,099,086	20

*Including Supplementary Appropriation 1932-33.

APPENDIX No. 8.—Port Colborne Elevator—Expenditures and Revenue.

Fiscal Year	Capital Expenditure		Income Expenditure		Revenue		Total Expenditure	Revenue Received
	\$	cts.	\$	cts.	Staff	Repairs		
	\$	cts.	\$	cts.	\$	cts.	\$	cts.
1904-05.....	19,325	34					19,325	34
1905-06.....	102,974	42					102,974	42
1906-07.....	24,063	96					24,063	96
1907-08.....	1,115,345	35					1,115,345	35
1908-09.....	89,669	87			1,634	53	91,304	40
1909-10.....	44,315	39			22,792	19	68,833	12
1910-11.....	37,097	48			15,177	89	54,616	34
1911-12.....	5,782	46			19,580	46	29,589	17
1912-13.....	(a) 89,586	98			26,053	85	4,559	98
1913-14.....	(a) 192,346	90			40,024	56	7,517	57
1914-15.....	(a) 104,950	21			63,701	77	14,167	12
1915-16.....	(a) 20,747	54			78,716	50	18,509	94
1916-17.....					81,489	19	15,325	95
1917-18.....					85,473	94	13,180	80
1918-19.....					61,501	26	11,704	12
1919-20.....			(c) 349,905	01	45,338	74	25,081	36
1920-21.....			(c) 449,832	45	48,317	06	13,990	45
1921-22.....	7,000	00			140,772	98	19,722	65
1922-23.....					106,824	52	26,188	29
1923-24.....	(b) 76,414	96			138,399	78	44,426	10
1924-25.....	(b) 426,596	74			138,493	05	62,053	07
1925-26.....			7,060	70	129,487	11	69,177	86
1926-27.....			20,612	78	153,351	59	72,042	28
1927-28.....			11,525	60	195,408	48	76,250	16
1928-29.....			23,563	95	206,718	81	69,724	42
							300,007	18
							356,740	43
							259,240	84
							627,142	86
							205,725	67
							246,006	65
							283,184	24
							581,113	44

APPENDIX No. 8.—Port Colborne Elevator—Expenditures and Revenue
—Concluded

Fiscal Year	Capital Expenditure	Income Expenditure	Revenue		Total Expenditure	Revenue Received
			Staff	Repairs		
1929-30.....		21,379.86	127,840.54	71,489.45	220,709.85	404,680.23
1930-31.....		18,873.52	137,999.93	55,777.97	212,651.42	462,013.42
1931-32.....		19,461.82	114,179.98	51,187.97	184,829.77	239,579.59
1932-33.....		1,179.73	83,810.77	39,784.43	124,774.93	201,745.29
1933-34.....			63,892.79	24,769.11	88,661.90	153,795.25
1934-35.....			65,418.27	23,165.18	88,583.45	184,116.26
1935-36.....			65,666.11	23,815.31	89,481.42	143,003.97
1936-37.....			(d) 65,026.40	(d) 20,485.55	85,511.95	(d) 206,767.31
	2,356,217.60	923,395.42	2,523,093.05	882,389.85	6,685,095.92	6,637,199.28

* Amount decreased by \$3,116.13 due to the fact that the Revenue figure quoted in 1923-24 was the gross revenue instead of the Net Revenue.

(a) Expenditure covers cost of enlargement.

(b) Expenditure covers cost of extension.

(c) Expenditure covers cost of re-construction.

Expenditure prior to April 1st, 1927, included in departmental reports with Welland Canals appropriations.

(d) Operation and Maintenance charges and Revenue received to December 31, 1936. Facilities transferred to National Harbours Board.

APPENDIX No. 9.—Prescott Elevator—Expenditures and Revenue.

Fiscal Year	Capital Expenditure		Income Expenditure		Revenue		Total Expenditure		Revenue Received	
	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.
1928-29.....	73,102	50					73,102	50		
1929-30.....	1,492,541	65					1,492,541	65		
1930-31.....	3,099,759	99			24,714	98	3,142,690	59	27,930	08
1931-32.....	49,921	29			53,507	54	147,410	29	19,019	97
1932-33.....			4,141	40	52,879	51	82,208	26	28,166	19
1933-34.....					63,148	95	87,719	00	58,262	51
1934-35.....			5	50	66,629	09	86,322	68	*69,551	75
1935-36.....			243,399	72	77,104	86	340,619	25	†175,052	37
1936-37.....			58,032	15	(a) 54,226	20	136,603	82	(a) 161,815	07
	4,715,325	43	305,578	77	392,211	13	5,589,218	04	539,797	94

* Increased by amount of \$9.00 House Rent not included in 1934-35 report.

† Increased by amount of \$3,845.27 Rents, Transmissions and Miscellaneous not included in 1935-36 Report.

Capital expenditure made by Department of Public Works.

Income expenditures 1932-33 and 1934-35 made by Department of Public Works.

(a) Operation and Maintenance charges and Revenue received to December 31, 1936. Facilities transferred to National Harbours Board.

APPENDIX No. 10.—Hudson Bay Railway—Expenditure to March 31, 1937.

	Capital		Deficits during Operations		Total Cost
	Schedule "G" Public Accounts	P.A. Schedule Railway Accounts (Loans Non-Active)	Amounts chargeable to Appro- priations under Collection of Revenue	P.A. Schedule Railway Accounts (Loans Non-Active)	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1909.....	92,427 83				92,427 83
1910.....	53,042 63				53,042 63
1911.....	184,149 81				184,149 81
1912.....	159,632 00				159,632 00
1913.....	1,009,024 52				1,009,024 52
1914.....	3,071,631 22				3,071,631 22
1915.....	3,256,074 39				3,256,074 39
1916.....	2,981,425 47				2,981,425 47
1917.....	1,792,190 39				1,792,190 39
1918.....	1,288,789 61				1,288,789 61
1919.....	641,318 69				641,318 69
1920.....	247,153 67		*51,585 17		195,568 50
1921.....			*22,484 42		22,484 42
1922.....	61,563 43		*49,397 98		110,961 41
1923.....	13,824 94		*26,293 27		40,118 21
1924.....	183,250 35	27,104 38		111,924 37	322,279 10
1925.....	53,848 38	296,439 06		51,567 80	294,158 48
1926.....		133,983 32		39,351 03	173,334 35
1927.....	2,808,549 31				2,808,549 31
1928.....	2,674,224 57				2,674,224 57
1929.....	3,389,084 88				3,389,084 88
1930.....	5,357,692 75				5,357,692 75
1931.....	1,557,298 81				1,557,298 81
1932.....	920,499 80				920,499 80
1933.....	505,496 66				505,496 66
1934.....	390,386 60				390,386 60
1935.....	306,826 27				306,826 27
1936.....	158,539 62		239,702 75		398,242 37
1937.....	84,334 40				
Less Refunds to Previous Year's Expenditure.....	1,953 64	82,380 76	252,854 81		335,235 57
	32,638,323 26	457,526 76	642,318 40	202,843 20	33,941,011 62

NOTE.—Above items under Public Accounts Schedule "Railway Accounts (Loans Non-Active)" form part of Cash loans to Canadian National Railways.

*1920 and 1921 items form part of Canadian Government Railways deficits shown in Schedule "F.F."

*1922 and 1923 items were applied towards payment of Canadian Government Railways Working Expenditures by the Canadian National Railways.

PORT NELSON AND CHURCHILL TERMINALS—EXPENDITURE TO MARCH 31, 1937

	Port Nelson			Fort Churchill			
	Capital	Amounts chargeable to Appropriations under Collection of Revenue		Capital	Income	Amounts chargeable to Appropriations under Collection of Revenue	
							\$
1913	90,038	63					
1914	1,427,086	03					
1915	1,517,669	60					
1916	1,905,706	30					
1917	812,089	55					
1918	590,909	39					
1919	78,760	89					
1920	11,545	19					
1921	121,063	71					
1922	34,769	87					
1923	27,802	56					
1924	24,621	93					
1925	2,184	04					
1926	2,484	07	20,587	31			
1927	1,548	80	13,429	71			
1928	364	76		16,905	09	402 37	
1929				880,643	30		
1930				2,770,478	07		
1931				1,039,133	69		
1932				2,582,390	47		
1933				4,316,167	98		
1934				1,129,898	42	87,497 43	
1935				165,018	47	83,819 80	
1936				125,201	81	186,315 95	
1937	118,700	82		121,240	07	189,307 74	
Less Refunds to Previous Year's Expenditure	2,019	42		116,681	40	* 166,176 56	
	6,240,200	86	34,017	02	13,263,758	77	77,120 91
							713,519 85

HUDSON BAY RAILWAY AND TERMINALS—SUMMARY OF EXPENDITURE TO MARCH 31 1937

	Chargeable to Capital	Chargeable to Income	P.A. Schedule Railway Accounts (Loans Non-Active)	Chargeable to Collection of Revenue	Total	
	\$	cts.	\$	cts.	\$	cts.
1. Railway	32,638	323 26		660,369 96	642,318 40	33,941,011 62
2. Port Nelson Terminal	6,240,200	86			34,017 02	6,274,217 88
3. Churchill Terminal	13,263,758	77	77,120 91		713,519 85	14,054,399 53
	52,142,282	89	77,120 91	660,369 96	1,389,855 27	54,269,629 03

* Operation and Maintenance charges applicable to appropriations under Collection of Revenue to December 31, 1936. Facilities transferred to National Harbours Board.

APPENDIX No. 11.—Welland Ship Canal—Amounts Expended on Construction to March 31, 1937.

	Year Ending	Capital	
		\$	cts.
Government Expenditure	1914	994,257	60
“ “	1915	4,074,200	69
“ “	1916	4,909,732	51
“ “	1917	3,513,769	82
“ “	1918	1,235,046	59
“ “	1919	1,823,875	96
“ “	1920	3,499,963	35
“ “	1921	5,070,297	57
“ “	1922	4,279,815	61
“ “	1923	4,776,393	84
“ “	1924	6,465,512	55
“ “	1925	9,909,636	95
“ “	1926	11,960,465	11
“ “	1927	13,846,472	92
“ “	1928	13,722,925	75
“ “	1929	13,211,259	03
“ “	1930	9,378,626	15
“ “	1931	9,591,892	27
“ “	1932	3,496,489	13
“ “	1933	3,108,623	39
“ “	1934	1,976,593	28
“ “	1935	457,226	90
“ “	1936	547,569	76
Appropriation Charges.....	\$ 51,944	87	
Less Refunds to Previous Year's Expend- iture.....	178,446	11	1937
			126,501
			24
			\$ 131,724,145
			49

Expenditure as above.....\$131,724,145 49

To which add the preliminary expenditure for survey, borings, etc., charged to Welland Canals Capital, as follows:

	\$	cts.
1905-06.....	13,231	97
1906-07.....	10,825	27
1907-08.....	8,300	34
1908-09.....	19,993	37
1909-10.....	9,979	91
1910-11.....	21,229	35
1911-12.....	23,138	60
1912-13.....	112,890	92
		219,589
		73

Total cost of Welland Ship Canal to March 31st, 1937.....\$131,943,735 22

APPENDIX 12—Railway Grade Crossing Fund Expenditure to March 31, 1937

Fiscal Year	Expenditure under Parliamentary Appropriations	Expenditure under Statutory Authority	Expenditure from Unemployment Relief and P.W.C. Act	Total
EXPENDITURES				
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1909-10.....		70 00		70 00
1910-11.....		6,909 18		6,909 18
1911-12.....		7,643 14		7,643 14
1912-13.....		20,807 38		20,807 38
1913-14.....		39,968 11		39,968 11
1914-15.....		92,099 48		92,099 48
1915-16.....		47,079 99		47,079 99
1916-17.....		46,630 53		46,630 53
1917-18.....		13,740 85		13,740 85
1918-19.....		8,715 46		8,715 46
1919-20.....		12,359 74		12,359 74
1920-21.....		56,772 62		56,772 62
1921-22.....		13,292 44		13,292 44
1922-23.....		46,885 94		46,885 94
1923-24.....		44,439 94		44,439 94
1924-25.....		39,436 49		39,436 49
1925-26.....		66,224 53		66,224 53
1926-27.....		126,490 81		126,490 81
1927-28.....		678,787 53		678,787 53
1928-29.....		855,815 17		855,815 17
1929-30.....		475,055 11		475,055 11
1930-31.....		639,724 25	32 96	639,757 21
1931-32.....		958,527 82	335,830 92	1,294,358 74
1932-33.....		317,587 62	105,302 14	422,889 76
1933-34.....		310,074 84	14,290 55	324,365 39
1934-35.....	500,000 00	274,819 83	486,783 28	1,261,603 11
1935-36.....		127,719 46	45,763 64	173,483 10
1936-37.....	482,850 29	53,965 57	13,714 56	550,530 42
	982,850 29	5,381,643 83	1,001,718 05	7,366,212 17
AUTHORIZATIONS				
Amount authorized for the Hamilton Viaduct. Statutory authorization from April 1, 1909 to March 31, 1937—28 years at \$200,000.00 per annum.....	500,000 00			500,000 00
Unemployment Relief—Amount authorized by O.C.P.C. 2582, November 5, 1930.....		5,600,000 00		5,600,000 00
Amount authorized by O.C. 3075, December, 12, 1931.....			500,000 00	500,000 00
Amount authorized by Supp. P.W.C. Act 1935, Item No. 1 Railway Grade Crossings.. Railway Grade Crossings.....			500,000 00	500,000 00
	(a)1,958,416 51		26,974 49	*26,974 49
				1,958,416 51
Total Authorizations to March 31, 1937.....	2,458,416 51	5,600,000 00	1,026,974 49	9,085,391 00
Total Expenditure, April 1, 1909 to March 31, 1937.....	982,850 29	5,381,643 83	1,001,718 05	7,366,212 17
Unexpended Balance as at March 31, 1937....	1,475,566 22	218,356 17	25,256 44	1,719,178 83

(a) Amount authorized by Special Supp. Votes 417 and 420 during 1936-37.

* Amount authorized during 1935-36 by Supp. P.W. Constn. Act, 1935,

	\$ cts.
Item No. 1 Railway Grade Crossings.....	1,000,000 00
Expenditure during 1935-36.....	26,974 49
Balance of authorization lapsed.....	973,025 51

APPENDIX No. 14.—Statement of security deposits held, drawbacks retained and estimated balance of contractual commitments for work to be performed and/or materials to be delivered after March 31, 1937.

	Number of Contracts	Security Deposits held as at March 31, 1937	Drawbacks Retained as at March 31, 1937	Estimated Balance for contractual commitments for work to be performed and/or materials to be delivered as at March 31, 1937
		\$ cts.	\$ cts.	\$ cts.
<i>Capital—</i>				
Canals—				
Welland Ship Canal.....	1	120 00		
<i>Consolidated Revenue Fund—</i>				
Canals—				
Welland Canals.....	2	904 38		
Cement Companies.....	2	12,206 40		
(Dominion Canals).....				
<i>Special—</i>				
Vote No. 421—Canals, Harbours and Elevators.....	1	841 00		
Beauharnois Canal (old).....				
	6	14,071 78		

APPENDIX No. 15.—Government Employees' Compensation Act—Chapter 30, Revised Statutes, 1927.

STATEMENT OF EXPENDITURE BY FISCAL YEARS

Fiscal Year	Expenditure			Disbursements under the Act				Balance on Deposit
	Dominion Expenditure Including Amounts Advanced	Interest Earned by Board	Total	Compensation Pensions, etc.	Proportion of Administration Expenses	Refund of Accrued Interest	Total	
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1918-1919.....								
1919-1920.....	560,746 02	2,590 82	563,336 84	457,270 28	40,284 72		497,555 00	65,781 84
1920-1921.....								
1921-1922.....								
1922-1923.....	225,524 34	3,470 15	228,994 49	202,806 97	18,080 30		220,887 27	73,889 06
1923-1924.....	242,044 72	3,023 40	245,068 12	230,862 77	21,354 90		252,217 67	66,739 51
1924-1925.....	266,880 52	1,487 14	268,376 66	251,657 94	23,745 36	10,116 05	285,519 35	49,596 82
1925-1926.....	360,063 71	1,399 85	361,463 56	322,380 33	24,337 82	455 46	347,173 61	63,880 77
1926-1927.....	331,141 57	395 29	331,536 86	316,721 47	24,240 76	1,399 85	342,368 08	53,055 55
1927-1928.....	378,887 36	558 52	379,445 88	351,312 18	20,471 43		371,783 61	60,217 82
1928-1929.....	402,251 81	1,008 30	403,260 11	381,081 55	21,147 71	1,816 05	404,045 31	59,432 64
1929-1930.....	452,026 11	757 66	453,383 77	429,098 19	21,702 02	360 34	451,160 55	61,655 82
1930-1931.....	436,501 01	1,005 24	437,506 25	374,879 63	29,421 83	1,128 31	405,429 77	98,732 32
1931-1932.....	185,546 32	1,157 25	186,703 57	182,924 69	25,010 11	407 35	208,342 15	72,063 74
1932-1933.....	202,032 95	894 30	202,927 25	186,857 23	14,480 41	1,015 61	202,353 25	72,667 74
1933-1934.....	184,138 81	1,735 10	185,873 91	172,874 73	12,076 03	2,784 00	188,634 76	69,906 89
1934-1935.....	199,837 20	706 22	200,543 42	180,185 15	18,011 30	706 22	198,902 67	71,547 64
1935-1936.....	218,691 04	623 72	219,314 76	220,024 44	9,264 19	623 72	229,912 35	60,950 05
1936-1937.....	273,081 69	555 17	273,636 86	244,220 58	23,495 91	429 83	268,146 32	66,440 59
	4,919,504 18	21,368 13	4,940,872 31	4,505,158 13	348,030 80	21,242 79	4,874,431 72	

APPENDIX No. 15A.—Government Employees Compensation Act—Chapter 30,
Revised Statutes 1927.NUMBER OF CLAIMS ON WHICH PAYMENTS WERE MADE, AND AMOUNTS DISBURSED
IN COMPENSATION, MEDICAL AID AND PENSIONS BY FISCAL YEARS

Fiscal Year	Number of Claims			Total	Disburse- ments
	Compensation and Medical Aid	Medical Aid Only	Pensions		
1918-1919.....					\$ cts.
1919-1920.....					457,270 28
1920-1921.....					
1921-1922.....					
1922-1923.....	1,297	311	179	1,787	202,806 97
1923-1924.....	1,522	616	216	2,354	230,862 77
1924-1925.....	1,503	460	222	2,185	251,657 94
1925-1926.....	1,658	637	228	2,523	322,380 33
1926-1927.....	1,746	679	256	2,681	316,721 47
1927-1928.....	1,822	809	283	2,914	351,312 18
1928-1929.....	2,282	833	324	3,439	381,081 55
1929-1930.....	2,134	1,413	413	3,960	429,098 19
1930-1931.....	1,780	1,365	502	3,647	374,879 63
1931-1932.....	747	1,026	206	1,979	182,924 69
1932-1933.....	616	938	237	1,791	186,857 23
1933-1934.....	487	809	243	1,539	172,874 73
1934-1935.....	664	1,083	255	2,002	180,185 15
1935-1936.....	1,235	1,136	257	2,628	220,024 44
1936-1937.....	1,219	1,106	290	2,615	244,220 58
					4,505,158 13

APPENDIX No. 16.—Eastern Lines.

INCOME ACCOUNT

	Year 1936		Year 1935	
	\$	cts.	\$	cts.
*Railway Operating Revenues.....	20,145,049	13	19,243,549	34
Railway Operating Expenses.....	23,320,180	21	22,206,660	14
Net Revenue from Railway Operations.....	3,175,131	08	2,963,110	80
Railway Tax Accruals.....	307,833	38	300,346	50
Uncollectible Railway Revenues.....			6,797	13
Railway Operating Income.....	3,482,964	46	3,270,254	43
Joint Facility Rent Income.....	83,996	17	93,792	90
Hire of Freight Cars—Debit Balance.....	324,362	40	413,379	10
Rent for Locomotives.....	147,348	86	102,930	86
Rent for Passenger-Train Cars.....	416,793	26	394,999	75
Rent for Work Equipment.....	16,076	77	47,762	10
Joint Facility Rents—Debit.....	58,131	62	77,230	61
Net Railway Operating Income.....	4,361,681	20	4,212,763	95
Revenues from Hotel Operations.....	373,789	46	351,808	07
Expenses of Hotel Operations.....	362,307	20	343,199	33
Taxes on Hotel Property.....	16,655	39	13,808	61
	5,173	13	5,199	87
Income from Lease of Road and Equipment.....	23,300	00	23,300	00
Miscellaneous Rent Income.....	70,335	20	68,153	44
Miscellaneous Non-transportation property—Credit.....	350	17	658	04
Income from unfunded Securities and Accounts.....	1,551	22	1,454	30
Miscellaneous Income.....	504	77	408	20
Miscellaneous Rents—Debit.....	64	00	96	33
Miscellaneous Tax Accruals.....	3,809	34	5,949	76
Miscellaneous Income Charges.....	93	50	157	85
Income Available for Fixed Charges.....	4,274,592	81	4,129,878	08
Rent for Leased Roads and Equipment.....	2,205	40	2,405	40
Interest due Public on Long Term Debt.....	332,965	23	332,965	23
Interest on Unfunded Debt.....	2,173	63	1,611	18
Interest due Canadian National Railways.....	1,173,358	45	1,130,505	04
	1,510,702	71	1,467,486	85
Net Income <i>Loss</i> transferred to Profit and Loss.....	5,785,295	52	5,597,364	93

* Includes Maritime Freight Rates Act contribution for reduction in tolls \$1,820,700.70.

PROFIT AND LOSS ACCOUNT

	Year 1936	Year 1935
	\$ cts.	\$ cts.
CREDITS—		
603 Profit on Road and Equipment Sold.....	776 47	136 94
606 Donations.....	4,298 19	2,320 51
607 Miscellaneous Credits.....	184 42	7,265 53
	5,259 08	9,722 98
DEBITS—		
619 Loss on Retired Road and Equipment.....	311,563 23	201,413 72
621 Miscellaneous Debits.....	676 82	95 96
	312,240 05	201,509 68
Net Profit and Loss Items—Debit.....	306,980 97	191,786 70
Net Income <i>Deficit</i> transferred.....	5,785,295 52	5,597,364 93
Interest on Dominion Government Loans.....	626,413 21	626,413 21
Total Deficit.....	6,718,689 70	6,415,564 84
DEDUCT: Contributions for Deficits from the Government:—		
	1936	1935
	\$ cts.	\$ cts.
Eastern Lines.....	5,550,632 36	5,265,373 20
P.E.I. Car.....	303,439 89	360,334 36
Ferry and Terminals.....	5,854,072 25	5,625,707 56
Interest on Government Loans.....	626,413 21	626,413 21
Balance of deficit, <i>i.e.</i> , loss on abandoned property not required in cash.....	238,204 24	163,444 07
	6,718,689 70	6,415,564 84

NOTE.—The statements of Profit and Loss and Income do not include interest on Government Loans, the accrual of which for the year 1936 was \$626,413.21.

APPENDIX No. 17.—Prince Edward Island Car Ferry.

INCOME ACCOUNT

	Year 1936	Year 1935
	\$ cts.	\$ cts.
Railway Operating Revenues.....	96,606 97	89,338 71
Railway Operating Expenses.....	393,846 73	443,641 13
Net Revenue from Railway Operations.....	297,239 76	354,302 42
Interest due Canadian National Railways.....	6,200 13	6,031 94
Net Income <i>Deficit</i>	303,439 89	360,334 36

This account maintained separately to comply with Order in Council P.C. 904, 16th May, 1933.

APPENDIX No. 18.—Expenditure and Revenue by Canals, Elevators and Ports to March 31, 1937.

	Capital Expenditure		Income Expenditure		Operation and Maintenance Expenditure				Total Expenditure		Total Revenue	
	\$	cts.	\$	cts.	Operation		Maintenance		\$	cts.	\$	cts.
					\$	cts.	\$	cts.				
<i>Canals—</i>												
<i>Main—</i>												
Quebec Canals Head Office.....					638,003 42					638,003 42		
Quebec Dredge Vessels.....			81,602 08		345,780 14		409,707 24			837,149 46		
Lachine.....	13,888,600 16		2,264,185 04		6,442,130 01		5,467,896 71			28,162,811 92		8,017,630 01
Lake St. Louis.....	298,176 11									298,176 11		
<i>Soulanges—</i>												
Soulanges.....	7,899,944 53		582,830 85		1,771,882 39		1,933,366 28			12,188,024 05		159,871 08
Beauharnois—Old.....	1,636,029 29		319,872 31		675,358 72		525,691 23			3,156,951 55		841,621 53
Beauharnois—New.....					9,815 21					9,815 21		59,619 07
Lake St. Francis.....	75,906 71		55,324 02							131,230 73		
<i>Ontario St. Lawrence.</i>												
Cornwall.....	7,245,803 21		316,677 02		345,421 60		89,559 02			751,057 73		
Williamsburg.....	1,334,551 80		661,908 23		3,678,924 65		2,238,540, 79			13,824,776 88		1,517,125 46
Farran's Point.....	877,090 57		422,795 47		1,796,313 88		1,183,481 90			4,707,143 05		124,422 74
Galops Canal.....	6,143,468 11									877,090 57		
Galops Channel.....	1,039,895 65									6,143,468 11		
Rapide Plat.....	2,159,880 80									1,039,895 65		
North Channel.....	1,995,142 87									2,159,880 80		
River Reaches.....	483,830 20									1,995,142 87		
Welland Canals.....	131,943,735 22		3,430,865 18		10,626,887 64		7,525,904 27			153,527,392 31		10,648,039 85
Welland Ship Canal.....												
Prior Welland Canals.....	27,540,386 58									27,540,386 58		
Sault Ste. Marie Canal.....	4,835,809 42		325,812 41		1,231,019 77		884,777 72			7,377,419 32		11,546 73
<i>Secondary—</i>												
St. Peters.....	648,547 14		875,024 77		249,991 48		90,151 95			1,863,715 34		58,863 72
Chambly.....	780,996 52		1,167,784 96		2,028,424 92		1,863,537 97			5,840,744 37		867,535 74
St. Ours.....	735,994 04		185,281 96		245,179 50		197,073 00			1,363,498 50		22,142 85
St. Anne's.....	1,820,215 63		231,823 40		284,843 91		238,319 43			2,075,202 37		108,862 02
Carillon and Grenville.....	4,191,756 51		562,751 08		1,572,180 02		1,436,311 52			7,762,999 13		610,149 51
Rideau including Tax.....	4,703,810 22		976,374 75		3,546,049 89		4,458,594 85			13,684,829 71		1,035,505 62
Rideau Dredge Vessels.....					214,790 94		631,950 91			846,741 85		
Trent.....	19,962,694 27		4,002,403 58		3,238,877 95		2,072,305 85			29,286,281 65		1,478,679 06
Murray.....	1,248,946 71		141,742 58		294,494 03		220,636 36			1,905,819 68		15,907 38

<i>Elevators—</i>									
Port Colborne.....	2,356,217 60	925,395 42	2,523,093 05	882,389 85	3,405,482 90	(a) 6,685,095 92	16,637,199 28		
Prescott.....	4,715,325 43	301,431 87	892,211 13	176,102 71	568,313 84	(a) 5,585,071 14	1539,797 94		
<i>Ports—</i>									
Churchill including Elevator.....	13,263,758 77	77,120 91	645,832 39	67,285 09	713,117 48	(a) 14,053,997 16	1344,586 66		
<i>Miscellaneous—</i>									
Baie Verte (Chignecto).....		44,387 53					44,387 53		
Hungry Bay Dyke.....		47,222 79					273,829 79		
Culbute Lock and Dam.....	382,391 46	60,923 37	11,507 48	7,036 15	226,607 00		461,858 46		
St. Lawrence Ship (Surveys and Invest- gations).....	133,896 80	604,181 01					738,077 81		
Chat Falls.....								25 00	
Surveys and Inspections, Canals.....		572,989 69					572,989 69		
Undistributed Revenue.....	34,966 69	190,509 24	374,772 16	90,678 28	465,450 44		690,926 37		408,826 38
Canals General.....									
	264,077,739 02	*19,426,821 52	*43,163,786 37	*32,917,966 08	76,081,752 45	359,586,312 99	33,507,957 63		

*Reconciliation with Annual Report Fiscal Year 1935-36.

Annual Report, March 31, 1936.

	Income	Operation	Maintenance
	\$	\$	\$
	cts.	cts.	cts.
	19,063,211 17	41,655,261 04	32,061,235 10

†Revenue from January 1, 1937, to end of Fiscal Year 1936-37 relating to Port Colborne, Prescott and Churchill Elevators transferred to National Harbours Board.

Less: Amount transferred to Miscellaneous C.S. Gratuities, Schedules "AA" during 1936-37.....	75,998 20	26,844 52	240 00
Add: Expenditure during 1936-37.....	439,578 55	1,535,369 85	856,970 98
	19,426,821 52	43,163,786 37	32,917,966 08

(a) Operation and Maintenance charges from January 1, 1937, to close of fiscal year 1936-37 relating to Port Colborne, Prescott, Churchill Elevators and Churchill Terminals transferred to National Harbours Board.

"Undistributed Revenue" includes Ottawa River Works Revenue prior to 1904-05 and all refunds of Revenue prior to 1911-12.

APPENDIX No. 19.—Cost of Ship Channel to Date.

TABLE SHOWING THE TOTAL COST OF THE DREDGING AND EXPENDITURE FOR PLANT SHOPS, SURVEYS, ETC., TO MARCH 31, 1937

	Cost of Dredging		Expenditure for plant, shops, surveys, etc.	
	\$	cts.	\$	cts.
MONTREAL HARBOUR COMMISSIONERS 1851 to 1888				
Dredging Montreal to Cap-a-la-Roche to 27½ ft. at O.L.W. and from Cap-a-la-Roche to Quebec to 27½ ft. at half tide.....	3,402,494	35	534,809	65
DEPARTMENT OF PUBLIC WORKS				
Dredging consisting of widening and cleaning up of channel, deepening Cap-a-la-Roche to Cap Charles to 27½ ft. at O.L.W. and dredging at Grondines, Lotbiniere and Ste. Croix, 1889 to June 30, 1899....	839,583	08	486,971	79
PROJECT OF 1899				
Dredging channel between Montreal and Quebec to 30 ft. at lowest water of 1897, also widening to a minimum width of 450 ft. and Straightening—				
Fiscal year 1899-1900.....	100,191	91	265,270	78
Fiscal year 1900-1901.....	136,680	83	287,040	04
Fiscal year 1901-1902.....	185,429	80	479,731	47
Fiscal year 1902-1903.....	255,776	55	277,703	50
Fiscal year 1903-1904.....	276,958	59	308,765	44
DEPARTMENT OF MARINE AND FISHERIES				
This includes the work below Quebec—				
Fiscal year 1904-1905.....	311,087	93	277,225	69
Fiscal year 1905-1906.....	431,768	30	317,327	37
Fiscal year 1906-1907 (July 1, 1906 to March 31, 1907).....	302,677	37	275,003	61
Fiscal year 1907-1908.....	478,209	66	417,390	22
Fiscal year 1908-1909.....	497,686	03	340,861	86
Fiscal year 1909-1910.....	572,950	71	321,375	80
Fiscal year 1910-1911.....	576,838	02	488,248	88
Fiscal year 1911-1912.....	588,697	60	499,799	58
Fiscal year 1912-1913.....	663,229	74	702,071	86
Fiscal year 1913-1914.....	895,235	59	740,664	26
Fiscal year 1914-1915.....	1,036,846	65	549,369	91
Fiscal year 1915-1916.....	976,622	03	809,443	95
Fiscal year 1916-1917.....	1,030,550	60	353,152	12
Fiscal year 1917-1918.....	618,399	69	156,112	57
Fiscal year 1918-1919.....	350,152	92	82,480	60
Fiscal year 1919-1920.....	422,107	05	132,747	20
Fiscal year 1920-1921.....	446,134	85	151,422	99
Fiscal year 1921-1922.....	464,660	74	102,710	14
Fiscal year 1922-1923.....	465,236	80	446,933	08
Fiscal year 1923-1924.....	550,612	71	130,481	97
Fiscal year 1924-1925.....	557,863	56	333,345	19
Fiscal year 1925-1926.....	996,554	42	600,199	42
Fiscal year 1926-1927.....	1,240,044	98	343,901	27
Fiscal year 1927-1928.....	1,369,075	54	548,716	68
Fiscal year 1928-1929.....	1,368,885	97	525,225	13
Fiscal year 1929-1930.....	1,458,881	45	723,675	06
	23,868,126	02	13,010,179	08
DEPARTMENT OF MARINE				
Fiscal year 1930-1931.....	2,119,101	63	425,453	64
Fiscal year 1931-1932.....	5,127,395	83	699,205	24
Fiscal year 1932-1933.....	5,653,490	63	268,867	58
Fiscal year 1933-1934.....	2,920,569	66	210,176	57
Fiscal year 1934-1935.....	5,629,176	24	190,856	51
Fiscal year 1935-1936.....	5,114,132	25	235,769	33
Fiscal year 1936-1937.....	2,895,997	70	187,430	44
Total.....	53,327,989	96	15,227,938	39

EXPENDITURE ON CONTRACT DREDGING INCLUDED IN ABOVE

	\$	cts.		\$	cts.
1930-31.....	274,137	06	1935-36.....	4,011,401	69
1931-32.....	1,954,890	63	1936-37.....	2,117,561	27
1932-33.....	2,277,429	52			
1933-34.....	2,289,427	89		17,672,990	27
1934-35.....	4,748,141	94			

CANADIAN GOVERNMENT RAILWAYS

(Operated on behalf of the Canadian Government by the Canadian National Railway Co.)

BALANCE SHEET AS AT DECEMBER 31, 1936

ASSETS

A/C			
701	<i>Investment in Road and Equipment</i>		\$399,029,694 67
702	<i>Improvements on Leased Railway</i>		
	<i>Property—</i>		
	Lake Superior Branch.....	\$1,270,804 05	
	Vale Railway.	53,790 55	
	Van Buren Bridge Company.....	28,223 27	
			1,352,817 87
705	<i>Miscellaneous Physical Property—</i>		
	Minaki Inn.	\$1,088,125 07	
	Malagash Spur.	29,290 75	
	Halifax Ocean Terminal Hotel.....	2,442,178 74	
	Charlottetown Hotel.	855,468 36	
	Murray River Property.....	1,898 43	
	Pictou Lodge.	199,903 73	
	Abandoned Right-of-Way.	12,810 79	
			4,629,675 87
			\$405,012,188 41
706D	<i>Investments in Affiliated Companies—</i>		
	Canadian National Telegraphs.....		1,441,086 01
	<i>Canadian National Railways—</i>		
	Advances a/c Working Capital.....	16,771,980 54	
	Advances a/c Surplus.....	17,814,258 41	
	Advances a/c Capital Expenditures.	18,163,010 90	
			16,423,228 05
			\$422,876,502 47

LIABILITIES

	<i>Dominion of Canada Account—</i>		
	Advances for Road and Equipment.....	\$388,290,263 52	
	Advances for Working Capital.....	16,771,980 54	
			405,062,244 06
784	<i>Profit and Loss—Balance</i>		17,814,258 41
			\$422,876,502 47

This balance sheet, the statements of profit and loss accounts, income account, capital account, and statement of averages are certified correct by J. B. McLaren, Comptroller, Canadian National Railways.

CANADIAN GOVERNMENT RAILWAYS—PROFIT AND LOSS ACCOUNTS, YEAR ENDED DECEMBER 31, 1936

	Canadian Government Railways included in Eastern Lines		Canadian Government Railways (exclusive of Eastern Lines)		Total	
	\$	cts.	\$	cts.	\$	cts.
CREDITS—						
602 Balance transferred from Income.....	3,384,604	63	2,360,899	87	1,023,704	76
603 Credits from Retired Road and Equipment.....	773	60			773	60
606 Donations.....	4,110	39	2,859	37	6,969	76
607 Miscellaneous Credits.....	147	13	413	77	560	90
	3,379,573	51	2,364,173	01	1,015,400	50
DEBITS—						
619 Debits from Retired Road and Equipment.....	67,827	19	119,340	80	187,167	99
621 Miscellaneous Debits.....	676	82	205,835	49	206,512	31
	68,504	01	325,176	29	393,680	30
Profit and Loss Balance for Year 1936 of Canadian Government Railways, including Eastern Lines.....	3,448,077	52	2,038,996	72	1,409,080	80
DEDUCT—						
Eastern Lines' Deficit paid by Dominion Government.....	3,445,856	61			3,445,856	61
Applied in Account with Dominion Government by Canadian National Railways— Cash Surplus (for other than Eastern Lines) Year 1936.....			2,173,866	09	2,173,866	09
Net change in Profit and Loss Balance for year.....	2,220	91	134,869	37	137,090	28

CANADIAN GOVERNMENT RAILWAYS—DETAIL OF PROFIT AND LOSS ACCOUNTS
YEAR ENDED DECEMBER 31, 1936

CREDITS

<i>Account 603—"Credits from Retired Road and Equipment"—</i>	
Minor items.	\$ 773 60
<i>Account 606—"Donations"—</i>	
Dufour & Lebel—Siding, Oskalaneo.....	970 27
Consolidated Lumber Co.—Siding, Springhill, Truro.....	571 35
Duval, J. H.—Siding, Rimouski.....	612 03
Canada Veneers, Ltd.—Siding, Sussex S/D.....	587 63
Minor items under \$500.....	4,228 48
	\$ 6,969 76
<i>Account 607—"Miscellaneous Credits"—</i>	
Minor items.	\$ 560 90

DEBITS

<i>Account 619—"Debits from Retired Road and Equipment"—</i>	
Retirement of Siding, Brown Corporation, La Tuque.....	\$ 1,521 03*
“ Ajax Bolt Heading Forging Machine, etc., St. Malo Shops....	12,553 59
“ “ passing tracks—Chaudiere, Drummondville S/D.....	4,201 64
“ “ Siding—Blake, Drummondville S/D.....	1,285 26
“ “ wooden water tank (50,000 gal.)—Drummondville S/D.....	2,436 40
“ “ Driftwood Land & Timber Co., siding—Kapusksing S/D.....	1,638 00
“ “ Engine and generator, etc.—Fitzpatrick Roundhouse.....	13,073 90
“ “ four sidings in yard, Monk-Armagh S/D.....	8,822 47
“ “ old brick stores building, Monk-Armagh S/D.....	8,480 00
“ “ various inactive machines, Monk-Armagh S/D.....	10,413 50
“ “ water supply—Minaki, Ont.	7,558 83
“ “ portion of passing track—Graham, Ont.	1,039 78
“ “ South Ash Pit—Sioux Lookout, Ont.	7,148 04
“ “ various inactive machinery—Transcona, Man.	2,844 00
“ “ Coal Dock Spur—Fort William.....	2,757 28
“ “ rail loaned to Abitibi Pulp & Paper Company.....	2,810 31
“ “ lean-to portion of car repair shop—Rivière-du-Loup.....	1,638 00
“ “ Agent's dwelling and land sold—Bear River, P.E.I.	1,282 39
“ “ 1,000 feet public siding and cross-over—Bedford S/D, N.S. ..	4,564 38
“ “ boiler used for car heating—Sackville Station.....	1,287 90
“ “ siding, Ballast pit and land—Scotsburn, N.S.	2,967 52
“ “ four old concrete mixers and one stone crusher.....	3,734 45
“ “ three sidings and two cross-overs—Moncton scrap yard.....	6,388 65
“ “ wooden water tank, etc.—Red Pine, Bathurst S/D, N.B.	5,858 23
“ “ two sidings, Power Lumber Company—Glendyne S/D.....	2,286 16
“ “ siding, Gloucester Lumber & Trading Co., Bathurst S/D, N.B. ..	1,522 11
Cost of demolishing Canadian Lines obsolete equipment.....	24,445 98
Adjustment <i>re</i> Electric Mobile Crane, Moncton, N.B., retired 1935.....	6,051 98
Retirement of Ballast Pit tracks—Gloucester Junction, Bathurst S/D, N.B. ..	17,268 09
“ “ transfer tracks—Cyr Junction, Grand Falls S/D, N.B.	2,358 38*
“ “ siding, Iona Gypsum Products, Sydney S/D.....	9,911 25
Minor items under \$1,000.....	19,122 45*
	\$ 187,167 99
<i>Account 621—"Miscellaneous Debits"—</i>	
Dominion Bridge Corporation—Supreme Court judgment <i>re</i> Toronto Office Building.....	76,600 70
Unamortized discount on National Transcontinental Railway Branch Line Bonds—called for redemption.....	125,102 44†
Unamortized discount on National Transcontinental Railway Branch Line Bonds—acquired through Sinking Fund.....	3,448 55†
Loss on retirement of rails and fixtures loaned to Matapedia Lumber Company	630 07
Minor items under \$500.....	730 55
	\$ 206,512 31

* Loss on retirement, less cost of dismantling, treated as not required in cash—\$3,511.47.

† Treated as not required in cash—\$128,550.99.

CANADIAN GOVERNMENT RAILWAYS—INCOME STATEMENT, YEAR ENDED
DECEMBER 31, 1936

	Canadian Government Railways included in Eastern Lines		Canadian Government Railways included in System (exclusive of Eastern Lines)		Total	
	\$	cts.	\$	cts.	\$	cts.
501 Railway Operating Revenues.....	18,099,869	91	15,635,813	12	33,735,683	03
531 Railway Operating Expenses.....	20,004,468	15	12,341,017	94	32,345,486	09
Net Revenue from Railway Operations.....	1,904,598	24	3,294,795	18	1,390,196	94
532 Railway Tax Accruals.....	249,116	40	50,698	13	299,814	53
Railway Operating Income.....	2,153,714	64	3,244,097	05	1,090,382	41
504 Rent from Locomotives.....			421,700	25	421,700	25
505 Rent from Passenger-Train Cars.....			169,726	84	169,726	84
507 Rent from Work Equipment.....			129,103	10	129,103	10
508 Joint Facility Rent Income.....	96,392	28	70,132	05	166,524	33
536 Hire of Freight Cars—Debit Balance.....	259,797	02	231,845	78	491,642	80
537 Rent for Locomotives.....	55,114	13	454,715	14	509,829	27
538 Rent for Passenger-Train Cars.....	367,417	82	445,378	16	812,795	98
540 Rent for Work Equipment.....	3,290	97	125,435	83	122,144	86
541 Joint Facility Rents—Debit.....	44,799	83	438,946	61	483,746	44
Net Railway Operating Income.....	2,781,160	19	2,338,437	77	442,722	42
502 Revenues from Hotel Operations.....	373,789	46	39,802	55	413,592	01
534 Expenses of Hotel Operations.....	362,307	20	42,079	78	404,386	98
535 Taxes on Hotel Property.....	16,655	39	161	00	16,816	39
Net Hotel Operating Income.....	5,173	13	2,438	23	7,611	36
509 Income from Lease of Road and Equipment.....	23,300	00	679	20	23,979	20
510 Miscellaneous Rent Income.....	66,293	11	48,860	14	115,153	25
511 Miscellaneous Non-Transportation Property-Credit.....	350	17	20,360	93	20,711	10
515 Income from Unfunded Securities and Accounts.....	1,410	41	682,783	13	684,193	54
519 Miscellaneous Income.....	395	32	283	99	679	31
543 Miscellaneous Rents—Debit.....	62	00	1,773	64	1,835	64
544 Miscellaneous Tax Accruals.....	3,809	34	4,191	28	8,000	62
551 Miscellaneous Income Charges.....			318	00	318	00
Income Available for Fixed Charges.....	2,698,455	65	3,082,684	01	384,228	36
542 Rent for Leased Roads and Equipment.....	2,205	40	607,200	00	609,405	40
546 Interest due Public on Long Term Debt.....			80,302	50	80,302	50
547 Interest on Unfunded Debt.....	683,943	58	17,852	73	701,796	31
547a Interest on Government Loans for Refunding.....			11,401	09	11,401	09
548 Amortization of Discount on Funded Debt.....			5,027	82	5,027	82
Total Fixed Charges.....	686,148	98	721,784	14	1,407,933	12
Income Balance transferred to Profit and Loss..	3,384,604	63	2,360,899	87	1,023,704	76

CANADIAN GOVERNMENT RAILWAYS—INVESTMENT ACCOUNT AT
DECEMBER 31, 1936

Road, etc.	Total as at December 31, 1935		Expended during 1936		Total as at December 31, 1936	
	\$	cts.	\$	cts.	\$	cts.
Intercolonial Railway.....	142,026,116	79	307,322	36	142,333,439	15
Prince Edward Island Railway.....	15,195,669	13	87,143	01	15,282,812	14
New Brunswick and Prince Edward Island Railway.....	1,675,781	88	12,305	81	1,688,087	09
International Railway.....	3,250,472	26	1,798	90	3,252,271	16
National Transcontinental Railway.....	172,436,883	70	331,749	78	172,768,633	48
Moncton and Buctouche Railway.....	628,218	59	4,887	51	633,106	10
Salisbury and Albert Railway.....	716,462	31	7,611	03	724,073	34
St. Martins Railway.....	386,462	47	1,633	27	388,095	74
Elgin and Havelock Railway.....	204,067	40	389	22	203,678	18
York and Carleton Railway.....	64,466	55			64,466	55
Quebec and Saguenay Railway.....	7,926,868	51	5,849	79	7,932,718	30
Caraquet and Gulf Shore Railway.....	1,199,970	23	10,248	57	1,210,218	80
Lotbiniere and Megantic Railway.....	186,336	16			186,336	16
Cape Breton Railway.....	141,342	75	2,278	25	143,621	00
Quebec Bridge.....	21,706,664	49			21,706,664	49
Long Lac Cut Off.....	2,847,547	01			2,847,547	01
Lawlor Building, Toronto.....	1,243,834	59			1,243,834	59
Branch Line Aid.....	36,485	95			36,485	95
Equipment:						
Railway Rolling Stock as at Dec. 31, 1935..	\$	cts.				
Deduct Value included in other constituent companies above.....	60,730,123	85				
S.S. Charlottetown.....	37,315,723	09				
Other Floating Equipment.....	23,414,400	76	633,576	60	22,780,824	16
Motor Trucks.....	2,184,995	93	691	50	2,185,687	43
	1,412,800	00	813	29	1,413,613	29
	3,479	96			3,479	96
	398,889,327	42	140,367	25	399,029,694	67

ACCOUNT 702 "IMPROVEMENTS ON LEASED RAILWAY PROPERTY"

Lake Superior Branch.....	1,248,708	85	22,095	20	1,270,804	05
Vale Railway.....	52,882	27	908	28	53,790	55
Van Buren Bridge.....	28,223	27			28,223	27
	1,329,814	39	23,003	48	1,352,817	87

ACCOUNT 705 "MISCELLANEOUS PHYSICAL PROPERTY"

Minaki Lodge.....	1,089,131	72	1,006	65	1,088,125	07
Nova Scotian Hotel.....	2,441,193	59	985	15	2,442,178	74
Charlottetown Hotel.....	855,233	36	235	00	855,468	36
Pictou Lodge.....	199,903	73			199,903	73
Malagash Spur.....	29,290	75			29,290	75
Murray River Property.....	1,898	43			1,898	43
Land-Abandoned Lines.....	12,722	79	88	00	12,810	79
	4,629,374	37	301	50	4,629,675	87

DEPARTMENT OF TRANSPORT

CANADIAN GOVERNMENT RAILWAYS—STATEMENT OF AVERAGES, YEAR
ENDED DECEMBER 31, 1936

Miles of Road Operated.....	4,376-80
Total Engine Mileage.....	10,892,458
Total Train Mileage.....	9,374,197
Total Car Mileage.....	219,446,651

<i>Gross Earnings—</i>	
Freight Traffic.....	\$26,850,847 73
Passenger Traffic.....	4,120,653 73
Mail and Express.....	1,600,088 03
Miscellaneous (Accounts 103, 104, 105, 108 to 112).....	595,214 62
Incidental.....	568,878 92
Total.....	\$33,735,683 03

<i>Operating Expenses.</i>	\$32,345,486 09
----------------------------------	-----------------

<i>Ratio of Expenses to Gross Earnings.</i>	\$ 95 88
---	----------

Earnings per mile of road operated.....	\$ 7,707 84
“ “ engine mile.....	3 10
“ “ train mile.....	3 60
“ “ car mile.....	15
Expenses per mile of road operated.....	7,390 21
“ “ train mile.....	3 45
Repairs of locomotives.....	1,942,387 90
“ “ freight cars.....	1,939,995 04
“ “ passenger cars.....	1,227,865 25
Cost of repairs per locomotive.....	4,132 74
“ “ “ “ freight car.....	128 18
“ “ “ “ passenger car.....	4,464 96

CANADIAN GOVERNMENT RAILWAYS—LOCOMOTIVE AND CAR EQUIPMENT AS AT
DECEMBER 31, 1936

Type	On Hand January 1, 1936	Added During Year	Retired During Year	On Hand December 31, 1936
<i>Locomotives</i>	487		17	470
<i>Freight Equipment—</i>				
Box.....	11,398	98	148	11,348
Automobile.....	129		74	55
Stock.....	1,645	9	14	1,640
Refrigerator.....	43	91	10	124
Flat.....	763	22	32	753
Ballast.....	1			1
Coal.....	911		3	908
Pulpwood.....		23	5	18
Oil Tank.....	40	3	6	37
Caboose.....	265		14	251
Total.....	15,195	246	306	15,135
<i>Passenger—</i>				
Parlor.....	2			2
Cafe Parlor.....	2			2
Buffet Parlor.....	3			3
Mountain Observation.....	6			6
Combination Cafe Parlor and Sleeper.....	1			1
Buffet Sleeper.....	10		1	9
Dining.....	14		1	13
Sleeper.....	39			39
Colonist.....	29		7	22
First Class.....	44			44
Second Class.....	16		2	14
Passenger and Baggage.....	20		1	19
Mail, Express or Baggage.....	9			9

CANADIAN GOVERNMENT RAILWAYS—LOCOMOTIVE AND CAR EQUIPMENT AS AT
DECEMBER 31, 1936—*Concluded*

Type	On Hand January 1, 1936	Added During Year	Retired During Year	On Hand December 31, 1936
<i>Passenger—Conc.</i>				
Baggage or Express.....	45	4		49
Postal.....	10		4	6
Refrigerator or Express.....	2			2
Lunch Counter.....	5			5
Trailers.....	9	1		10
Passenger and Caboose.....	1	1		2
Observation Buffet Parlor.....	3			3
Observation Parlor Cafe.....	13			13
Self-Propelled Units.....	3		1	2
Total.....	286	6	17	275
<i>Work Equipment—</i>				
Business.....	20			20
Instruction.....	4			4
Vision Test.....	3			3
Stores Supply.....	7	1		8
Dynamometer.....	2			2
Lidgerwood.....	11			11
Gas and Electric Transportation.....	10	1	2	9
Cranes and Derrick.....	39			39
Flanger.....	108	2		110
Ditcher.....	11			11
Ballast Spreaders and Trimmers.....	9		1	8
Pile Driver.....	3			3
Steam Shovel.....	14		2	12
Boarding.....	650	7	3	654
Engineer.....	4			4
Store.....	4			4
Auxiliary.....	123	2	1	124
Cabin and Idler.....	22	1		23
Road Repair.....	6			6
Air Dump.....	37			37
Transfer Flats.....	6		4	2
Water Tank.....	11	3		14
Fire Fighting Tank.....	16	1		17
Concrete Mixer.....	4		2	2
Sand Blast.....	1			1
Well Boring.....	1			1
Rail Saw.....	1			1
Bridge Tanks.....	1			1
Radio Repair Car.....	1			1
Ferry Reach.....	1			1
Snow Plow.....	65			65
Open Tops.....	146		89	57
School.....	1			1
Total.....	1,342	18	104	1,256

Certified Correct:

J. ROBERTS,
Chief of Motive Power and Car Equipment.

CANADIAN GOVERNMENT RAILWAYS EMPLOYEES' RELIEF
AND INSURANCE ASSOCIATION

STATEMENT OF RECEIPTS AND EXPENDITURES FROM JANUARY 1 TO
DECEMBER 31, 1936

SICK AND ACCIDENT FUND

Receipts—

Balance from 1935.....	\$ 96,083 13	
Premiums from Pay Lists, Vouchers, etc.	102,348 17	
Proportion of Railways contribution.....	9,750 00	
Interest on Bank Balances and Bonds.....	8,173 24	
Profit from sale of Bonds.....	895 00	
Accounts Collectible Suspense.....	9,049 37	
	\$ 226,298 91	

Expenditures—

Sick and Accident Indemnity.....	67,624 79	
Medical and Surgical attendance.....	49,453 99	
Amount transferred to Operating Expenses.....	4,578 14	
Accrued Interest on purchase price of Bonds....	7 40	
	121,664 32	
		\$ 104,634 59

DEATH AND TOTAL DISABILITY FUND

Receipts—

Balance from 1935.....	114,397 48	
Premiums from Pay Lists, Vouchers, etc.	91,492 26	
Examination Fees.	54 00	
Accounts Collectible Suspense.....	6,856 44	
	212,800 18	

Expenditures—

Death Claims (177).....	92,000 00	
Examination Fees.	138 00	
Amount transferred to Operating Expenses.....	2,465 15	
	94,603 15	
		118,197 03

TEMPORARY EMPLOYEES' ACCIDENT FUND

Receipts—

Balance from 1935.....	10,000 00	
Premiums from Pay Lists, Vouchers, etc.	29,366 07	
Accounts Collectible Suspense.....	2,196 16	
	41,562 23	

Expenditures—

Death Claims (9).....	2,250 00	
Accident Indemnity.	17,510 14	
Surgical Indemnity.	6,554 31	
Amount transferred to Operating Expenses.....	5,247 78	
	31,562 23	
		10,000 00

OPERATING EXPENSES

Receipts—

Proportion of Railways Contribution.....	5,250 00	
Premiums from Retired Members.....	2,473 75	
Amount transferred from Sick and Accident Fund.	4,578 14	
Amount transferred from D. & T. D. Fund.....	2,465 15	
Amount transferred from Temporary Employees' Accident Fund.	5,247 78	
	20,014 82	

**CANADIAN GOVERNMENT RAILWAY EMPLOYEES' RELIEF AND
INSURANCE ASSOCIATION—Concluded**

Expenditures—

Salaries, Secretary Treasurer, Clerks and Messenger, also proportion of salary of Chief Medical Adviser.	11,066 93	
Auditor.	125 00	
District Secretaries' salaries.	4,155 00	
Travelling expenses of Officers and travelling expenses and wages of members of the General Executive Committee and Delegates.	3,204 90	
Stationery, Printing, Postage, etc.	1,462 99	
	20,014 82	Nil
Credit balance as per General Balance Sheet.		\$ 232,831 62

Certified Correct:

HUGH J. BUCHANAN,
Auditor.

C. C. MACDONALD,
Secretary Treasurer.

**INTERCOLONIAL AND PRINCE EDWARD ISLAND RAILWAYS
EMPLOYEES' PROVIDENT FUND**

**STATEMENT OF RECEIPTS AND EXPENDITURES DURING THE YEAR
ENDED DECEMBER 31, 1936**

Receipts—

Balance to the credit of the Fund on December 31, 1935.		Nil
The contributions made by employees during the year, being one and one-half per cent of their monthly salary and wages were.	\$ 196,025 84	
The contributions made by the Railways (under the Act).	100,000 00	
Special contribution made by the Railways to offset deficit, year ended December 31, 1936.	1,249,105 78	
Amount received to increase the retiring allowance of all retired employees receiving less than \$30 per month, in order that the minimum allowance now paid under the Act, viz., \$20, might be increased to \$30 per month, in accordance with Vote No. 473, whereby an amount was placed in the estimates to supplement retiring allowances payable under the provisions of the I.C. & P.E.I. Railways Employees' Provident Fund, including from January 1 to December 31, 1936.	25,206 59	
Amounts received from refunds.	Nil	
	\$1,570,338 21	

Expenditures—

For retiring allowances.	1,501,128 08	
For allowances made to retired employees receiving less than \$30 per month, to increase the minimum allowance in accordance with Vote No. 473, whereby an amount was placed in the estimates to supplement retiring allowances payable under the provisions of the I.C. & P.E.I. Railways Employees' Provident Fund, including from January 1 to December 31, 1936.	25,206 59	
For contributions refunded in cases of deceased employees.	26,056 54	
For contributions refunded which were deducted in error.	891 03	
For contributions refunded to discharged employees.	3,176 92	
Medical examination for employees retiring from the service.	98 00	
For salaries and travelling expenses, Secretary's office, and proportion of salary of Chief Medical Examiner.	13,142 17	
For stationery, printing, postage, etc.	468 56	
For election expenses.	170 32	
	\$1,570,338 21	
Balance to the credit of the Fund on December 31, 1936.		Nil

Certified Correct:

C. C. MACDONALD,
Secretary.

W. U. APPLETON,
Chairman.

STATEMENT OF OPERATED MILEAGE OF CANADIAN GOVERNMENT
RAILWAYS AS AT DECEMBER 31, 1936

	1st Main Track	2nd Main Track	Yard Tracks and Sidings	Total
	Miles	Miles	Miles	Miles
<i>Owned Lines—</i>				
Atlantic Region.....	2,208-01	45-86	664-07	2,917-94
Central Region.....	1,443-61	6-56	304-23	1,754-40
Western Region.....	390-13	4-90	139-88	534-91
<i>Leased Lines—</i>				
Atlantic Region.....	(a) 16-36		1-43	17-79
Central Region.....	(b) 47-91		14-75	62-66
Western Region.....	(c) 159-94	0-77	69-22	229-93
<i>Trackage Rights—</i>				
Atlantic Region.....	67-77		76-12	143-89
Central Region.....	(d) 43-07	39-26	24-23	106-56
Western Region.....			16-69	16-69
Total Operated Mileage.....	4,376-80	97-35	1,310-62	5,784-77

(a) Includes Maple Hill to Lake Verde (9-95 miles 1st main track and 0-45 miles yard tracks and sidings) owned by Canadian National Railways.

(b) Includes Taschereau to Noranda (42-83 miles 1st main track and 13-17 miles yard tracks and sidings) owned by N. T. R. Branch Lines Company.

(c) G.T.P. Lake Superior Branch.

(d) Includes trackage rights over Canadian National Railway Company's lines as follows:—

	1st Main Track	2nd Main Track	Yard Tracks and Sidings	Total
	Miles	Miles	Miles	Miles
Pointe Levis to Hadlow.....	0-95			0-95
Charney to Chaudiere.....	1-33	0-73		2-06
Ste. Rosalie Jct. to Montreal.....	37-23	37-20		74-43
Total.....	39-51	37-93		77-44

Certified Correct:

W. A. DUFF,

Engineer of Bridges and Roadway.

